

Improving Governance and Scaling up Poverty Reduction through CBMS

Proceedings of the
2006 CBMS Network Conference
November 15-17, 2006
Pasay City, Philippines

Improving Governance and Scaling up Poverty Reduction through CBMS
Proceedings of the 2006 CBMS Network Conference

The implementation of the Community-Based Monitoring System (CBMS) in the Philippines is a joint undertaking of the PEP-CBMS Network Coordinating Team of the Angelo King Institute for Economic and Business Studies of the De La Salle University and various local government units (LGUs). The latter have provided inputs in the design of the CBMS data collection instruments for greater applicability to various communities and played significant roles in the advocacy of CBMS to other LGUs and stakeholders.

The CBMS was developed to address the lack of disaggregated data for planning, program formulation, policy impact assessment and poverty monitoring. At the same time, there was also a need to come up with support mechanisms for the implementation of the decentralization policy that was passed in the early 1990s. The CBMS involves the design, pilot-test and implementation of a methodology for data collection and processing, validation and utilization of survey data for needs identification as well as for the design and monitoring of program interventions at all geopolitical levels. The CBMS poverty maps are used to identify who and where the poor are.

The framework and design of the CBMS methodology and instruments were developed by the PEP-CBMS Network Coordinating Team (formerly known as the MIMAP-CBMS Philippines Team). Further refinements in the methodology to incorporate recent developments such as localizing the Millennium Development Goals (MDGs) are also being spearheaded and undertaken by the Team in collaboration with various CBMS partners at the national and local levels in the country.

Aside from the Philippines, the CBMS is also being implemented in Bangladesh, Burkina Faso, Benin, Cambodia, Ghana, Indonesia, Kenya, Lao PDR, Senegal, Sri Lanka, Tanzania, Vietnam and Zambia in collaboration with various government, research, and academic institutions in these countries. Work in these countries and in the Philippines is being coordinated by the PEP-CBMS Network Coordinating Team with the aid of a grant from the International Development Research Centre (IDRC), Ottawa, Canada.

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*Proceedings of the
2006 CBMS Network Conference*



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**November 15-17, 2007
Pasay City, Philippines**

*The 2006 CBMS Network Conference was organized
by the CBMS Network Coordinating Team
of the Angelo King Institute for Economic and Business Studies,
De La Salle University-Manila
with support from the
International Development Research Centre (IDRC), Ottawa, Canada
United Nations Development Programme (UNDP)-Manila, World Bank (WB)-Manila,
Peace and Equity Foundation and the Formula One Project of the Department of Health.*

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Proceedings of the 2006 CBMS Network Conference**
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Preface

On November 15-17, 2006, the CBMS-Philippines Team hosted the CBMS Network Conference at the Heritage Hotel in Pasay City, Philippines. The conference combined the 4th CBMS-Philippines National Conference and the Annual CBMS International Network Meeting. The 3-day conference provided an avenue for the sharing of experiences and for interactive discussions among CBMS practitioners, policy analysts, policymakers, local planners and other development partners from Asia and Africa on recent applications of the CBMS, strategies for implementation and related issues on the scaling up and institutionalization of the CBMS. Around 250 participants composed of about 20 foreign CBMS researchers and stakeholders, 150 local planners and policymakers from various provinces, municipalities, cities and barangays, and at least 80 representatives from the national government agencies, non-government organizations, academic and research institutions, and development partner organizations attended the event.

This volume of proceedings presents the papers delivered and discussed during the conference under the following themes:

- CBMS as a Tool for Crafting the Development Agenda;
- Empowering Local Governments through CBMS; and
- Improving Local Governance and Program Targeting Through CBMS.

Each theme contains papers with focus on recent developments and findings of various stakeholders in the Philippines on the use of the CBMS for poverty diagnosis, program design and targeting; for localizing the Millennium Development Goals; and discussions on critical issues relating to the institutionalization of a CBMS. Representatives from CBMS-country members Vietnam, Bangladesh

and Indonesia have likewise shared findings from their implementation of the CBMS.

Also included in this publication are papers in the panel discussion of CBMS stakeholders from the different sectors at the national and local levels on the institutionalization of CBMS. The panel discussion featured the results of an assessment written by Dr. Victoria Bautista and her colleagues on the implementation of CBMS in Palawan; Labo and Sta. Elena of Camarines Norte; and the City of Pasay. These LGUs were among the first that mobilized and invested their own resources for the implementation and use of the system. Meanwhile, Professor Simeon Ilago of the Center for Local and Regional Governance shared his study on the institutionalization issues that need to be addressed in line with the growing demand for the adoption and use of the CBMS in the country.

Stakeholders from Eastern Visayas, the first region in the Philippines to have a region-wide CBMS implementation, also shared their experiences on how they were able to scale up the CBMS in their localities. Backed up by the Regional Office of the Department of the Interior and Local Government (DILG) and the Institute of Democratic Participation and Governance (IDPG), papers from the LGUs in the region discussed their strategies in implementing the CBMS.

Finally, papers from awardees of the CBMS Development Grant Programs presented their respective projects that will be supported by the United Nations and Development Programme (UNDP) and Peace and Equity Foundation (PEF). Launched in 2005, the grant programs intend to provide funds to local government units and nongovernment organizations for the implementation of projects to address development needs identified through the CBMS in particular communities.

Program

Day 1: November 15, 2006

Theme: CBMS as a Tool for Crafting the Development Agenda

8:00-8:30am Registration

Opening Ceremony

Welcome Remarks

8:30-8:40 am **Sharing a Venue for an Exchange of Local
and International CBMS Experiences**
Dr. Celia M. Reyes
PEP-Co Director and CBMS Network Leader

8:40-8:50 am **CBMS as a National Resource
for Policy Innovation**
Mr. Rene Fuentes
Chairman, Board of Trustees
Angelo King Institute for
Economic and Business Studies,
De La Salle University-Manila

8:50-9:00 am **Facilitating Governance Through
Knowledge- and Information-Building**
Dr. Evan Due
Senior Regional Program Specialist
International Development Research Centre

9:00-9:10 am **Welcome from a City Transformed**
Honorable Allan Panaligan
Acting Mayor
City Government of Pasay

Keynote Speaker

9:10-9:25 am **CBMS Integration in the
Philippine Statistical System**
Ms. Margarita Songco
Deputy Director General
National Economic and Development
Authority

Conference Papers

**Day 1 Theme: CBMS as a Tool for Crafting the Development
Agenda**

Keynote Speaker

9:10-9:25 am **On Assessing Pro-poorness of Government
Programs: International Comparison**
Dr. Nanak Kakwani
Executive Director
International Poverty Centre
United Nations Development Programme
(UNDP)-Brazil

9:40-9:50 am **Coffee Break**

Session 1: Plenary

9:50-10:15 am **Implementation of CBMS in Vietnam**
Dr. Vu Tuan Anh
CBMS-Vietnam Project Leader

- 10:15-10:40 am** **Use of CBMS for Development Planning in Agusan Del Sur**
Hon. Gov. Adolph Edward Plaza
 Provincial Governor, Agusan del Sur
- 10:40-11:05 am** **Alternative Means Testing Options Using CBMS: The Case of the Philhealth Indigent Program**
Celia Reyes
 PEP Co-Director and CBMS Network Leader
- 11:05-11:25 am** **Responses**
- Ms. Cleofe Pastrana*
 Assistant Director
 Social Development Staff
 National Economic and Development Authority
- Ms. Arcie Torres*
 Philippine Health Insurance Corporation
- 11:25-11:35 am** **Open Forum**
- 11:35-1:00 pm** **Lunch**
- Session 2: Use of CBMS for Evidence-Based Legislation**
Session Chair: Dr. Josef T. Yap
 President, Philippine Institute for Development Studies
- 1:00-1:30 pm** **CBMS as a Source of Information for Evidence-Based Legislation**
Hon. Albert Garcia
 Congressman
 2nd District, Province of Bataan

- 1:30-2:00 pm** **CBMS as Framework for Evidence-Based Legislation: Agusan del Sur's Experience**
Hon Allan Santiago
Provincial Board Member
Agusan del Sur
- 2:00-2:30pm** **The Importance and Application of CBMS to Local Legislation**
Hon. David Ponce de Leon
Vice-Governor, Province of Palawan
- 2:30-2:50 pm** **Responses**
- Mr. Rodolfo Vicerra*
Director
Congressional Planning and Budget Department
House of Representative
- Hon. Julius Caesar Herrera*
Vice-Governor, Province of Bohol and
National President
League of Vice-Governors of the Philippines
- 2:50-3:00 pm** **Open Forum**
- 3:00-3:30 pm** **Coffee Break**
Ribbon Cutting CBMS Exhibit

Session 3: Applications of CBMS for Poverty Monitoring and Program Targeting

Session Chair: Dr. Aniceto Orbeta, Jr.

Senior Research Fellow
Philippine Institute for Development Studies

3:30-3:50 pm

CBMS as a Targeting Tool for Poverty Reduction Programs: Experience from Indonesia

Daniel Suryadarma

Member, Research Team of the
CBMS-Indonesia Project

3:50-4:10 pm

Socioeconomic Determinants of the Nutritional Status of Children: An Ordered Probit Analysis

Michael David A. Son

Ateneo de Manila University

4:10-4:30 pm

Developing Composite Indices Using CBMS: The Case of Pasay City

Joel Bancolita

Senior Database Management Specialist
PEP-CBMS Network

Ms. Maria Norian A. Alvarado

Planning Officer
City Planning and Development Office
City Government of Pasay

4:30-4:50 pm

Discussants

Dr. Anna Tabunda

Professor
School of Statistics
University of the Philippines-Diliman

Dr. Alejandro N. Herrin

Research Fellow
Philippine Institute for Development Studies

4:50-5:00 pm **Open Forum**

Day 2: November 16, 2006

Theme: Empowering Local Governments through CBMS

9:00-9:30 am **Keynote Speaker**
Pushing Past the Poverty Line
Honorable Datu Zamzamin Ampatuan
Administrator
Southern Philippines Development Authority

Session 1: Institutionalization of CBMS in the Philippines: Issues and Future Directions

Session Chair: Dr. Ponciano Intal, Jr.
Executive Director
Angelo King Institute for Economic and Business Studies

9:30-10:10 am **Panel Discussion**

CBMS as Local Monitoring Instrument
Hon. Encarnacion Blanco
Assistant Secretary
Department of Interior Local Government

CBMS in Palawan: Looking Back and Drawing Out
Honorable Joel Reyes
Governor
Province of Palawan

**Some Lessons for Institutionalizing and
Scaling up the CBMS**

Mr. Oscar Francisco

Managing Trustee

Institute for Democratic Participation and
Governance

10:10-10:30 am

Coffee Break

10:30-11:10 am

Panel Discussion (Con't)

**CBMS as Effective Aid In Targeting
Beneficiaries of Poverty Reduction Programs**

Ms. Veronica Villavicencio

Executive Director

Peace and Equity Foundation

**Learning from Community-Based
Monitoring System Implementation:
Selected Case Studies**

Dr. Victoria Bautista

Vice-Chancellor

Open University, University of the Philippines

**Institutionalization of the Community-Based
Monitoring System Training Program**

Prof. Simeon Agustin Ilago

Director

Center for Local and Regional Governance

11:10-11:30 am

Open Forum

11:30-1:00

Lunch

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Session 2: Local Level Planning and Budgeting

Session Chair: Celia Flor

Executive Director
DAWN Foundation, Inc.

- 1:00-1:20 pm** **Planning for Poverty Reduction at the Grassroots: Experience of the LLPMS**
Ranjan Kumar Guha
Project Leader,
CBMS-Bangladesh
- 1:20-1:40 pm** **Evidence-Based Planning and Budgeting: Localizing Global Initiatives**
Dr. Aniceto Orbeta, Jr.
Senior Research Fellow
Philippine Institute for Development Studies
- 1:40-2:00 pm** **CBMS: Helping Achieve Marinduque's Vision of a Developed Island Province**
Ms. Marian Cunanan
CBMS Focal Person
Province of Marinduque
- 2:00-2:20 pm** **Discussants**
- Ms. Arlene Pascual***
Provincial Planning and Development Coordinator
Province of Bulacan
- Ms. Carmencita Delantar***
Director
Department of Budget and Management
- 2:20-2:30 pm** **Open Forum**

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2:30-2:45 pm **Coffee Break**

Session 3: Strategies, Best Practices & Lessons Learned in the implementation and uses of CBMS

Session Chair: Hon. Linda Gonzales

Mayor, Ligao City, Albay

2:45-3:10 pm **Palawan's Human Development Report:
A Success Story**
Mr. Samuel V. Madamba II
Provincial Planning and Development Coordinator
Province of Palawan

3:10-3:35 pm **CBMS as an Instrument for Achieving the
City's Vision: The Case of Pasay City**
Ms. Merlita Lagmay
City Planning and Development Coordinator
Pasay City

3:35-4:00 pm **Harnessing FBO Participation and Localizing
the Millennium Development Goals Using CBMS**
Mr. Rolando Londonio
City Cooperative Officer
Pasay City

4:00-4:25 **Pulong Yantok's Rewarding Encounter
with CBMS**
Antonio Gregorio
Barangay Chairman
Barangay Pulong Yantok, Angat, Bulacan

4:25-4:55 pm **Responses**

Mr. Rene Raya
Co-Convenor
Social Watch Philippines

Ms. Rosemarie Edillon
Vice-President
Asia Pacific Policy Center Inc

Ms. Pamela Grafilo
Galing Pook Foundation

4:55-5:05 pm Open Forum

Day 3: November 17, 2006

**Theme: Improving Local Governance and Program Targeting
Through CBMS**

9:00-9:30 am Keynote Speaker
**A Challenge to Fight Poverty Through Joint
Community Efforts**
Honorable Austere Panadero
Assistant Secretary
Department of the Interior and Local Government

**Session 1: Applications of CBMS for Regional Development
Planning and Governance: Case of Eastern Visayas**

Session Chair: Asec. Dolores de Quiros-Castillo
National Anti-Poverty Commission

**9:30-9:55 am Enhancing Local Capacities Through
Community Collaborations Using CBMS**
Mr. Oscar Francisco
Managing Trustee
Institute for Democratic Participation and
Governance

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9:55-10:20 am

CBMS Gains in Eastern Visayas

Mr. William Paler

Regional Director

Department of the Interior and Local Government

Eastern Visayas

10:20-10:35

Coffee Break

10:35-11:00

**Use of CBMS Information for Integrated
Provincial Development Initiatives**

Hon. Ben Evardone

Governor

Province of Eastern Samar

11:00-11:20

CBMS in San Julian, Eastern Samar

Hon. George Erroba

Mayor

Municipality of San Julian, Eastern Samar

Implementing the CBMS:

The Sta. Fe Experience

Mr. Godofredo Roca

CBMS Focal Person

Municipality of Sta. Fe, Leyte

Responses

Honorable Gov. Erico B. Aumentado

President

Union of Local Authorities of the Philippines

Mr. Oskar Balbastro

Regional Director

National Economic and Development Authority

Region IV-B

11:20-11:30 am **Open Forum**

11:30-1:30 **Lunch**

Session 2: Use of CBMS for Program Design and Project Implementation

Session Chair: Ms. Li-Ann De Leon

Executive Director
League of Municipalities of the Philippines

CBMS-UNDP Development Grant Awardees

1:30-1:45 pm **Plant Corn Now-Pay Later Project**
Honorable Arnelito Garing
Mayor
Municipality of Cabucgayan, Biliran

1:45-2:00 pm **The Seaweeds Farming Project in Palawan**
Honorable Mayor David Aurello
Mayor
Municipality of Dumarán, Palawan

2:00-2:15 pm **A Water System Project in
Barangay Canipo in Palawan**
Hon. Sofronio Macmac
Sangguniang Bayan Member
Municipality of Magsaysay, Palawan

2:15-2:30 pm **Coffee Break**

CBMS-PEF Development Grant Awardees

- 2:30-2:45 pm** **Machine Decortication of Formosa
Pineapple Leaves Project**
Mr. Mario Espeso
General Manager
Labo Progressive Multi-Purpose Cooperative
Labo, Camarines Norte
- 2:45-3:00 pm** **Establishment of Patchouli and Ipil-Ipil
Plantation**
Mr. Ramil Bernardino
Plantation Supervisor, Patchouli and Ipil-ipil
Plantation
Labo, Camarines Norte
- 3:00-3:30 pm** **Responses**
- Ms. Veronica Villavicencio*
Executive Director
Peace and Equity Foundation
- Ms. Corazon Urquico*
Portfolio Manager
Empowerment of the Poor
United Nations Development Programme
(UNDP), Philippines
- 3:30-4:00 pm** **Closing Ceremony**
- Awarding of new CBMS Development Grants*



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Welcome Remarks

Sharing a Venue for an Exchange of Local and International CBMS Experiences

*Cella Reyes**

Good morning everyone. On behalf of the CBMS Network Coordinating Team based in Manila and with office in Dakar, Senegal, welcome to the Fourth CBMS Annual Conference and the first CBMS International Conference.

We are privileged to have an opportunity to work with local government units, national government agencies, civil society organizations and development partners who are committed in reducing poverty and providing a better quality of life to our people.

We are very especially honored to have with us today our esteemed governors and vice-governors, mayors, barangay captains and other local government officials who will share with us their experiences in implementing the CBMS.

What makes this conference different from the previous ones is the participation of our partners from abroad. We have with us our valuable CBMS researchers from Benin, Ghana, Tanzania, Bangladesh, Cambodia, Indonesia, Lao PDR, and Vietnam. Our team is also coordinating the CBMS work in these countries. We are also especially honored to have with us today poverty expert, Dr. Nanak Kakwani, to share with us his research findings.

*Poverty and Economic Policy (PEP) PEP Co-Director and CBMS Network Leader

We thank our host, Pasay City, led by Honorable Mayor Allan Panaligan, for providing support in this event.

All these would not have been possible without the support of the International Development Research Centre (IDRC), which is represented here today by Dr. Evan Due. Aside from providing financial support, IDRC, through its Program Officers, has been providing valuable technical and advocacy support. The World Bank, United Nations Development Programme (UNDP), Peace and Equity Foundation and other development partners have also been of great help to us in scaling up the CBMS.

We are also very grateful to the Angelo King Institute, especially to the Board of Trustees Chair, Mr. Rene Fuentes, and to the AKI Executive Director, Dr. Ponciano Intal, for its continued support.

We will be remiss if we fail to mention our partners from the academe such as Dr. Victoria Bautista who will share with us the CBMS experiences of our LGU partners with the aim of further improving and enhancing the system.

Finally, our thanks goes to Dr. Gelia Castillo who has been our inspiration and mentor since the MIMAP days.

Again, we welcome you all and we look forward to hear your experiences in implementing CBMS.

Welcome Remarks

CBMS as a National Resource for Policy Innovation

*Rene Fuentes**

Good morning and welcome to the Fourth Annual Community-Based Monitoring System (CBMS) Network Conference!

On behalf of the Angelo King Institute of the De La Salle University, we are very pleased to be the host of this conference and we would like to extend a warm welcome to the members of our audience who have traveled from various points all over the country just to be here with us this morning. I have no doubt that if we can only harness this collective brainpower to bring their analytical insights and experience to bear on the intractable problem of poverty, our country may be able to find answers to our problems. Subsequently, this can lead to better macroeconomic policies and micro-level interventions.

This is what the CBMS project is all about and this is consistent with the Angelo King Institute and De La Salle's vision—to be a national resource through the conduct of research that becomes a basis for institutional and policy innovation. The amazing turnout of participants this morning is a glowing testament to how the CBMS has fulfilled a long-felt need for a system that can provide reliable and credible information base at the local level for policymaking,

*Chairman, Board of Trustees, Angelo King Institute for Economic and Business Studies

program design and impact monitoring. Special thanks are therefore in order to the International Development Research Centre (IDRC) for funding this initiative through all these years and to the national government agencies and local government units as well for their unwavering support.

The CBMS continues to enjoy support from a growing number of the country's development stakeholders and I am happy to note that there are already significant achievements in terms of institutionalizing and scaling up the implementation of the CBMS. Just recently, the Working Group on the Millennium Development Goals (MDGs) and Social Progress of the *Philippines Development Forum*, the primary mechanism of the government for facilitating substantive dialogue among stakeholders on the country's development agenda, had called for the acceleration in the target and pace of institutionalizing CBMS. Its target is 100 percent local government unit (LGU) coverage of the CBMS by 2010.

At this point, let me point out that the CBMS is showing the way to a convergent approach to poverty reduction not only in the Philippines but in other countries in Asia and Africa as well. We are therefore pleased to acknowledge the presence of several members of the CBMS International Network from Bangladesh, Benin, Cambodia, Ghana, Lao PDR, Tanzania, Indonesia and Vietnam.

Finally, as the host of the CBMS project, let me convey the Institute's desire to continue working with you in our collective pursuit of international competitiveness, poverty alleviation and sustainable development.

Thank you.

Welcome Remarks

Facilitating Governance Through Knowledge- and Information-Building

*Evan Due**

On behalf of the International Development Research Centre (IDRC) of Canada, I welcome you all to this annual gathering of CBMS researchers and local government partners and other stakeholders. This is my third time to attend the national conference on CBMS in the Philippines and I am delighted to see this year the addition of a number of people from the other regions especially Africa.

The CBMS Network, being a network, puts a high premium on collaborative work between different groups of individuals. This year's conference thus provides an important venue of sharing of experiences and I am looking forward to the proceedings of the next few days.

The IDRC is mandated to bridge research that would put practical value for policymakers. In this regard, CBMS has been successful in engaging both the researchers, officials, legislators, international agencies and other stakeholders in this particular process of monitoring development problems and programs at the local level.

Strength means to me a home grown exercise and this is what CBMS is all about. It means being institutionalized in individual countries and across countries. I would therefore like to congratulate

*Senior Regional Program Specialist, International Development Research Centre (IDRC)

the Network for taking the lead in engaging both local and international stakeholders in this endeavor.

I would also like to welcome officials and legislators of the Philippines who are the driving force here in the country not only for scaling up the CBMS but also in internationalizing it. Palawan, for example, was featured in an international stage very early on to show how the CBMS has worked in its localities. Today, we are seeing not just the CBMS success in the Philippines but its growing importance in other countries as well.

The theme of this year's conference is "Improving Governance and Scaling Up Poverty Reduction". Needless to say, governance is facilitated by local knowledge and information. This is very important

In terms of scaling up, meanwhile, various countries are scaling up the CBMS at the regional and national levels. This means involvement of a number of stakeholders.

I would like to include the role of the CBMS in localizing information for macro monitoring in the theme.

Why? Because attention has been given to the CBMS processes by international agencies because of the important role of monitoring real time data and reliable information at the local level.

I would also like to congratulate the CBMS for building the capacities of local researchers. Relatedly, IDRC's mandate is to strengthen the capacities of researchers not only via financing but also the facilitation of the technical work at the local level.

On a final note, on behalf of IDRC, I look forward to hearing your presentations in the next few days. And I hope that we will establish standard relations across the Philippines, Asia and the whole world.

Welcome Remarks

Welcome From a City Transformed

*Allan Panaligan**

CBMS practitioners, policy analysts, policymakers, local partners and other development partners from Asia and Africa, honored guests, friends, ladies and gentlemen, good morning.

I take great pride and pleasure in welcoming you all to the queen city of Metro Manila and one of the most child-friendly cities in the Philippines.

I say Queen City because Pasay is one of the oldest cities—at the age of 143 years on December 2, 2006—and recognized by UNICEF as one of the best practicing child welfare program partners.

At the same time, we, Pasayenos, would want to also be known as one of the best CBMS-practicing local governments in the country today.

Is that too much to ask? Many Filipinos have referred to our city by so many bad coinages like city of garbage or city of sin because of too much garbage and too many night spots. This is true perhaps in the past but not anymore. We have actually entered the decade of transformation, from a garbage city to a city thriving with development and with the largest department store—the SM Mall of Asia—as well as from a sin city to a child-friendly city.

*Acting City Mayor, City Government of Pasay

Hosting this conference not only adds to our growing transformation but also strengthens our commitment to new ideas and institutionalized programs for development.

Aside from welcoming you to our beloved city, I also wish to assure the magnificent people who have been working hard in propagating the spirit of CBMS that your efforts, hard work, and support will not be in vain in Pasay City. My administration shall ensure total commitment to the implementation and institutionalization of the CBMS in our city.

We will take this not as a burden but as a tool in leapfrogging from a developing city into a developed city in the near future.

I am confident that this conference shall further enhance and strengthen the fundamentals and policies of CBMS for the development of many local government units here and abroad.

Again, from the people of Pasay City, welcome and thank you to the PEP, Angelo King Institute and IDRC.

Mabuhay ang CBMS!

Keynote Address

CBMS Integration in the Philippine Statistical System

*Margarita Songco**

A development agenda that is effective, responsive and monitored over time is one that is specific, theoretical, objective, realistic and feasible. This holds true for the poverty reduction agenda which consists of integrated plans and programs to improve the quality of life for Filipino families. At the macro level, our development agenda is the Medium Term Philippine Development Plan (MTPDP). At the central level, there is a plan of action for poverty reduction being drafted by the National Anti-Poverty Commission (NAPC). At the local level, this agenda is the Local Poverty Reduction Action Plan (LPRAP) of the provinces, municipalities and cities.

All these development agenda, however, need a systematic tool to measure the baseline and progress indicators regularly. In this regard, the community-based monitoring system (CBMS) is a critical measurement and assessment tool that we can use. The CBMS tries to help us answer the questions: who are the poor, where are the poor and what are the needs of the poor? The CBMS developed by the Micro Impacts of Macroeconomic Adjustment Policies (MIMAP) Project is an organized process of gathering and utilizing information for policymaking and program implementation at all geopolitical levels. In particular, the system attempts to provide planners with up-to-date

*Deputy Director General, National Economic and Development Authority

and reliable information on a core set of indications of welfare. It is intended to monitor the conditions of the vulnerable groups in society, the changes in their welfare status and the causes of these changes.

At the local level, the CBMS data are intended to enrich the preparation of development profiles and annual investment plans of the provinces, municipalities/cities and barangays. In addition, the data may also serve as inputs for monitoring the impact of projects and programs undertaken by the national and local governments in the communities or sentinel areas.

At the national level, the CBMS data can be used by concerned government and nongovernment agencies for diagnosing the poverty reduction situation. Information can aid in the design of policy interventions and corresponding target beneficiaries.

CBMS is currently being implemented in 28 provinces, 243 municipalities and 20 cities covering 6,478 barangays. To date, we have province-wide CBMS databases for 11 provinces and hope to increase this number soon.

There is an ongoing discussion to institutionalize CBMS at the local poverty monitoring system. Key players for this activity are the Department of the Interior and Local Government (DILG), the NAPC and the National Economic and Development Authority (NEDA). The government has responded positively on this matter through the development of a policy environment for the CBMS.

First, the DILG issued a Memorandum Circular (MC) in April 2003 and then again in November 2004 that advocate for the conduct and adoption of monitoring systems such as the CBMS. The NAPC, on the other hand, issued En Banc Resolution No. 7 in March 2003 directing the LGUs to adopt the 13 core local poverty indicators (CLPIs) for poverty diagnosis and planning at the local level. These 13 core indicators for poverty, health, nutrition, water and sanitation, basic education, employment, housing, peace and order have become 14 core indicators with the addition of maternal health. Hence, we now call them the 13+1 core poverty indicators.

In 2005, the National Statistical Coordination Board (NSCB) issued Resolution No. 6 recognizing and enjoining the support of the CBMS as a tool to strengthen the statistical system at the local level.

More recently, on July 19, 2006, the Social Development Committee (SDC) of the NEDA Board issued a resolution adopting the CBMS as a prescribed monitoring tool for the generation of core local poverty indicator databases. The SDC, which is the highest policymaking inter-agency body for the social sector, recognizes CBMS as a viable and most effective system that can be used in generating the 13+1 CLPIs and can help assure uniformity and standardization of CLPI databases by all LGUs. We at the SDC have recommended the adoption and use of CBMS as the principal monitoring tool and system for the poverty core indicators. We enjoined the NAPC, DILG and LGUs to coordinate with the CBMS Network Team in the fast tracking and full implementation of the CBMS. Moreover, we are proposing that the NAPC, DILG and LGUs enter into a Memorandum of Agreement with the CBMS Network Team to collaborate in the training, orientation, data enumeration, processing and other related activities.

The importance of the CBMS and the CLPIs cannot be overemphasized. The President herself, President Gloria Macapagal-Arroyo, and the cabinet have likewise affirmed the critical importance of this exercise to be able to generate a poverty profile and situationer through poverty maps of each LGU and to have a sound basis for targeting government interventions, i.e., programs, projects and activities for our poor and vulnerable population.

On October 17, 2006, during the NAPC En Banc Meeting, the President directed the NAPC to include the CBMS questions on the CLPIs in the 2007 national census to be undertaken by the National Statistics Office (NSO). Integrating the CBMS poverty questions in the national census affirms the need to gather poverty data systematically throughout the country up to the household level.

There is no doubt that the CBMS serves and will continue to serve as a critical data-gathering tool in our anti-poverty development

agenda. CBMS is now fully integrated in our official poverty statistics. CBMS will continue to play its role in the promotion of community-driven development approaches. And CBMS has paved — and will continue to pave — the way in our attempts to better answer who the poor are, where the poor are and what the needs of the poor are.

I am encouraged by your presence today and look forward to a successful roll-out and action integration of the CBMS in our statistical system.

Conference Papers



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Day 1
***Theme: CBMS as a Tool for Crafting
the Development Agenda***



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Keynote Speaker

On Assessing Pro-Poorness of Government Programs: International Comparisons

*Nanak Kakwani and Hyun H. Son**

Introduction

Many governments in developing countries are increasingly considering the introduction of safety net programs that provide income to the poor or those who face a probable risk of falling into poverty in the absence of the cash or in-kind transfers provided by such programs. In designing such programs, governments in developing countries are often faced with the choice between cash and in-kind transfers. Economic theory would lead us to believe that cash transfers are the preferred means of assistance. A range of economic as well as administrative considerations influence this choice (Grosh 1994, Jimenez 1993, Tabor 2002).

Whether the transfer programs are cash or in-kind, it is obvious that if our objective is to reduce poverty, the transfer programs should be designed in a way that they lead to the maximum reduction in poverty under given resource constraints. To achieve this objective, perfect targeting will be an ideal solution where (i) only the poor get all the benefits, and (ii) benefits given to the poor are proportional to their income shortfall in relation to the poverty line. To implement

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such a program, however, we will need to have detailed information on people's incomes or consumption. "Such detailed information and the administrative ability to use it is not present in most developing countries" (Haddad and Kanbur 1991). We generally resort to a proxy targeting, which makes the transfers based on easily observable socioeconomic characteristics of households. Proxy targeting, however, can never achieve 100 percent targeting efficiency. It is therefore important to know how good the proxy targeting is compared to perfect targeting. In this paper, we provide a methodology to assess the targeting efficiency of government programs, whether cash or in-kind.

A government program may be defined as pro-poor if it provides greater absolute benefits to the poor compared to the non-poor. Obviously, with a given fixed cost, a pro-poor programme will lead to greater poverty reduction than a non-pro-poor programme. Suppose there are two programs *A* and *B* incurring the same cost. *A* will be more pro-poor than *B* if it leads to a greater poverty reduction than *B*. Utilizing this definition, the paper develops a new index called "Pro-Poor Policy (PPP)" index, which measures the pro-pooriness of government programs as well as basic service delivery in education, health, and infrastructure.

The PPP index is defined as the ratio of actual proportional poverty reduction from a government program, to the proportional poverty reduction that would have been achieved in a counterfactual situation when every individual in society had received exactly the same benefits from the program. The value of the PPP index, framed in the realm of perfect targeting, provides a means to assess the targeting efficiency of government programs.

From the policy point of view, it is important to know how targeting efficiency of government programs varies across various socioeconomic groups. To answer this question, the paper develops two types of PPP indices by socioeconomic groups, namely, within-group and total-group PPP indices. While the within-group PPP index measures the pro-pooriness of a program within the group, the total-

group PPP index captures the impact of operating a program in the group on its pro-poorness at the national level. The within-group PPP index captures how well targeted a program is within a group. On the other hand, if our objective is to maximize poverty reduction at the national level, the targeting efficiency of a particular group should be judged on the basis of a total-group PPP index.

Using micro unit-record data on household surveys from Thailand, Russia, Vietnam and 15 African countries, this paper evaluates a wide range of government programs and services.

The paper is organized in the following manner: Section 2 describes poverty measures. Section 3 is devoted to the derivation of the Pro-Poor Policy (PPP) index to measure the propoorness of governments' welfare programs and utilization of basic services. Section 4 formulates the values of the PPP index attainable under perfect targeting and Section 5 proposes the PPP index by socioeconomic groups. Section 6 then presents empirical results applied to Thailand, Russia and Vietnam while Section 7 provides an empirical analysis for 15 African countries. The final section summarizes the major findings emerging from the study.

Poverty measures

The pro-poorness of a government policy was measured by measuring its impact on poverty. If there are two policies A and B , then policy A is more (less) pro-poor than policy B if it achieves a greater (smaller) reduction in aggregate poverty for a given cost. Aggregate poverty can be measured in a variety of ways. In this paper, we will focus on a class of additively separable poverty measures that can be written as

$$\theta = \int_0^z P(z, x)F(x)dx \quad (1)$$

where x is the income of an individual, which is a random variable with a density function $f(x)$. An individual is identified as poor if his/her income is less than the poverty line z . $P(z, x)$ may be

interpreted as the deprivation suffered by an individual with income x and is a homogenous function of degree zero in z and x , which satisfies the restrictions:

$$P(z, x) = 0 \quad \text{if } x \geq z$$

$$\frac{\partial P(z, x)}{\partial x} < 0 \quad \text{and} \quad \frac{\partial^2 P(z, x)}{\partial x^2} > 0$$

Individuals do not suffer any deprivation when their income or consumption can meet their basic minimum standard of living defined by the poverty line. P in (1) measures the average deprivation suffered by the society due to the existence of poverty.

Foster, Greer, and Thorbecke (1984), for example, proposed a class of poverty measures that is obtained by substituting

$$P(z, x) = \left(\frac{z - x}{z} \right)^\alpha \quad (2)$$

in (1), where α is the parameter of inequality aversion. When $\alpha = 0$, 1 and 2, the poverty measure is a headcount ratio, poverty gap ratio and severity of poverty index, respectively.

To formulate a poverty reduction policy, we need to make a choice of poverty measures. For instance, the headcount ratio will require different policies than poverty gap and severity of poverty. The headcount ratio is a crude measure of poverty because it completely ignores the gap in incomes from the poverty line and the distribution of income among the poor. The severity of the poverty index has all the desirable properties.

Pro-poor policy index

Suppose there is a welfare transfer from the government, which leads to an increase in the recipients' income or consumption expenditure. Accordingly, there will be a reduction in poverty incurred from the

increase in income. Suppose x is the income of a person before transfer and $b(x)$ is the benefit received by the person with income x ; then the percentage change in poverty (because of this benefit) can be written as:

$$\frac{d\theta}{\theta} = \frac{1}{\theta} \int \frac{\partial P}{\partial x} b(x) f(x) dx \quad (3)$$

We define a government program to be pro-poor if the poor receive greater absolute benefits than the non-poor. It means that the pro-poor government program should achieve greater poverty reduction compared to a counterfactual situation where everyone receives exactly the same benefit from the program.

Suppose that the average or mean benefit generated from the government program is denoted by \bar{b} . The percentage change in aggregate poverty, when the amount of \bar{b} is given to everyone, can be written as:

$$\frac{d\theta}{\theta} = \frac{\bar{b}}{\theta} \int \frac{\partial P}{\partial x} f(x) dx \quad (4)$$

We define the pro-poor policy index as the ratio of actual proportional poverty reduction from the program as given in (3), to the proportional poverty reduction that would have been achieved if every individual in society had received exactly the same benefits (equal to the average benefit from the program) as given in (4). Thus, the pro-poor policy index can be expressed as

$$\lambda = \frac{1}{\bar{b} \eta \theta} \int \frac{\partial P}{\partial x} b(x) f(x) dx \quad (5)$$

where

$$\eta = \frac{1}{\theta} \int \frac{\partial P}{\partial x} f(x) dx$$

is the absolute elasticity of poverty: if everyone receives one unit of currency, then poverty will change by 100η percent.

A program will be called pro-poor (anti-poor) when $\bar{\epsilon} > 1$ (< 1). The larger the value of $\bar{\epsilon}$, the greater will be the degree of pro-poorness of the program.

To calculate $\bar{\epsilon}$, a program does not have to be a program of cash transfers. As a matter of fact, a large number of government programs consist of providing various services in the areas of education, health and other social services. Although these services do not provide cash to individuals, they do contribute to their standard of living. Hence, it can be assumed that if a person utilizes a government service, then he/she receives some notional cash. If all individuals who utilize a government service are assumed to receive exactly the same benefits (in the form of notional cash), then we can easily calculate the pro-poor policy index $\bar{\epsilon}$, by defining $b(x) = 1$, if a person is utilizing a service and 0 otherwise.

Perfect targeting

The PPP index has the lowest value of zero if the government program does not reduce any poverty at all, which will happen when all benefits of the program go to the non-poor.

This situation can be described as:

$$b(x) = 0 \quad \text{if } x < z$$

$$b(x) = 0 \quad \text{if } x = z \quad (7)$$

Substituting (7) into (5) gives $\bar{\epsilon} = 0$. This is the extreme situation of imperfect targeting.

Perfect targeting may be defined as a situation where (i) only the poor receive all the benefits, and (ii) benefits given to the poor are proportional to the income shortfall from the poverty line. This situation may be described as:

$$\begin{aligned} b(x) &= k(z - x) & \text{if } x < z \\ b(x) &= 0 & \text{if } x = z \end{aligned} \quad (8)$$

When $k = 1$, poverty is completely eliminated. k should be less than 1 in order to preserve incentives for people to work. Per capita cost of such a program, which excludes administrative costs, is given by

$$\bar{b} = k \int_0^z (z - x) f(x) dx$$

\bar{e} , in this situation, is derived from (5) as

$$\lambda_m = \frac{1}{\bar{b} \eta \theta} \int_0^z \frac{\partial P}{\partial x} (z - x) f(x) dx$$

where \bar{e}_m is the value of PPP index obtainable in the case of perfect targeting. Note that in the computation of \bar{e}_m , we do not need to assume one single poverty line for all households. Every household can have different poverty lines depending on the household composition and the regional prices faced by the households. In our empirical study of Thailand, the official poverty line varies with households, but in the case of Vietnam, the poverty line is fixed for all households. If we assume that all households have the same per capita poverty line, then by substitution, it is easy to demonstrate that the value of \bar{e}_m for the poverty gap ratio is equal to the inverse ratio of the headcount index H (i.e., $1/H$). Similarly, it can be easily proved that $m \bar{e}$ for the severity of poverty index is equal to $\frac{s}{g}$, where g is the poverty gap ratio and s is the severity of poverty index.¹

Thus, we have obtained the values of \bar{e} attainable under the situation of perfect targeting. In practice, it is not possible to attain perfect targeting because it is difficult to obtain accurate data concerning people's income or consumption. We generally resort to

¹ It must be pointed out that \bar{e}_m is not an upper bound of \bar{e} . Suppose we give a fixed amount of transfer only to the poor, then $b(x) = b$ (if $x < z$) and 0 otherwise. From this, it can be easily seen that $\bar{e} = 1/H$ for the entire class of additive and separable poverty measures as defined in (1). In some cases, this programme may give larger values of \bar{e} compared to the case of perfect targeting.

proxy targeting such as by geographical regions or by other socioeconomic characteristics of households. Since the value of $m \bar{e}$ can be easily calculated from (9), we can then judge the target efficiency of a programme by comparing it with its value attainable under perfect targeting.

PPP index by socioeconomic groups

Suppose that there are K mutually exclusive socioeconomic groups in the population, then the PPP index for the k th group can be obtained from equation (5) as:

$$\lambda_k = \frac{1}{b_k \eta_k \theta_k} \int_0^{\bar{e}_k} \frac{\partial P}{\partial x} b(x) f_k(x) dx \quad (10)$$

where \bar{b}_k is the mean benefit of the program in the k th group, \bar{e}_k is the poverty measure in the k th group and $f_k(x)$ is the density function of the k th group and ζ_k is the absolute elasticity of the poverty of the k th group:

$$\eta_k = \frac{1}{\theta_k} \int_0^{\bar{e}_k} \frac{\partial P}{\partial x} f_k(x) dx \quad (11)$$

which is the proportional change in poverty within the k th group when everyone in the k th group receives one unit of currency.

If a_k is the population share of the k th group, such that $\sum_{k=1}^K a_k = 1$, then

$$f(x) = \sum_{k=1}^K a_k f_k(x) \quad (12)$$

Utilizing (5), (10), (11) and (12) easily gives

$$\lambda = \frac{1}{b \eta \theta} \sum_{k=1}^K b_k \eta_k \theta_k a_k \lambda_k \quad (13)$$

which shows that the PPP index for the whole country is the weighted sum of the PPP indices for the individual groups.

\bar{e}_k measures the degree of pro-poorness of a program within the k th group. Although this index, which we call within-group PPP index, is useful in knowing how well-targeted a program is within a group, it does not tell us whether targeting the k th group will necessarily lead to a pro-poor outcome at the national level. Since our objective is to achieve the maximum reduction in poverty at the national level, we need to see the impact of targeting the k th group on national poverty. To capture this effect, we derive below a total group PPP index for the k th group.

Since the poverty measures given in (1) are additively decomposable, we can express the total poverty in the country as the weighted average of poverty in individual groups with weights proportional to their population shares:

$$\theta = \sum_{k=1}^K a_k \theta_k \tag{14}$$

where a_k is the population share of the k th group such that $\sum_{k=1}^K a_k = 1$ and θ_k is the poverty measure in the k th group. Differentiating (14) in both sides gives

$$\frac{d\theta}{\theta} = \sum_{k=1}^K \left(\frac{a_k \theta_k}{\theta} \right) \left(\frac{d\theta_k}{\theta_k} \right) \tag{15}$$

Suppose a programme $b(x)$ operates only in the k th group, then the proportional change in poverty in the k th group will be given by

$$\frac{d\theta_k}{\theta_k} = \frac{1}{\theta_k} \int_0^{\bar{z}} \frac{\partial P}{\partial x} b(x) f_k(x) dx \tag{16}$$

where $f_k(x)$ is the density function of the k th group. Utilizing (16) into (15), we obtain the proportional change in national poverty, when the government program operates only in the k th group, as:

$$\left(\frac{d\theta}{\theta} \right)_k = \frac{a_k}{\theta} \int_0^{\bar{z}} \frac{\partial P}{\partial x} b(x) f_k(x) dx \tag{17}$$

Suppose \bar{b}_k is the mean benefit of the program in the k th group.

So, the total cost per person (in the whole population) of operating the program in the k th group is given by $a_k \bar{b}_k$. If we had considered a scenario of universal targeting of the whole population providing every individual the benefit equal to $a_k \bar{b}_k$, then the proportional reduction in national poverty would have been $a_k \bar{b}_k \eta$. Obviously then, operating programs in the k th group will be pro-poor if the magnitude of poverty reduction in (17) is greater than the poverty reduction obtained with universal targeting while incurring the same cost. Thus, we define the total group PPP index for the k th group as:

$$\lambda_k^* = \frac{1}{b \eta \theta} \int_0^{\bar{x}} \frac{\partial P}{\partial x} b(x) f_k(x) dx \quad (18)$$

Operating the government program $b(x)$ in the k th group is pro-poor (anti-poor) if λ_k^* is greater (less) than 1. Note that λ_k^* measures the pro-poorness of the program in the k th group with respect to the whole population and not with respect to the population within the k th group.

Utilizing (5), (12) and (18) easily gives the following:

$$\lambda = \frac{1}{b \eta \theta} \int_0^{\bar{x}} b(x) f_k(x) dx \quad (19)$$

which shows that the pro-poor policy index for the whole country is the weighted average of the total-group PPP indices for the individual groups, with weight proportional to shares of benefits received by each group.

Equation (19) demonstrates that to reduce poverty at the national level, operating the government program in some groups will be more efficient than in other groups. This efficiency can be captured by the value of λ_k^* : the larger the value of λ_k^* , the more efficient is the k th group in reducing the national poverty. On the whole, the methodology presented here can help us to identify the socioeconomic groups that should be targeted in order to achieve maximum reduction in national poverty.

Case studies: Thailand, Russia and Vietnam

In this section, we apply our methodology suggested in Sections 3 to 5 to three countries: Thailand, Russia and Vietnam. While the pro-poor policy (PPP) index is applied to Thailand and Russia to capture the extent to which the governments' welfare schemes benefit the poor, the PPP index is applied to Vietnam to estimate the degree of effectiveness of basic services – including education and health – utilized by the population.

For all three countries, we utilized nation-wide household surveys covering the periods of 2000, 2002, and 1997-98 for Thailand, Russia and Vietnam, respectively. Poverty lines are country-specific. While a single average national poverty line is used for Vietnam, Thai and Russian poverty lines differ across households because they take into account different needs of household members by gender and age, as well as spatial costs of living across regions and areas in both Thailand and Russia.²

Welfare programs in Thailand and Russia

Thailand

In recent years, the Thai government has implemented a few social welfare programs, including social pensions for the elderly, low-income medical cards, health insurance cards, and free school lunch programs. These are means tested and designed specifically to target the low-income group. In this section, we examine whether these welfare programs have indeed benefited poor people in the society by means of our proposed PPP index.

Table 1 presents the Pro-Poor Policy (PPP) index for Thailand's social welfare programs. As can be seen from the Table, all four welfare programs have the value of the PPP index greater than 1. On this account, we may conclude that all the four welfare programs

² For a detailed discussion on Thailand and Russian poverty lines, see Kakwani (2000, 2004).

Table 1. Pro-Poor Policy Index for welfare programs in Thailand: 2000

Welfare schemes	Poverty gap ratio	Severity of poverty
Social pension for the elderly	1.68	1.54
Low-income medical cards	2.02	2.12
Health insurance cards	1.29	1.25
Free school lunches	2.02	2.06
<i>Perfect targeting</i>	<i>6.77</i>	<i>10.31</i>
<i>Universal social pensions (for elderly over 65 years of age)</i>	<i>1.21</i>	<i>1.24</i>

benefit the poor more than the non-poor. Overall, the poor have greater access to government welfare programs than the non-poor.

It is interesting to note that the welfare programs – low-income medical cards and free school lunches – have higher values of the PPP index for the severity of poverty measure. Since the severity of poverty measure gives greater weight to the ultra-poor, the absolute benefits of low-income medical cards and free school lunch programs flow to the ultra-poor more than to the moderately poor.

The PPP index in the hypothetical case of a universal pension system is also calculated. Suppose that every elderly person over 65 years of age receives a pension from the government. Is this scenario more pro-poor than the actual pension system? The PPP index indicates that although a universal pension scheme for the elderly is pro-poor and is even more beneficial to the ultra-poor, the present pension system is far more pro-poor than the universal one. This implies that the current means-tested pension system provides more benefits to the poor than the universal pension system for people of 65 years of age and over. In this analysis, we have not taken into account administrative costs involved in providing mean-tested pensions.

Perfect targeting is the ideal policy for poverty reduction. In practice, it is not feasible to operate such a policy because: (i) the

administrative cost is very high; and (ii) it is difficult to obtain accurately details of individuals' income or consumption, particularly in the countries where the informal sector might be very large. If the government in Thailand had succeeded in implementing perfect targeting, the PPP index would have been 6.77 for the poverty gap and 10.31 for the severity of poverty measure. Thus, the Thai welfare programs, although propoor, have much lower values on the PPP index than the values that would have been obtained with perfect targeting. This suggests that there is scope for improving the targeting efficiency of the Thai welfare programs.

In section 5, we derived two types of PPP indices for groups \bar{e}_k and λ_k^* . The former may be called within-group PPP index as it measures the pro-poorness of a program within the k th group. The latter may be referred to as total-group PPP index because it captures the impact of operating a program in the k th group on its pro-poorness at the national level. The results are presented in Table 2. The total-group PPP index shown in the Table reveals that the welfare programs are more pro-poor in the rural areas than in the urban areas. Welfare

Table 2. Pro-Poor Policy index by urban and rural areas in Thailand, 2000

Welfare schemes	Total-group PPP index		Within-group PPP index	
	Urban	Rural	Urban	Rural
	<i>Poverty gap ratio</i>			
Social pension for the elderly	1.13	1.76	4.41	1.31
Low-income medical cards	1.44	2.1	5.6	1.56
Health insurance cards	0.7	1.39	2.72	1.03
Free school lunches	0.81	2.21	3.15	1.64
	<i>Severity of poverty</i>			
Social pension for the elderly	1.18	1.6	5.42	1.17
Low-income medical cards	1.34	2.23	6.18	1.63
Health insurance cards	0.61	1.36	2.83	0.99
Free school lunches	0.73	2.27	3.37	1.66

schemes such as the health-care cards and free school lunches are not pro-poor in the urban areas. This suggests that the government expenditures made on these programs in the urban areas did not benefit the poor more than the non-poor.

It is, however, interesting to note that the within-group PPP index shows that all programs are more pro-poor in the urban areas than in the rural areas. Thus, the two types of indices (total-group and within-group) present opposite results. The main reason for this is that welfare programs in Thailand are better targeted in urban than rural areas. Since the concentration of poor is higher in the rural areas, the impact of targeting the rural areas turns out to be more pro-poor at the national level. It is worth stressing that the targeting efficiency of a particular group should be judged on the basis of the total-group PPP index.

Russia

Russia has a well-developed social benefits system, of which pensions are the largest component. Table 3 gives the population in millions receiving some kind of benefits. There are some persons who receive more than one benefit at the same time but numbers of such people are so small that we have ignored them.

From Table 3, it can be seen that out of the total population of 143.32 million, 53.62 million are receiving some kind of government benefit, which means that 37.41 percent of the total population depends on government benefits. This shows that the Russian social benefits system is very large.

The old-age pension is the largest welfare program benefiting about 26.32 million people. The second largest program is the children allowance benefiting 17.42 million children. The disability pension is given to 3.19 million people.

The Russian government spends 46.79 billion Rubles per month on welfare programs (without the administrative costs), of which 38.74 billion Rubles go toward the payment of pensions. The expenditure on children's allowance is only 1.45 billion Rubles, which means that the children's allowance per beneficiary is only 83.1 Rubles per

Table 3. Russian welfare systems in 2002

Welfare benefits	Beneficiaries in million	Percentage share	Per month cost in billion Rubles)	Percentage share
Old-age pension	26.32	49.08	38.74	82.79
Disability pension	3.19	5.96	3.61	7.71
Loss of breadwinner pension	1.64	3.05	1.27	2.72
Social pension	0.27	0.5	0.26	0.56
Care for children under 18 m	0.84	1.57	0.41	0.88
Children allowance	17.42	32.49	1.45	3.09
Unemployment benefits	0.45	0.84	0.31	0.65
Other benefits	0.95	1.77	0.2	0.42
Scholarship	2.55	4.76	0.55	1.17
All benefits	53.63	100.00	46.79	100.00

month. Given the fact that the incidence of poverty among children is very severe, the children's allowance is too small to have a significant impact on poverty among children.

The government pays average benefits equal to Rubles 326.5 per person per month. Our average lower poverty line for Russia is Rubles 1055.9 per person per month, which means that the government pays benefits equal to one third of the poverty line.

To what extent do the government benefits go to the poor compared to the non-poor in the Russian Federation? This question is answered through our proposed PPP index. Table 4 gives the empirical estimates of the pro-poorness of each of the government welfare programs that are currently implemented in Russia.

As can be seen from the Table, the benefits as a whole have the value of the PPP index far greater than 1. From this, we may conclude that the welfare system in Russia tends to benefit the poor more than the non-poor. More importantly, the absolute benefits of the welfare

system do indeed flow more to the ultra-poor than to the poor as suggested by the value of PPP index for the severity of poverty measure, equal to 3.90. Note that the PPP index of all benefits is the weighted average of the PPP indices of all nine welfare programs, with the weight proportional to the share of each program presented in the third column of Table 3.

Table 4 also reveals that if the government of the Russian Federation had implemented perfect targeting, the PPP index would have been 3.02 and 5.71 for the poverty gap and the severity of poverty, respectively. This suggests that although Russian welfare programs are not perfectly targeted at the poor, their deviation from perfect targeting is not large. It is important to note that welfare programs such as the children's allowance given to those aged below 16 years and scholarships are not pro-poor, particularly in relation to the severity of poverty index. This is evident from the result that the PPP indices of these two programs for the severity of poverty measure fall far below unity. This suggests that the absolute benefits of these

Table 4. PPP indices for Russian welfare system in 2002

Type of government benefits	Poverty gap ratio	Severity of poverty
Old-age pension	2.2	4.13
Disability pension	2.18	4.16
Loss-of-breadwinner pension	2.09	2.4
Social pension	2.22	2.8
Care for children under 18 months	1.78	1.87
Children (under 16 years) allowance	1.19	0.79
Unemployment benefits	2.22	3.8
Other benefits	1.74	2.75
Scholarship	0.9	0.62
All benefits	2.14	3.9
<i>Perfect targeting</i>	<i>3.02</i>	<i>5.71</i>

programs do not flow to the ultra-poor. This further suggests that these programs may require better targeting than the current system in a way that favors the ultra-poor living far below the poverty threshold.

Health services in Vietnam

Over the past decade or so, Vietnam has enjoyed a significant improvement in standard of living with its impressive performance in growth and poverty reduction. More importantly, its growth process has been pro-poor in a way that growth benefits the poor proportionally more than the non-poor (Kakwani and Son 2004). In this context, it will be interesting to see whether, along with a rising standard of living and its pro-poor growth, poor people benefit from the utilization of current health services in Vietnam. Table 5 presents the PPP index for the utilization of various health facilities in Vietnam.

As the results in Table 5 reveal, only commune health centers show the index value to be greater than 1. This suggests that the poor utilize commune health centers more than the non-poor. Unfortunately, commune health centers do not provide quality health services because they are generally poorly staffed and not well equipped. Thus, the poor in Vietnam are generally not receiving the best quality health services.

Public hospitals in Vietnam provide higher quality care and are mainly utilized by individuals with health insurance. It can be noted that the utilization of government hospitals is shown to have a value of PPP index far less than 1, implying that public hospitals in Vietnam provide greater benefits to the non-poor than the poor. As such, the poor are unable to access quality health services that are provided by public hospitals.

Nevertheless, it is not surprising to see that the utilization of health insurance is not pro-poor because in Vietnam, those who are covered by health insurance have access to government hospitals. Moreover, insurance coverage under the health insurance program is more extensive for relatively better-off individuals. As such, having

Table 5. Pro-Poor Policy Index for health services in Vietnam: 1997-98, poverty gap ratio

Welfare schemes	Vietnam	Total-group PPP index		Within-group PPP index	
		Urban	Rural	Urban	Rural
	<i>Poverty gap ratio</i>				
Government hospitals	0.62	0.07	0.91	0.34	0.74
Commune health centres	1.17	0.27	1.23	1.38	1.00
Regional polyclinics	0.84	0.42	0.98	2.14	0.79
Eastern medicine facilities	0.96	0.04	1.15	0.21	0.94
Pharmacies	0.96	0.26	1.16	1.29	0.94
Private doctors	0.79	0.12	0.98	0.59	0.80
Health insurance	0.50	0.08	0.79	0.40	0.64
<i>Perfect targeting</i>	<i>2.86</i>				

health insurance is positively correlated with individual income: while the insurance coverage rate is 9.2 percent in the bottom income quartile, 24.5 percent in the top income quartile have health insurance.

The results presented in Table 5 indicate that pharmacy utilization is close to being pro-poor (0.96) when calculated for the poverty gap ratio. It is reasonable to assume that more highly educated individuals, and hence presumably those better aware of the risks of self-medication, avoid pharmacy visits. As such, pharmacy utilization appears to be an inferior good for the high-income group since rich individuals go to public hospitals for their health care. On the other hand, pharmacy visits are a normal good for poor households.

Table 5 also reveals that as indicated by the total-group PPP index, the utilization of three health facilities is more pro-poor in the rural areas than in the urban areas. These facilities include commune health centers, pharmacies, and eastern medicine facilities. This suggests that government subsidies on these health services in rural areas do benefit poor people more than non-poor ones. In addition, the within-group PPP index indicates that within the urban sector, sick and injured individuals from poor households receive far less

erty gap ratio
p PPP index

Rural

0.74
1.00
0.79
0.94
0.94
0.80
0.64

benefits from utilization of health care services such as government hospitals and eastern medicine facilities.

By comparison, the poor in rural settlements have greater benefits from utilizing facilities such as commune health centers, eastern medicine facilities and pharmacies.

Educational services in Vietnam

In this subsection, we apply our proposed PPP index methodology to assess educational services in Vietnam. Our prime objective is to find out to what extent public education at the primary and secondary levels is pro-poor. We also seek to answer whether free universal education will benefit the poor more than the non-poor.

Table 6 reveals that public primary education benefits the poor more than the non-poor. Benefits provided by public primary education are even more pro-poor for the ultra-poor in Vietnam. This is supported by the fact that net enrolments in primary school increased from 87 to 91 percent over the period 1993-1998 (Nguyen 2002). Coupled with substantial improvement in primary school enrolment rates, changes in the allocation of public spending on education in the 1990s could have further favored lower levels of

Table 6. Pro-Poor Policy Index for education service in Vietnam: 1997-98

School types	Primary	Lower secondary	Upper secondary
<i>Poverty gap ratio</i>			
Public	1.29	0.79	0.37
Semi-public	0.55	0.15	0.23
Sponsored	0.63	0.51	0.00
<i>Severity of poverty</i>			
Public	1.31	0.65	0.23
Semi-public	0.19	0.08	0.09
Sponsored	0.14	0.26	0.00

education. The share of public spending on education going to the poor increased from 16.5 percent in 1993 to 18.1 percent in 1998 (Nguyen 2002). Although public schools at the primary education level are found to be pro-poor, other types of schools at the same level are highly anti-poor. In other words, primary schools, which are semi-public or sponsored by the private sector, benefit better-off children more than poor ones. This suggests that educational subsidies given to these types of schools are likely to benefit the non-poor more than the poor.

As shown in Table 6, lower secondary education in Vietnam is not pro-poor as indicated by the PPP index. This finding emerges consistently irrespective of school types. At the lower secondary level, net enrolment rates more than doubled in Vietnam between 1993 and 1998, to 30 percent and 62 percent, respectively. However, for the population as a whole, 38 percent of children aged 11-14 years were not enrolled in lower secondary school, and 66 percent of the poorest children in this age range were not enrolled in primary school. The disparity in the enrolment rates between the richest and poorest quintiles is highly distinctive over the years.

As would be expected, the PPP index signals that upper secondary schools strongly favor children from the better-off households compared to those from poor ones. This is consistent with all types of schools at this level. Note that there are no children from poor households enrolled in the upper secondary level schools sponsored by the private sector. Over the period 1993-98, children from the poorest quintile experienced an increase in enrolment in upper secondary schools from 1 to 5 percent as compared to an increase from 21 to 64 percent for the richest quintile (Nguyen 2002). On the whole, much still needs to be done to achieve universal primary and secondary education in Vietnam. Having said that, we follow up with the question of whether universal education can really deliver educational outcomes that are pro-poor. The PPP index under a system of universal education is compared to that under the current education system.

Table 7 shows that universal education at the primary and lower secondary levels will provide more benefits to the poor children than to non-poor ones. The degree of pro-poorness of universal access to primary education among 6- to 10-year-old children is almost as high as that actually obtained from the current education system in Vietnam. Similarly, if lower secondary education is made universal for children aged between 11 and 14 years, it will provide pro-poor outcomes. This is in contrast with the result obtained from the actual situation as indicated by the PPP index: the index is 0.79 in the current lower secondary education, whereas it is 1.08 when lower secondary education is universal. At higher levels, its universal provision is not likely to deliver pro-poor outcomes. The PPP index for upper secondary is shown to be less than unity. In short, universal education at higher levels will not be pro-poor, but will provide greater opportunities to poor individuals aged between 15 and 17 at the upper secondary level to have greater access to higher education compared to the current situation in Vietnam.

Basic infrastructure services in Vietnam

Basic infrastructure services make significant contributions to people's well-being. Basic services such as piped water and sanitation (e.g., sewerage systems, flushing toilets, etc) have direct impacts on people's health status and overall well-being. Having access to other services like electricity and telephones helps households to increase their productivity for income generation. A number of studies reveal that a

Table 7. Pro-Poor Policy Index if universal education is provided in Vietnam

	Poverty gap ratio	Severity of poverty
Primary	1.28	1.33
Lower secondary	1.08	1.06
Upper secondary	0.91	0.85

household's access to basic services is highly and significantly correlated with a lower probability of being poor.

As shown in Table 8, in Vietnam, the benefits generated from all types of basic services go to the non-poor more than the poor. Poor households in general have much greater access to piped water and electricity than sanitary systems: the PPP index for water and electricity are 0.86 and 0.80, respectively, when measured by the poverty gap ratio, whereas the indices for the other services are just 0.10 for sanitary facilities. As suggested in Table 8, benefits generated from sanitary services (collected waste and flushing toilets in this case) are highly skewed in favor of the non-poor. The benefits of all types of basic services are lower for the severity of poverty measure. This suggests that the ultra-poor have even lower access to the basic infrastructure services than the poor.

Case studies II: African countries

The study utilizes the unit-record household data sets from 15 African countries. These data sets were obtained from the African Household Survey Data Bank of the World Bank. The countries and year of the survey include: Burundi in 1998, Burkina Faso in 1998, Ivory Coast in 1998, Cameroon in 1996, Ethiopia in 2000, Ghana in 1998, Guinea in 1994, Gambia in 1998, Kenya in 1997, Madagascar in 2001, Mozambique in 1996, Malawi in 1997, Nigeria in 1996, Uganda in 1999, and Zambia in 1998.

Table 8. Pro-Poor Policy Index for basic infrastructure service in Vietnam: 1997-98

Access to basic infrastructure services	Poverty gap ratio	Severity of poverty
Electricity	0.80	0.71
Piped and tap water	0.86	0.81
Collected waste	0.10	0.07
Sanitary toilets	0.10	0.05

The study uses the national poverty lines for the 15 countries, which have been obtained from various poverty assessment reports. These poverty lines were originally very crude, and did not take into account different needs of household members by age and gender. What is more, these poverty lines were not adjusted for the economies of scale which exist in large households. To overcome these shortcomings stemming from the official poverty lines, Kakwani and Subbarao (2005) made some modifications to the national poverty lines, taking into account different needs of household members and economies of scale.

Targeting children: targeting vs. universal

According to Coady, Grosh, and Hoddinott (2002), more than a quarter of targeted programs in developing countries overall had regressive benefit incidence. For instance, they found that the poorest 40 percent of the income distribution was receiving less than 40 percent of poverty alleviation budgets. Such ineffective targeting of poor households suggests that the overall impact on poverty is much smaller than that it would have been if well targeted. Moreover, administrative costs involved in implementing any targeted programs are very high. Much of the budget is spent on simply getting the resources to poor families. Consequently, the cost per unit of income transferred can be substantially large. Transfer programs seem to be administratively complex as they require resources to undertake targeting of transfers and to monitor the recipients' actions. In this context, one might argue for a scenario of universal transfers.

In this section, we estimate the PPP indices under a universal transfer program for children aged between 5 and 16 years old. Under this program, every child in this age group is assumed to receive a certain amount of transfer, irrespective of his/her poverty status. The results are presented in both Figure 1 and Table 9.

From Figures 1 and 2, it is important to note that the value of PPP index with perfect targeting is quite small compared to the index values shown for Thailand, Russia, and Vietnam. In fact, the PPP

Figure 1. Pro-Poor Policy indices under universal transfers and perfect targeting (poverty gap ratio)

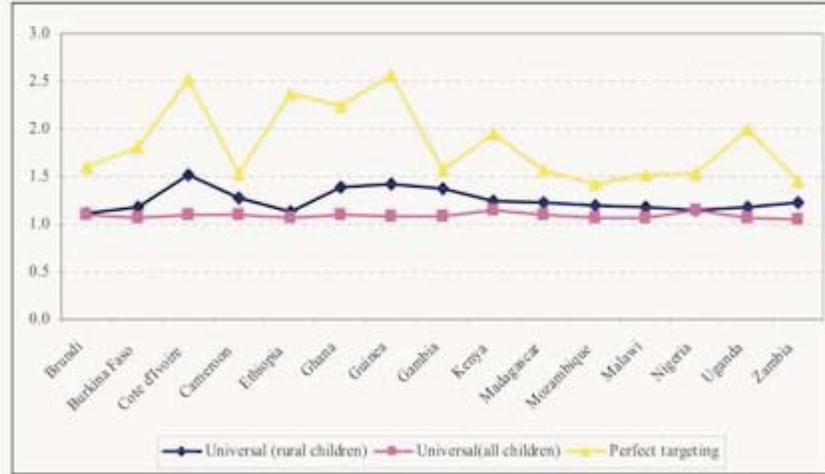
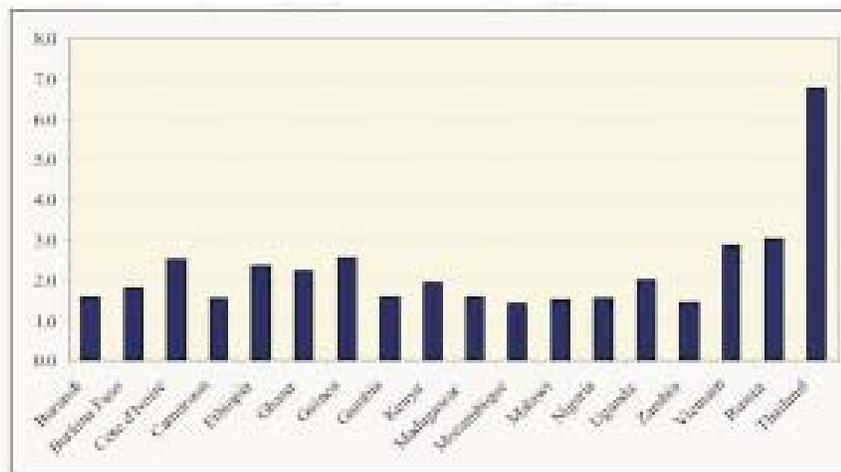


Figure 2. PPP indices under perfect targeting for 18 countries (poverty gap ratio)



indices under perfect targeting show a small difference from the indices that resulted from universal transfers. This suggests that perfect targeting may not be necessary in cases like these 15 African countries, where poverty is extremely high.

Table 9 carries two important messages. First, the results indicate that universal transfers will provide more absolute benefits to children from poor families than those from non-poor families. And second, a universal-transfer scheme is likely to bring even more pro-poor outcome if it is implemented in the rural areas where most of the poor children are. One exception is Nigeria. This occurs because poverty in Nigeria is widespread over both the urban and rural areas, whereas in the other countries, it is predominant in rural areas.

One criticism of this methodology is that we do not have an actual scenario that can compare targeted transfers with universal transfers. Nevertheless, the main implication emerging from the PPP index is that if a transfer is given to every child aged between 5-16 years old, it is likely to provide more absolute benefits to poor children, particularly in rural areas. What is more, this analysis suggests that universal targeting of children may not be a bad policy option in rural areas in particular. This may be more cost-effective as targeting only a small subgroup of children may involve large administrative costs in identifying the poor ones.

Food subsidies

Food subsidy programs are under increasing scrutiny in many developing countries because their contributions to government budget deficits are in general large. According to critics, food subsidies pose both an unnecessary burden on the public budget and are economically inefficient as their benefits do not often accrue to the poor. These critics argue that due to improper targeting, a large part of food subsidies is leaked to better-off people in society.

Proponents of food subsidies argue, however, that such programs are necessary to guarantee the supply of basic foods to the poor. Proponents claim that food subsidies are needed to protect the welfare

Table 9. Pro-Poor Policy index for universal transfers to rural and urban areas

Country	Poverty gap ratio				Severity of poverty			
	Universal targeting			Perfect targeting	Universal targeting			Perfect targeting
	Rural	Urban	Total		Rural	Urban	Total	
Burundi	1.12	0.28	1.09	1.59	1.16	0.23	1.12	2.11
Burkina Faso	1.18	0.43	1.07	1.81	1.21	0.38	1.08	2.53
Cote d'Ivoire	1.51	0.60	1.10	2.51	1.63	0.45	1.09	3.63
Cameroon	1.28	0.60	1.09	1.54	1.32	0.5	1.08	2.05
Ethiopia	1.13	0.73	1.07	2.37	1.14	0.74	1.09	3.42
Ghana	1.39	0.54	1.09	2.24	1.47	0.42	1.10	3.03
Guinea	1.42	0.37	1.08	2.56	1.47	0.31	1.10	3.40
Gambia	1.37	0.65	1.08	1.56	1.56	0.39	1.08	2.00
Kenya	1.25	0.29	1.14	1.95	1.27	0.18	1.16	2.53
Madagascar	1.22	0.65	1.09	1.57	1.29	0.57	1.13	1.95
Mozambique	1.19	0.62	1.07	1.42	1.24	0.59	1.11	1.77
Malawi	1.17	0.18	1.07	1.52	1.21	0.09	1.09	1.93
Nigeria	1.14	1.13	1.14	1.54	1.12	1.21	1.16	1.91
Uganda	1.17	0.25	1.06	2.00	1.20	0.19	1.08	2.75
Zambia	1.23	0.76	1.05	1.45	1.34	0.57	1.06	1.80

and nutritional status of the economically disadvantaged because poor people spend higher proportions of their income on food than do rich ones.

Do food subsidy programs benefit the poor or needy groups? Are the benefits of these programs leaked to non-needy groups such as high-income households? Are food subsidies to the population more (or less) pro-poor compared to food stamps targeted to the poor? Using the proposed PPP index, this subsection attempts to address these issues within the context of 15 African countries. Food subsidy programs are designed to sell and/or make available food items to consumers at below-market prices. This implies that benefits received

n areas
poverty

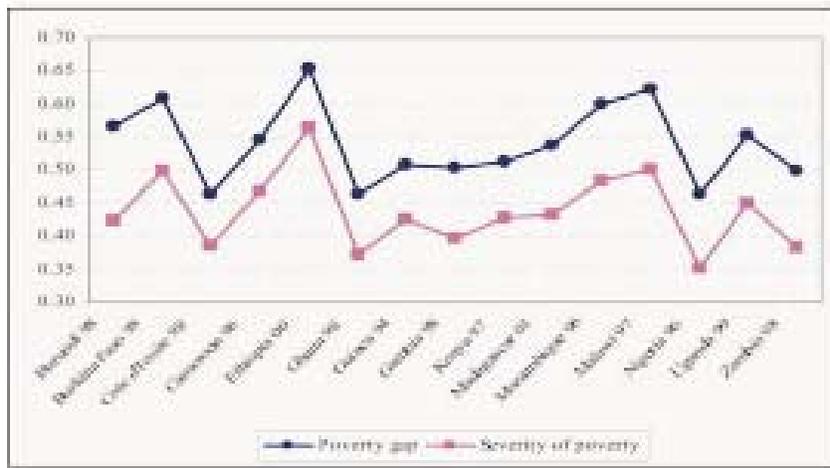
by the consumers are proportional to their food consumption. Figure 3 illustrates PPP indices calculated for both poverty gap and severity of poverty.

As clearly presented in the Figure, the PPP index for food subsidies is far below 1 for all the 15 African countries considered. Figure 3 states that food subsidy, if given to all, benefits the non-poor more than the poor. What is worse, the extent to which the benefits of these programs are leaked to the non-poor tends to be greater if ultra-poor people receive a greater weighting. This suggests that food subsidy programs in African countries may not be a good policy option from a pro-poor policy perspective.

Many countries have introduced food stamps in order to target food subsidies to the poor. In Jamaica, for example, poor people get food stamps at health clinics. Food stamp programs will obviously involve administrative costs in selecting their beneficiaries. Given the administrative costs, we have calculated the degree of pro-poorness for food stamps targeting the poor. The results are presented in Table 10.

2.11
2.53
3.63
2.05
3.42
3.03
3.40
2.00
2.53
1.95
1.77
1.93
1.91
2.75
1.80

Figure 3. PPP indices for a food subsidy programme



According to Table 10, food stamps given to the poor will bring a highly pro-poor outcome. This is true for all the 15 countries. This suggests that if food stamps are provided and targeted to the poor, their benefits will be received by the poor much more than the nonpoor. All in all, food stamps given to the poor are much more pro-poor compared to food subsidy programs in general. However, there will be administrative costs involved in identifying the poor who are the beneficiaries of food stamp programs.

Conclusions

This paper has proposed a new index called the Pro-Poor Policy (PPP) index. This index measures the pro-poorness of government welfare

Table 10. PPP index for giving food stamps to poor

	PPP index		Maximum value	
	Poverty gap ratio	Severity of poverty	Poverty gap ratio	Severity of poverty
Burundi 98	1.59	1.19	1.63	2.11
Burkina Faso 98	1.85	1.51	1.9	2.53
Cote d'Ivoire 98	2.56	2.13	2.72	3.63
Cameroon 96	1.54	1.32	1.64	2.05
Ethiopia 00	2.39	2.06	2.45	3.42
Ghana 98	2.22	1.77	2.3	3.03
Guinea 94	2.56	2.14	2.63	3.4
Gambia 98	1.53	1.21	1.61	2
Kenya 97	1.95	1.63	2.01	2.53
Madagascar 01	1.56	1.25	1.61	1.95
Mozambique 96	1.4	1.13	1.45	1.77
Malawi 97	1.52	1.22	1.56	1.93
Nigeria 96	1.48	1.12	1.58	1.91
Uganda 99	2.02	1.65	2.08	2.75
Zambia 98	1.45	1.12	1.5	1.8

programs and basic service delivery in education, health and infrastructure. It is an attempt to introduce a methodology in assessing the techniques of targeting in order to make it better suited for evaluation.

If our objective is to reduce poverty, then social transfer programs should be designed in such a way that they lead to the maximum reduction in poverty under given resource constraints. To achieve this objective, perfect targeting would be an ideal solution. Two prerequisites are necessary in this context: first, that only the poor get all the benefits and, second, that benefits given to the poor are proportional to their income shortfalls in relation to the poverty line. To implement such a program, we will need to have detailed information of people's income or consumption expenditure. Such detailed information and the administrative abilities to use it are of course not present in most developing countries. So the policymakers have to resort to a form of proxy targeting which makes the transfers based on easily absorbable socioeconomic characteristics of the household. The proxy targeting, though, can never achieve complete targeting success. In this respect, therefore, this study is an important methodological attempt to assess the targeting efficiency of government programs by trying to find out how good the proxy targeting is, as compared to perfect targeting.

Using micro unit-record household surveys, the proposed methodology was applied to 18 countries including Thailand, Russia, Vietnam, and 15 African countries. Major conclusions emerging from our empirical analysis can be synthesized as follows:

First, all the four welfare programs implemented recently by the Thai government, i.e., social pensions for elderly, low income medical card, health insurance card and free school lunch, were found to be pro-poor. In particular, welfare programs designed to help the very poor — including low income medical cards and free school lunches — were shown to be highly pro-poor, benefiting the ultra-poor more than the poor. In addition, our study has shown that the universal pension for those over 65 years of age is likely to be less pro-poor

than the present old-age pension system. This suggests that the Thai government should continue with its present old-age pension scheme.

Second, the study found that the welfare system in Russia tends to benefit the poor more than the non-poor. Moreover, the absolute benefits of the welfare system do indeed flow more to the ultra-poor than to the poor as suggested by a higher value of PPP index for the severity of poverty than the index value for the poverty gap. Furthermore, the study found that the overall Russian welfare programs are reasonably well-targeted. This was evident from the finding that the values of PPP indices of welfare programs are quite close to (but still lower than) the expected value of index under perfect targeting. The study also found that welfare programs — such as children allowance given to those aged below 16 years and scholarships — are not pro-poor for the ultra-poor in particular. This suggests that these programs may require a better targeting than the current system in a way that should favor the ultra-poor living far below the poverty threshold.

Third, basic services — health and education — in Vietnam were found to be mostly not pro-poor. From the health perspective, although government hospitals provide the highest quality of health care, the poor are unlikely to utilize them. This is, however, not true for commune health centers which appear to provide more services to individuals from poor households. Unfortunately, commune health centers do not provide high quality health services because they are in general poorly staffed and equipped. On the whole, the poor in Vietnam have less access to quality health care. However, public primary schools in Vietnam were found to be pro-poor. This was due partly to the increase in public spending on education for the poor in the 1990s. In contrast, secondary education in Vietnam was found to be not pro-poor. What is more, the Vietnamese study has indicated that universal education at primary and lower secondary levels can provide more benefits to students from poor households. This, however, cannot be said for higher levels of education.

Fourth, the study discussed ex-ante simulations of universal cash transfers to school age group children in 15 African countries. The results indicated that universal transfers will provide more absolute benefits to children from poor families than those from non-poor families. In addition, the study found that a universal-transfer scheme is likely to bring even more pro-poor outcome if it is implemented in the rural areas where most poor children reside. This finding was true for all the countries except for Nigeria where poverty is widespread in both the urban and rural areas while poverty is acute mainly in rural areas in the other countries.

Fifth, the study found that in the 15 African countries, the value of PPP index with perfect targeting was quite small compared to the index values estimated for Thailand, Russia, and Vietnam. The index value of perfect targeting for Thailand was far greater than that of perfect targeting for countries like Russia and Vietnam. In fact, in the case of the African countries, the PPP indices under perfect targeting showed a small difference from the indices resulting from universal targeting of the children. Therefore, we may conclude that perfect targeting is not necessary for cases like these 15 African countries, where poverty is extremely high.

Finally, the study found that if food subsidy programs are implemented through selling and/or making available food items to consumers at below-market prices, their absolute benefits are likely to go to rich people more than to poor ones within the context of the 15 African countries. Our finding suggests that food subsidies may not be a good policy option in the sense that their benefits are not received by the poor. Nevertheless, the study found that food stamps targeted to the poor are highly pro-poor.

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Plenary



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Implementation of CBMS in Vietnam

*Vu Tuan Anh**

Introduction: rationale for CBMS

In the last decade, Vietnam has made impressive progress in reducing poverty. The poverty rate dropped from 58.1 percent in 1993 to 37.4 percent in 1998, 28.9 percent in 2002, and 24.1 percent in 2004. The number of the poor has decreased from 40.4 million persons in 1993 to 19.7 million persons in 2004. Despite this achievement, however, poverty remains a major national task.

Vietnam has a four-tier administrative system: one central government and three local government tiers. These three local tiers are the provinces (60 provinces and four big cities), districts (602 districts and towns), and rural communes and urban wards (10,510). Communes and urban wards also have sub-tiers of settlements: hamlet or village in rural areas, and the cluster in urban areas. Both, though, are not administrative units, i.e., they have no public administration apparatus.

Targeting the poor and evaluating the progress of poverty reduction programs require reliable information on the poverty situation. This requires the definition of the poor status and the delivery of support to poor individuals, households, and communities. At the

*CBMS-Vietnam Project Leader

national level, the household living standard survey (HLSS) is being conducted periodically every two years to supply socioeconomic information on households, including the poverty situation. Its results do not, however, directly serve the work at the local, especially grassroots, levels. At the local level, governments have been conducting the community-based identification of poor households annually in order to know the addresses of the poor, to allocate support for the poor and to assess the implementation of poverty reduction policies. Still, the identification of poor households has not been adequate for use in poverty analysis and development planning since the major indicator for the identification of the poor households has solely been the per capita income.

The local officers and communities lack information on socioeconomic situation in general and on the poverty status of the population, in particular. There are statistical sections at the provincial and district levels which collect information on indicators of the national statistic system, including on the socioeconomic situation, but they are not detailed enough nor widely disseminated to the lower levels of administration and to communities.

Meanwhile, at the grassroots levels (commune, village, hamlet), the socioeconomic figures are not kept systematically nor reported periodically. The statistics staff in communes are not professionals and do not have enough technical skills. Thus, when data for policy planning or policy impact evaluation are needed, the officers of administrations or leaders of social organization have to collect information themselves and keep them in their own diary or private files. Most administrative authorities and social organizations officers at the commune level are voted by term election. This therefore means a constant change of personnel, which partly explains why the basic data on local development cannot be collected regularly and kept systematically.

In 1997, the International Development Research Centre (IDRC)-sponsored Micro Impacts of Macroeconomic Adjustment Policies (MIMAP) Network, through the project on "Poverty Monitoring in

Rural Areas of Vietnam”, started to study data availability, needs of local communities for socioeconomic data, and capability of communities in data production and use. The pilot implementation of a community-based approach in the community and household survey in some communes showed that the collection of basic information about socioeconomic situations, in general, and the poverty scenario in particular, is very helpful to the work of local officers and non-government organizations (NGOs). Data are systematized at the village and commune levels, and can be used immediately by local people in long-term development planning and poverty monitoring strategies. Moreover, the local people, especially the staff of local administration and social organizations, are capable of conducting and organizing surveys if there is an “appropriate technology” for implementing the survey. Several options of such survey’s “appropriate technology” were developed and tested during the period of 1997-1999. Two types of survey, namely, census and sampled survey, were conducted (sampled survey was conducted in 1997-1998 in 3 provinces with 1000 households while the census was conducted in 1999 in 4 provinces with more than 10,000 households). Different groups of indicators were tested through the use of different types of questionnaires. Data were processed by both manual and computerized ways.

Characteristics of CBMS

Since 2000, the CBMS methodology used by the MIMAP-Vietnam research team has been utilized for poverty research, management and evaluation of poverty reduction projects. The following are characteristics of the CBMS:

Indicators

Poverty is a multi-dimensional phenomenon. It is not only based on household income or expenditure. Therefore, in the experimental CBMS system, which was initiated by the MIMAP-Vietnam research project, poverty is comprehensively reflected in a set of monitoring

indicators that include both value indicators (income, expenditure) and the basic households needs (e.g., food intake, clothing, accommodation, transportation, access to other basic social services). There are three main sets of indicators: the community situation, household living standards and implementation of poverty reduction policies and measures. Depending on the purpose of the survey, the structure of indicators set and concrete indicators can be modified. An example is the indicator set used for poverty analysis and poverty reduction program evaluation, as follows:

- a. Indicators at the community level include nine groups:
 1. *Population and ethnicity*.
 2. *Land*: agricultural land area per capita and ratio of households with or without land.
 3. *Employment*: major economic activities of population, proportion in agricultural and non-agricultural sectors.
 4. *Health*: ratio of malnourished children, ratio of child death, capacity of communes' medical stations and number of medical staff per 1,000 people.
 5. *Education*: availability of school in community, illiteracy ratio, school enrolment ratio of primary school-aged children and number of teachers per 1,000 people.
 6. *Living conditions*: availability of electricity, roads, clean water, etc.
 7. *Communication and information*: availability in the commune of markets, post office, radio and TV broadcast and number of telephones per 1,000 households.
 8. *Participation in social activities*: number of household members in political and social organizations.
 9. *Gender relationship*: number of female leaders in local administrative apparatus and female members in social organizations.

- b. Indicator set at the household level includes seven groups:
1. *Household's resources*: land, labor and production assets.
 2. *Employment*: sectoral structure of occupation and status of employment.
 3. *Housing*: type of dwelling and availability of basic living conditions such as safe water, electricity and sanitary facilities (toilet, bathroom, animal stalls, garbage treatment, etc.).
 4. *Income*: average income per capita and household's income structure.
 5. *Expenditures*: Expenses for basic needs: food, clothing, housing, transportation, education, healthcare, social and community relationship, etc.
 6. *Education*: illiteracy ratio, school enrolment ratio of primary school-aged children, and ownership of televisions and radio.
 7. *Health*: proportion of chronically sick people and access to medical services.

c. Indicator set on the implementation of poverty reduction policies and measures:

- Poverty rate and assessment on reasons of poverty.
- Support to the poor in healthcare.
- Support to the poor in education.
- Support to the poor in improving housing conditions.
- Provision of credit to the poor.
- Training and agricultural extension.
- Other measures of safety nets.

In order to reflect the millennium development goals (MDGs), the indicator set has currently been readjusted. Some indicators, such as child mortality and mother's health have been added to the indicator set.

Data collection methodology

Reference period and frequency of data collection

The CBMS is conducted annually in order to supply information on

annual changes of poverty and living conditions of the population. The repeated surveys are conducted around the same time of the year and with the same samples (communes and households).

Unit of observation

The commune and household are the two units of data collection.

Sampling scheme

Sample surveys cannot identify the addresses of the poor. To help localities identify poor households and poverty monitoring, the CBMS-Vietnam has two stages for implementing two types of survey.

In the first year, a census is to be conducted with the aim of presenting a broad socioeconomic picture of the community and of identifying the poor. The poor households are specified by the communities through the results of the survey and participatory assessment of the living standards. Beside the poverty lines (national and local), the communities also use other criteria of basic needs and households property in identifying poor households. A list of the poor households will be reported to the higher administrative levels. Households given a "poor" status will receive support from the government's poverty reduction and community assistance programs.

In the next years, sample surveys will be conducted to monitor the annual changes. The list of poor households will be scanned and readjusted. Surveyed households will be randomly chosen. Fundamentally, these samples remain comparatively unchanged during the survey rounds to catch all chronological changes in poverty within households. However, the household list sees changes annually to be able to catch up with population changes such as immigration or emigration.

Enumerators

Surveyors are selected from localities, including district authorities, commune administration, hamlet/village heads, activists of social organizations and local intelligence (teachers, medicine doctors and

retired government officers). The local administration appoints surveyors.

Research teams work with city/provincial/district administrative offices:

- To explain purposes, methodology and contents of the CBMS.
- To select communes and then discuss with local authorities on how to choose hamlets and households (in sampled survey).
- To conduct training for local surveyors.
- To supervise data collection.
- To check accomplished questionnaires in localities
- To encode the data
- To ensure the quantity and quality of the collected data.
- To enter, process and analyze data.

Instruments of data collection/questionnaires

Questionnaires are used as the major tool for data collection. There are two types of questionnaires: the household questionnaire and the commune questionnaire. The research team also conducts interviews and group discussions.

Data processing

There are two stages of data processing.

First, localities process the collected data manually and get information on simple indicators such as poverty rate, types of housing and percentage of households getting support from poverty alleviation programs and policies. Such information are used immediately in local development planning and poverty reduction.

An in-depth data processing and analysis is further conducted by the "external people" (national experts and researchers) to get data on more complicated indicators. The collected data are processed using the Excel software, a popular and easy-to-use program, especially for people in rural areas.

Data dissemination

Use of CBMS data

The CBMS results can be used for identifying the poor households, assessing the poverty situation and implementing poverty reduction policies and measures at the national level and in poverty reduction programs and projects.

Users of the data are also the local administration (province, district and commune), local NGOs, social organizations and local people.

Dissemination methods

An electronic version of the collected and processed data is supplied to users at the national and provincial levels where computers and qualified staff are available. A summary of survey results on major indicators is made available to grassroots users in the form of hard copies.

Pilot implementation of CBMS

Details of the pilot test

CBMS in a poverty reduction project

In 2001, the CBMS methodology was used for a baseline survey and repeated in the monitoring surveys of 2002 and 2003 in the Poverty Reduction Project in two mountainous districts of Thanh Hoa Province. In cooperation with the Center for International Studies and Cooperation (CECI) – the implementing agency of Canada – and the district administration, CBMS was implemented in 34 communes (30 communes in the project areas and 4 communes outside the project areas). The survey sample was more than 1000 households. A baseline report and annual monitoring results were supplied to the project management unit and district administration. They were tools for poverty monitoring and evaluation of project activity impacts (Socio-Economic Development Centre, 2001).

CBMS in the system of national poverty observatories

In 2002-2004, the CBMS methodology was implemented in a system of poverty observatories to serve the data requirements of the National Programme for Hunger Eradication, Poverty Reduction, and Job Creation. Relatedly, poverty monitoring surveys were conducted every year-end for three succeeding years (2002-2004).

In 2002, a system of poverty observatories was set up in 12 provinces and cities. There are 20 communes, 17 of which are rural communes and three are urban wards. There are more than 4,000 households and 20,000 individuals in the sample, of which 78.5 percent are of the Kinh ethnic (majority ethnic) group and 21.5 percent are of the minority ethnic group.

Results of annual surveys were supplied to the Managing Office of the National Programme for Hunger Eradication, Poverty Reduction, and Job Creation (Vu Tuan Anh and Vu Van Toan, 2003). Analysis of some aspects of poverty and calculation of a composite poverty indicator, meanwhile, were based on this CBMS database (Louis-Marie Asselin and Vu Tuan Anh, 2004, Vu Tuan Anh, 2005).

CBMS in a provincial system of poverty observatories

In 2004-2005, the Departments of Labor, Invalids and Social Affairs of two provinces — Ha Tay and Yen Bai — cooperated with the MIMAP research team to implement CBMS in provincial poverty observatory systems.

In Ha Tay — a province located in the Red River Delta — 30 communes in all 13 districts are considered as provincial poverty observatories. Two rounds of sample survey, which cover 3,700 households and 16,000 persons, were conducted. Results have been used by local partners for the analysis of the poverty rate and different dimensions of poverty with the objectives of evaluating poverty reduction measures and readjusting poverty reduction policies.

In Yen Bai — a northern mountainous province — 10 communes in all eight districts are selected as provincial poverty observatories. Two censuses were conducted in 9,000 households consisting of

40,000 persons. The data collection was completed in June 2004 and May 2005.

CBMS at the district level

In the new phase of the research project, CBMS is to be implemented at the district level. In Yen Bai province, the town named Nghia Lo has been selected for the setting up of a database using CBMS methodology. This town consists of 4 urban wards and three rural communes.

In Ninh Binh — a province located in the Red River Delta and southeast of Hanoi — the district Gia Vien with 14 communes will use CBMS to create a baseline socioeconomic database.

In Quang Nam — a province in the Central Coastal Region — the district Duy Xuyen, which consists of both plain communes and mountainous communes, has agreed to implement the CBMS.

Similarly, in Lam Dong — a province in the southern Central Highland, where most of the population are of ethnic minorities — the district Lac Duong, with 10 communes, is being surveyed by the CBMS.

Lessons learned

The CBMS research and piloting in Vietnam has shown that CBMS should include the following basic principles:

- (1) There should be local ownership of the CBMS.
- (2) The local people should conduct the surveys themselves in their capacity as surveyors. The “external people” (government officers, researchers) are only responsible for guiding and supervising local residents.
- (3) The set of indicators reflects multi-dimensional poverty and should meet the immediate demands of the local people on community and household data and information.
- (4) Qualitative and quantitative methods are used in tandem in data collection. To be more specific, the structured

interview using a questionnaire ought to be supplemented by group discussions and interviews of key informants in communities.

- (5) In order to transfer methods, tools and survey results to local residents and authorities, the design of survey tools should have these characteristics:
 - The questionnaires, software and output indicators have to be simple and easy for local people to understand and use.
 - The design of survey tools has to take into account the knowledge levels of the local people as well as the availability of data processing equipment and software in the localities. This is its big difference with the national surveys: at the national surveys, surveyors and data processing staff are skilled experts and well equipped to handle modern technology. They also have enough time for in-depth analysis of collected data.
- (6) To institutionalize the CBMS, there ought to be a closer partnership between researchers and government authorities (who are in charge of poverty reduction), and nongovernmental organizations in the local areas.



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Use of CBMS for Development Planning in Agusan del Sur

*Adolph Edward Plaza**

Profile of Agusan del Sur

Located in the northeastern part of the island of Mindanao, the Province of Agusan del Sur has fourteen municipalities composed of 314 barangays that occupy a landlocked area of 8,965.5 square kilometers. It is characterized by a flat and rolling topography crisscrossed by rivers and tributaries of the winding Agusan River.

Almost 74 percent of the land are classified as forest areas while approximately 26 percent are classified as A and D land. With an estimated population of 632,842, the main economic activity is in the agricultural and forestry sectors.

Agusan del Sur is an elongated basin formation with mountain ranges in the eastern and western sides forming a valley. The Agusan River, which flows from Compostela Valley in the south to Agusan del Norte, courses through the middle of the valley, drawing an artery through Agusan del Sur. Throughout the province, the river is fed by 12 major tributaries which are in turn fed by numerous streams and creeks. The river is the lifeblood of the forest nourishing and protecting the province, and feeding into the vast floodplain of the Agusan Marsh, a protected wildlife sanctuary and vast natural reservoir, one of the most ecologically significant wetlands in South East Asia.

*Governor, Province of Agusan del Sur

The province has a high poverty incidence, with those largely dependent on natural resources for their livelihood as the most affected.

Provincial strategy of Agusan del Sur

The cornerstone of the Provincial Government's program is the improvement of the quality of life of Agusanons through effective, transparent and participatory governance. When the Provincial Government conducted a major strategic planning exercise in 2004, agreement was reached to adopt a 'Convergence Development Strategy' in future interventions and to work toward an integrative approach to development. This was seen as a key strategy to make the best use of limited financial resources in applying interventions that would improve the Agusanons' quality of life, especially the poor.

The underlying principle of this strategy, which is shared at the national and global levels, is to create an environment conducive to development and the elimination of poverty. It is generally accepted that it is almost impossible to implement large-scale poverty reduction outside a framework of effective, accountable local governance. To support this framework, the Province of Agusan del Sur has embarked on the adoption of the community-based monitoring system (CBMS).

A core philosophy behind the application of the CBMS is the belief that a correct interpretation of poverty will lead to correct actions with more chances of success in reducing poverty. Gaining a greater practical understanding of poverty in its many dimensions is a key and allows the local government to make a greater impact on the alleviation of poverty through effective planning and provision of interventions.

The CBMS, through close community participation, also supports and enhances the role of the local government units of Agusan del Sur in tapping local community involvement in the planning and provision of these interventions. For it is also recognized that eradicating poverty does not depend on any particular group (whether political decisionmakers, religious authorities or civil society groups)

but on each member of the human family, including the communities themselves.

The application of convergent poverty-reduction strategies supported by CBMS therefore revolves around good governance and empowerment that leads to better realization of practical outcomes which directly benefit the poor.

Harmonization of provincial strategy with the Millennium Development Goals

The adoption of a convergent approach to development was seen as consistent to national and international adoption of goals and targets aimed at eliminating extreme poverty worldwide. The approach of the Province of Agusan del Sur addresses the holistic nature of development and the need for sustainability. The interventions in various sectors covered by the convergent strategy ensure that accomplishments are harmonious with targets addressed by the Millennium Development Goals (MDGs). In essence, the approach of the Province is one where convergence directly impacts on human development while at the same time stimulating sustainable economic growth.

The integrated vision to poverty reduction takes into account the different aspects of service needs and considers them in relationship to one another: education, health care, job creation, and infrastructure. In this vision, social services are integrated with economic strategies that work to address the core problems instead of just the symptoms.

The strategy itself calls for reliable, relevant and comprehensive data as well as institutional arrangements to facilitate the execution of the strategy. The convergent strategy has reinforced our efforts to have an MDG baseline profile of our current situation and a means to regularly update this baseline. We now have this and we have the monitoring system that provides us with the data we need. The Province recognizes that the necessary steps for the institutionalization of the MDGs are broadly similar to the establishment of the CBMS

where the underlying principles focus on the creation of social capital, building capabilities and investing in people.

The Convergence Development Program: a flagship for MDG realization

The flagship of the convergence strategy of Agusan del Sur is the Convergence Development Program (CDP). It aims to provide an integrated delivery of services targeted at the poorest households in geographically selected areas. The target beneficiaries are selected households of some 32 identified convergence barangays within 8 municipalities.

Currently, the sectors which are covered focus on agricultural production and technology, livelihood development, infrastructure support, education, health and sanitation, and waste disposal. All the interventions aim to ensure that disadvantaged groups have access to assets, education and economic opportunities.

CBMS data are currently being utilized for the identification of beneficiaries in the target barangays. The CBMS outputs are used for tackling the immediate problems in the convergence areas such as the lack of sanitary toilet facilities, high incidence of mortality and morbidity, high incidence of poverty and no access to safe water, among others. Long-term interventions are intended to provide the context for sustainable economic development. Hence, livelihood investments support the ability of poor households to develop and retain assets.

Long-term interventions such as agricultural assistance projects are able to target those householders with income below a minimum threshold (currently P2,000 per month) identified through the CBMS. When these are harmonized with parallel interventions aimed at infrastructure improvements such as farm-to-market road development and ecological improvement, the expected impacts of these long-term interventions are to solve the problem of chronic poverty in a sustainable manner.

CBMS is also providing essential information to guide the priority intervention projects within the CDP as well as the backdrop to planning activities currently being conducted in the target barangays. We envisage the use of CBMS-generated Barangay Development Plans and Socio-Economic Profiles to further enhance the effectiveness of community level planning activities.

Outside of the CDP, one of our major projects—the Mindanao Rural Development Program which is supporting development efforts in Agusan del Sur—is also using CBMS data to enhance the effectiveness of the planning processes.

Perhaps it is too early to talk about measurable changes with regard to the MDGs but we now have a comprehensive baseline that gives us a solid foundation from where we can move confidently and effectively toward our goal of sustainable poverty alleviation supported by long-term economic growth.

Creating the foundation for sustainable poverty eradication: the institutional framework`

The poverty reduction strategies of the Province of Agusan del Sur, as exemplified by the CDP, require appropriate institutional arrangements whereby partnerships are formed, working arrangements are developed, and capacities of local planning units are enhanced. These are essential to facilitate the achievement of targets in the most efficient way.

It has become very clear that with the advent of the CBMS, strong institutional mechanisms have been developed during the implementation of this project. This is essential for a provincewide implementation. Organizational changes, creation of CBMS teams at the provincial, municipal, and barangay levels, and new working arrangements have developed and enhanced the capacities of local administrative units.

These same mechanisms are mutually supporting the implementation of poverty reduction programs. Within the framework of the CDP, partnerships have been forged laterally and vertically.

Laterally, between line agencies at the provincial and municipal levels and vertically, where working linkages have been forged between province, municipality, and barangay. Close collaboration between CDP partners and CBMS teams have been developed.

Thus, the very structures and processes which have been developed to facilitate the implementation of a poverty monitoring system are being employed in the service of integrated poverty-reduction programs. This in itself is an important step toward the strengthening of the enabling environment for the implementation of projects in support of the MDGs.

There is also a community dimension to this which results in improved governance. The participatory activities of CBMS, which have been conducted particularly during barangay validations and later in the development of socio-economic profiles and barangay development plans using CBMS data, have contributed to community empowerment. They have also raised awareness of the use of CBMS data as evidence-based information that can be used by the community themselves to market their needs to potential donors/sponsors of barangay development projects.

It is widely recognized that measures toward the empowerment of communities can strengthen good governance, which in turn enhances growth prospects. When citizens are engaged, exercise their voice, and call for accountability, the policy priorities of LGUs more directly correspond to the needs of the majority of the citizens.

There is also a realization that there needs to be a formalization of the poverty alleviation processes, established thus far, and the first steps toward creating a legal framework have been taken. This is required for the effective implementation of a poverty reduction strategy. It is needed for advancing reform, enforcing budgetary allocation based on evidence and safeguarding the rights of householders, particularly the poor.

A strong legal framework will embed the monitoring system within the existing LGUs and guarantee the utilization of evidence-based data for policymaking. It will also ensure public access to

information while protecting the confidentiality of householders. All these will contribute to developing and institutionalizing local policies and systems supportive of the MDG localization efforts.

Our achievements this year: toward a lasting poverty alleviation goal

At the beginning of 2006, the CBMS activities turned full circle and the outputs were brought back to the communities for presentation and validation. As of October this year, 301 out of 314 barangays have completed these validations. Only 13 barangays need to do the validations to complete the province-wide picture. In terms of municipalities, 13 out of 14 have completed their municipal-wide validations.

The first step toward the formalization of this process came through the creation of local resolutions at the barangay and municipal levels. On the successful completion of the validation process, a resolution was signed by the appropriate officials, adopting the CBMS survey results as a basis for planning purposes, and for the identification of project allocation. As a consequence, the province has moved toward a formal process whereby all projects will eventually be in consonance with the CBMS, using its results as a basis for evidence.

The results themselves have already been utilized in a wide array of programs. There has been an unprecedented interest in the CBMS outputs. Our CBMS information is finding its way into hitherto unforeseen planning processes, and our planning officers at the municipal and provincial levels have quickly grasped the opportunity to tap a rich resource of data.

There is likewise a demand for the data as researchers, NGOs, and funding agencies realize the richness of such data. With this fresh awareness, the message is being transmitted that there is profound value associated with all the effort put into the implementation of the CBMS in Agusan del Sur.

This message has spread to neighboring provinces in the

CARAGA Region and provincial and municipal CBMS teams, in partnership with the Department of Interior and Local Government (DILG) and National Anti-Poverty Commission (NAPC), have provided resource speakers to conduct presentations on the success of the experience in Agusan del Sur and the sharing of good practices. This success in itself has given fresh confidence to the future of CBMS both in Agusan del Sur and further in Mindanao. The experience of success sustains motivation.

And the process of embedding the CBMS structures and processes has resulted in the beginnings of an innovative planning culture whose work will eventually bear fruit in improving the capacity of LGUs to deliver services at the community level.

Alternative Means Testing Options Using CBMS: The Case of the Philhealth Indigent Program

*Cella Reyes**

Introduction

One of the Philippine government's programs to help the poor is the Philhealth Indigent Program. It aims to provide health insurance privileges to the marginalized sector of Philippine society. The beneficiaries of the program are identified through a survey called Community-Based Information System-Minimum Basic Needs (CBIS-MBN) which uses the Family Data Survey Form (FDSF) and is conducted by the local Department of Social Welfare and Development (DSWD) offices.

The current manner of identifying eligible beneficiaries to the Philhealth Indigent Program is through a two-stage screening process where poor barangays are first identified and then poor families in these poor barangays are selected. The poor barangays are identified by the Municipal/City Social Worker. Then primary data collection is undertaken among all families in these "poor" barangays". Families whose reported incomes fall below a certain threshold are then classified as eligible.

Based on this procedure, it is very likely that a significant exclusion and consequently, undercoverage takes place. In this scheme, poor families in "non-poor" barangays are excluded from the program.

*Poverty and Economic Policy (PEP) Co-Director and CBMS Network Leader

Given this, there is therefore a need to develop alternative means testing options for identifying beneficiaries of the Philhealth Indigent Program. The data will come from the Community-Based Monitoring System (CBMS) that is being implemented by local government units (LGUs).

Proposed approach to identifying Philhealth beneficiaries

Executive Order 276 (January 2004) directs the Philhealth to assist in the identification of indigent families and to target the enrollment of the total 5 million indigent families nationwide. It also directs the issuance of Philhealth identification cards to duly qualified beneficiaries.

Targeting efficiency

There are two basic questions that we are faced with in implementing a targeted program. First, to what extent can we reach the poor (is there a problem of undercoverage)? Second, are any benefits leaking to non-poor or non-eligible persons or households (is there a leakage problem)?

The results of the *Annual Poverty Indicators Survey (APIS)* for 2002 (Table 1) show that 31.2 percent of the families have at least one member who had a health insurance plan. In particular, 27.5 percent of the families have access to Philhealth. However, only 6.5 percent of the lowest 40 percent of the families have access to Philhealth while 41.4 percent of the highest 60 percent of the families have access to Philhealth.

Access to Philhealth is also shown to be higher in the urban areas at 38.2 percent than in the rural areas where only 16.8 percent of the families have access to Philhealth. In terms of differential access across income groups in the urban areas, 9.0 percent of the lowest 40 percent of the families have access while 45.3 percent of the highest 60 percent have access. In the rural areas, 5.7 percent of the lowest 40 percent of the families have access to Philhealth while 33.7 percent of the highest 60 percent have access.

Table 1. Families with at least one member who had health insurance, by type of health insurance plan, by income stratum, region and urban-rural residence, 2002

Region and Income Stratum	Total Families ('000)	Families with at least One Member who Had Health Insurance Plan		Type of Health Insurance Plan (Percent to Total Families)				
		Number ('000)	Percent	Philhealth	Health Maintenance Organization	Private Health Insurance Co.	Community/ Cooperative	Others
PHILIPPINES	15,925	4,977	31.2	27.5	1.2	5.1	4.2	1.3
Lowest 40%	6,370	565	8.9	6.5	0.1	0.5	1.9	0.5
Highest 60%	9,555	4,412	46.2	41.4	1.9	8.1	5.7	1.8
Urban	7,949	3,373	42.4	38.2	1.9	7.6	5.1	1.8
Lowest 40%	1,553	182	11.7	9	0.2	0.7	2.1	0.6
Highest 60%	6,396	3,191	49.9	45.3	2.3	9.3	5.8	2
Rural	7,976	1,603	20.1	16.8	0.5	2.5	3.3	0.8
Lowest 40%	4,817	383	7.9	5.7	-	0.5	1.8	0.5
Highest 60%	3,159	1,221	38.6	33.7	1.1	5.6	5.5	1.3
NCR	2,318	1,047	45.2	41.3	3.3	8.6	3.5	2.1
Lowest 40%	123	6	5.3	3.2	0.6	-	2.1	-
Highest 60%	2,194	1,041	47.4	43.4	3.4	9.1	3.5	2.2

Notes: "-" denoted count or less than 0.05 percent; A respondent can specify more than one type of health insurance plan. Percentages do not add up to 100.

Source: National Statistics Office, 2002 Annual Poverty Indicators Survey (APIS)

In the National Capital Region (NCR), 41.3 percent of the families have access to Philhealth. Out of this figure, though, only 3.2 percent among the lowest 40 percent have access whereas the access of the highest 60 percent is considerably higher at 43.4 percent.

Using the data from *APIS 2002*, it is estimated that 31.8 percent of the families are income poor or have incomes below the poverty threshold. Table 2 shows that only 7.1 percent of them have access to Philhealth. On the other hand, 37 percent of the non-poor have access to Philhealth.

Case of Pasay City

In the case of Pasay City, in particular, 79.1 percent of households with income below the poverty threshold were not covered by the Philhealth Program in 2005 (Table 3).

Philhealth coverage is also very low for subsistence poor households at 78.7 percent. Table 4 shows that only 21.3 percent of the households whose incomes are not adequate to meet basic food needs are covered by Philhealth. Moreover, the proportion of subsistence poor households who have access to Philhealth varies widely from a low of 4.8 percent to a high of 35 percent. Barangay 179, which has the lowest coverage of the subsistence poor in the Philhealth—at 4.8 percent—is one of the poorest barangays in Pasay City.

Table 2. Proportion of families who have access to Philhealth, 2002

Poverty status	Proportion of Families	
	With access to Philhealth	Without access to Philhealth
Poor	7.1	92.9
Nonpoor	37.0	63.0
Total	27.5	72.5

Source of basic data: APIS 2002, NSO.

Table 3. Access to Philhealth program of income-poor households in Zone 19, Pasay City

Brgy	HHs with income below poverty threshold	HHs with access to Philhealth with income below poverty threshold	
		Magnitude	Proportion
Zone 19	1249	261	20.9
179	157	15	9.6
185	160	17	10.6
178	184	26	14.1
182	107	20	18.7
180	96	18	18.8
184	318	90	28.3
186	123	40	32.5
181	104	35	33.7

Source: CBMS Survey 2005

Table 4. Access to Philhealth program of subsistence-poor households in Zone 19, Pasay City

Brgy	HHs with income below food threshold	HHs with access to Philhealth with income below food threshold	
		Magnitude	Proportion
Zone 19	488	104	21.3
179	62	3	4.8
185	67	4	6.0
180	34	7	20.6
178	67	14	20.9
182	46	12	26.1
184	114	30	26.3
181	58	20	34.5
186	40	14	35.0

Source: CBMS Survey 2005

Proposed use of CBMS

In view of the above, the following approaches are being proposed, to wit:

- Use CBMS as the source of the data that will be used to identify the indigents; and
- Adopt a scheme that combines the different indicators in the CBMS to identify the poor.

Why use CBMS? The use of CBMS is being proposed for the following reasons:

- (i) CBMS is now being implemented in over 6000 barangays in 22 provinces (data is as of September 30, 2006);
- (ii) More provinces are set to implement the CBMS within the next 12 months;
- (iii) It is envisioned that there will be a nationwide implementation by 2010;
- (iv) LGUs bear the cost of implementing the CBMS, making the system more sustainable than nationally or donor driven initiatives; and
- (v) It is being endorsed by the National Anti-Poverty Commission (NAPC), the Department of the Interior and Local Government (DILG) and the National Economic and Development Authority (NEDA).

But what is CBMS? CBMS or the Community-Based Monitoring System is an organized way of collecting information at the local level for use of local government units, national government agencies, non-government organizations, and civil society for planning, program implementation and monitoring. It is a tool intended to lead to improved governance and greater transparency and accountability in resource allocation.

CBMS involves the complete enumeration of all households. LGUs take the lead in the data collection and processing, serve as the repository of the database and use the data in the formulation of annual

development and investment plans. Members of the community are also involved in the whole CBMS process.

Data are submitted to the next higher geopolitical level, allowing for the establishment of databanks at each geopolitical level. It uses a mapping software (NRDB) to generate CBMS-based poverty mapping and to store and display household- and individual-level information. There are 14 core indicators (Table 5) that are being measured to determine the welfare status of the population. These indicators capture the multidimensional aspects of poverty.

Identifying Philhealth beneficiaries

Eligibility criteria for identifying the poor

A combination of self-targeting and proxy means tests are recommended to be used in selecting beneficiaries for the Philhealth for the Indigent Program.

First, it is highly recommended that beneficiaries of the Philhealth Indigent Program must apply for inclusion in the program. This becomes a form of self-assessment of eligibility for the program. This is consistent with the objective of minimizing leakages. It is assumed that those who are non-poor will compare the opportunity costs of lining up to get the benefits versus the benefits from the program. To ensure that the problem of undercoverage does not occur as a result of this proposed scheme, a dissemination strategy should be adopted that would inform the poor that such a program exists.

And second, for the means test, the following principles are being recommended:

- a. Use indicators that can be verified by local program implementers;
- b. Apply a method that is simple enough for LGUs and Philhealth provincial staff to implement; and
- c. Adopt a monitoring system that will generate the data on a regular and frequent-enough basis to allow an updating of eligibility status.

Table 5. Core Local Poverty Indicators

Basic Needs		Indicator
Health	1	Proportion of child deaths aged 0-5 years old
	2	Proportion of women deaths due to pregnancy-related causes
Nutrition	3	Proportion of malnourished children aged 0-5 years old
Shelter	4	Proportion of households living in makeshift housing
	5	Proportion of households classified as squatters/informal settlers
Water and Sanitation	6	Proportion of households without access to safe water supply
	7	Proportion of households without access to sanitary toilet facilities
Basic Education	8	Proportion of children 6-12 years old not in elementary school
	9	Proportion of children 13-16 years old not in secondary school
Income	10	Proportion of households with income below poverty threshold
	11	Proportion of households with income below subsistence threshold
	12	Proportion of households which experienced food shortage
Employment	13	Proportion of persons who are unemployed
Peace and Order	14	Proportion of persons who were victims of crime

At the same time, there should be mechanisms that would allow the withdrawal of program support in the event that the beneficiary is found to have provided false information. He/she will also be excluded from future Philhealth Indigent Programs.

Means testing options

Three means testing options are considered where households are proposed to be classified on the basis of the following:

- i. income;
- ii. ownership of assets and socio-economic characteristics; and
- iii. electricity consumption.

A household is classified as poor or non-poor based on these three abovementioned criteria. If the household is classified as non-eligible based on any of the categories, then that household is deemed as not eligible for the Philhealth Indigent Program. If there is no income tax return or pay slips, the basis of the classification will just be the second and third criteria. This is likely to be the scenario especially for low-income households who are often employed in the informal sector and may not therefore have pay slips, and who are exempt from paying taxes and not required to file income tax returns. Meanwhile, if there is no electricity in the area, household cost for the use of generators may be considered as the proxy for electricity bill.

Updating can be done every three years in line with the conduct of the CBMS survey.

Income

Per capita income is computed based on total income reported in the CBMS survey divided by the household size. This is then compared with the per capita threshold for the city or municipality where the household resides. The National Statistical Coordination Board (NSCB) releases the official poverty thresholds. In cases where the official poverty thresholds are not available, the most recent official

poverty thresholds are updated using the consumer price index for the province, disaggregated by urban/rural areas.

The reported income can be verified from the income tax return or from pay slips. Per capita income net of tax is obtained by dividing taxable income by the family size. This is then compared with per capita poverty threshold. In the absence of income tax return or pay slips, this classification will not be used.

It is likely that the poor would not have verifiable income documents; hence, the other two criteria—socio-economic index and electricity consumption—will be used.

Ownership of assets and socio-economic characteristics

It has been established in many previous studies that income is highly correlated with ownership of assets, access to basic amenities, and housing structure and tenure. For this study, the Family Income and Expenditure Survey (FIES) data for 2000¹ are used as the basis for establishing correlations between income and ownership of assets. The basis for inclusion is the frequency distribution by decile. Thus, assets or characteristics that can distinguish between the rich and the poor are included.

Tables 6a and 6b show the proportion of households in each income decile who own the different types of consumer durables. All the assets reveal a monotonic relationship with income, i.e., the proportion of households who own a particular asset increases as one goes up the income ladder. Refrigerator, in particular, exhibits big changes in proportions as income increases. Said findings suggest the usefulness of these indicators in identifying the income-poor households.

Access to basic amenities is also positively correlated with income. As seen in Table 7, the proportion of households who have

¹ The FIES Public Use File 2000 is the most recent available dataset. The available PUF for FIES 2003 does not contain the urban/rural variable that is necessary for this analysis.

Table 6a. Proportion of households who own assets, by income decile

National Income Decile	Proportion of households who own							
	Radio	Television	VTR/VHS/VCD/DVD	Stereo	Refrigerator/Freezer	Washing Machine	Airconditioner	
First Decile	51.63	11.58	0.97	3.11	2.20	0.33	0.12	
Second Decile	61.51	20.84	2.32	5.88	5.16	1.33	0.48	
Third Decile	65.89	30.88	3.68	7.72	8.44	3.47	0.72	
Fourth Decile	69.96	44.21	6.91	11.76	14.81	5.88	1.03	
Fifth Decile	72.43	56.50	10.41	14.75	22.84	11.58	1.33	
Sixth Decile	75.75	69.26	18.91	21.99	35.02	19.10	1.96	
Seventh Decile	77.74	79.10	27.11	27.08	49.07	29.22	2.80	
Eight Decile	79.88	86.09	39.22	35.41	62.23	41.93	4.34	
Ninth Decile	81.79	92.40	53.65	46.53	77.65	56.79	8.93	
Tenth Decile	82.96	95.84	70.14	62.75	89.62	70.02	26.21	
All	71.95	58.67	23.33	23.70	36.70	23.96	4.79	

Source of basic data: FIES 2000, NSO

Table 6b. Proportion of households who own assets, by income decile

National Income Decile	Proportion of households who own							
	Sala Set	Dining Set	Car, jeep, motorcycle	Telephone/ Cellphone	Computer	Oven	Motorcycle	
First Decile	9.20	8.29	0.03	0.03	0.00	0.03	0.51	
Second Decile	16.23	11.92	0.03	0.18	0.03	0.00	0.51	
Third Decile	23.16	16.59	0.12	0.27	0.06	0.12	1.30	
Fourth Decile	31.33	24.67	0.27	0.78	0.06	0.30	1.99	
Fifth Decile	38.85	31.43	0.69	1.78	0.09	0.51	2.65	
Sixth Decile	48.63	40.75	1.09	4.71	0.30	0.90	4.46	
Seventh Decile	59.80	51.51	2.50	9.56	0.63	2.50	5.58	
Eight Decile	69.62	62.32	5.16	17.74	1.99	4.52	8.75	
Ninth Decile	79.70	74.13	11.94	36.40	4.40	7.87	12.73	
Tenth Decile	88.69	86.40	32.55	61.93	17.89	23.77	15.72	
All	46.52	40.80	5.44	13.34	2.55	4.05	5.42	

Source of basic data: FIES 2000, NSO

access to sanitary toilet facilities, electricity and safe water supply increases as one goes up the income ladder. While there is only a small proportion of households who live in makeshift housing or are informal settlers, there is still the same positive monotonic relationship between “income and not living in makeshift housing”, and between “income and not being informal settlers”. In addition, the proportion of households whose heads are not engaged in agriculture likewise increases as one goes up the income ladder.

Given these results, the following variables are considered in determining the poverty status of the household:

1. Television
2. VCD/VHS/DVD
3. Computer
4. Refrigerator
5. Washing Machine
6. Microwave oven
7. Telephone
8. Airconditioner
9. Car/Jeep/Motor Vehicle
10. Sanitary toilet facilities
11. Electricity
12. Safe water supply
13. Makeshift housing
14. Informal settlers
15. Household head not engaged in agriculture.

Weighting system

The objective is to combine the different variables into a composite index that can be used as the basis for classifying households into poor or non-poor. One option is to assume equal weights for all of these assets and characteristics. Its simplicity makes it very easy to implement and understand. However, this is arbitrary.

Another option is to assign weights to the different variables. Weights for the various assets can be obtained from the logistic

Table 7. Proportion of households with access to basic amenities, by income decile

National Income Decile	Proportion of households						HH head not engaged in agri
	with sanitary toilet facilities	with access to electricity	with access to safe water supply	not living in makeshift housing	HHs who are not informal settlers	HH head not engaged in agri	
First Decile	35.28	29.31	3.08	96.11	95.90	24.00	
Second Decile	42.75	45.31	7.51	97.04	95.32	34.57	
Third Decile	50.66	54.67	10.19	97.44	96.20	41.25	
Fourth Decile	60.13	67.40	13.33	97.35	95.48	49.43	
Fifth Decile	69.08	77.71	18.82	97.89	95.60	59.43	
Sixth Decile	76.17	86.27	27.99	97.98	96.32	67.66	
Seventh Decile	82.54	90.59	33.99	98.31	96.86	73.46	
Eight Decile	89.65	94.96	41.18	98.46	96.83	79.31	
Ninth Decile	93.88	97.56	52.02	99.10	98.22	85.10	
Tenth Decile	96.95	99.22	67.18	99.76	98.94	90.80	
Total	69.71	74.30	27.53	97.94	96.57	60.50	

Source of basic data: FIES 2000, NSO.

regression using FIES data. A logit regression is used to determine which of the consumer durables, access to basic amenities and housing characteristics are significant in determining poverty status based on income.

Model²

The dependent variable in the logistic regression model is binary, which takes on two values. Let Y be the random binary variable whose value is either 0 or 1. The probability $P(Y=1)$ is given by

$$P(Y = 1) = p = \frac{e^{\beta X}}{1 + e^{\beta X}}, \quad (1)$$

where: \hat{a} = vector of coefficients, and;
 X = vector of independent variables.

The above equation represents what is known as the (cumulative) **logistic distribution function**. If $P(Y=1)$, the probability that an event occurs, is given by (1), then, $1 - P(Y=1)$, the probability that an event does not occur, is

$$1 - P(Y = 1) = 1 - p = \frac{1}{1 + e^{\beta X}} \quad (2)$$

Therefore, equations (1) and (2) can be written as

$$\frac{P(Y = 1)}{1 - P(Y = 1)} = \frac{p}{1 - p} = \frac{e^{\beta X}}{1 + e^{\beta X}} \cdot \frac{1 + e^{\beta X}}{1} = e^{\beta X} \quad (3)$$

Equation (3) is simply the *odds ratio* in favor of an event occurring – the ratio of the probability that an event will occur to the probability that it does not occur.

Recall that: $\ln(e^x) = x$. Therefore, taking the natural logarithm of equation (3) will result in

² The derivation of the logistic regression model is taken from Gujarati (1995) and Sharma (1996).

$$\ln\left(\frac{P(Y=1)}{1-P(Y=1)}\right) = \ln\left(\frac{p}{1-p}\right) = \beta X \quad (4)$$

Thus, the dependent variable is now a linear function of the independent variables. The left-hand side of the equation (4) is called the **logit**, and hence the name **logit model**.

Logit regression results

The objective is to find good predictors of the poverty status of the family using the logit model described in the previous section. Using the FIES 2000 dataset consisting of close to 49,000 sample families, the poverty status based on income (hpovstatus = 1 if non-poor and 0 if poor) is regressed against variables indicating ownership of various appliances (1 indicating that the family owns the appliance), housing tenurial status (1 if not informal settler), housing materials (0 if makeshift and 1 if not makeshift), access to basic amenities, and kind of business of head of family (whether engaged in agriculture or not).

The variable Y is described as:

$$\text{hpovstatus} = \begin{cases} 1, & \text{if household is nonpoor} \\ 0, & \text{otherwise} \end{cases}$$

The variables used in the vector X, however, are described below:

$$\text{hwtv} = \begin{cases} 1, & \text{if household owns television set} \\ 0, & \text{otherwise} \end{cases}$$

$$\text{hwvtr} = \begin{cases} 1, & \text{if household owns VCD/VHS/DVD} \\ 0, & \text{otherwise} \end{cases}$$

$$\text{hwref} = \begin{cases} 1, & \text{if household owns refrigerator} \\ 0, & \text{otherwise} \end{cases}$$

$$\text{hwwash} = \begin{cases} 1, & \text{if household owns washing machine} \\ 0, & \text{otherwise} \end{cases}$$

$$\text{hwaircon} = \begin{cases} 1, & \text{if household owns airconditioner} \\ 0, & \text{otherwise} \end{cases}$$

$$\text{hwcar} = \begin{cases} 1, & \text{if household owns car/jeep/motor vehicle} \\ 0, & \text{otherwise} \end{cases}$$

$$\text{hwphone} = \begin{cases} 1, & \text{if household owns telephone} \\ 0, & \text{otherwise} \end{cases}$$

$$\text{hwcomputer} = \begin{cases} 1, & \text{if household owns computer} \\ 0, & \text{otherwise} \end{cases}$$

$$\text{hwoven} = \begin{cases} 1, & \text{if household owns microwave oven} \\ 0, & \text{otherwise} \end{cases}$$

$$\text{hmksft} = \begin{cases} 1, & \text{if household does not live in makeshift housing} \\ 0, & \text{otherwise} \end{cases}$$

$$\text{hsquat} = \begin{cases} 1, & \text{if household is not an informal settler} \\ 0, & \text{otherwise} \end{cases}$$

$$\text{htoilet} = \begin{cases} 1, & \text{if household has access to sanitary toilet facilities} \\ 0, & \text{otherwise} \end{cases}$$

$$\text{helec} = \begin{cases} 1, & \text{if household has access to electricity} \\ 0, & \text{otherwise} \end{cases}$$

$$\text{hwater} = \begin{cases} 1, & \text{if household has access to safe water supply} \\ 0, & \text{otherwise} \end{cases}$$

$$\text{hnagri} = \begin{cases} 1, & \text{if household head is not engaged in agriculture} \\ 0, & \text{otherwise} \end{cases}$$

Cons = constant term

The results lend support to the hypothesis that owning electrical appliances are positively correlated with being non-poor. Additionally, those who live in makeshift housing or are informal settlers tend to be poor. Access to basic amenities such as piped water, water-sealed toilets and electricity are also positively correlated with being non-poor. If the family is engaged in agriculture, on the other hand, that family tends to be poor.

All the coefficients have the correct sign. Moreover, with the exception of computer, all are statistically significant at the 5 percent level.

An alternative specification, including urbanity variable, yields similar results except that the urbanity variable is statistically

insignificant. Given this, the specification presented above is retained as the model for estimating the weights for the variables.

To get an indication of the performance of the model, one can see how well it does in terms of classifying the families. Various cut-offs are tried in classifying whether a family is poor or non-poor. If a family has a probability of being non-poor greater than or equal to the specified cut-off, then that family is classified as non-poor.

Sensitivity is a measure of the probability of the family being classified as non-poor given that the family is actually non-poor while specificity is a measure of the probability of the family being classified as poor given that the family is actually poor. The table shows that there is a trade-off between the two, although not exactly of the same amount. The higher the probability cut-off is, the lower is the sensitivity and the higher is the specificity of the model.

Of the total 33,155 households, the model correctly classifies 25,646 households, an accuracy of 77.35 percent. It correctly classifies as non-poor those who are actually non-poor, 86.72 percent of the time as indicated by the sensitivity index. It correctly classifies as poor those who are actually poor 55.28 percent of the time as shown by the specificity index. Using this cut-off will lead to low leakage rate but high exclusion rate.

With a cut-off of 0.7, the specificity increases to 83.7 percent. This, however, is achieved at a lower sensitivity of 69.21 percent. This leads to a lower predictive accuracy of 73.5 percent. Using a cut-off of 0.8 further increases the specificity to 91.3 percent but this also reduces the sensitivity to 59.4 percent. The overall predictive accuracy is 69.0 percent.

The results of the simulations corresponding to the different cut-offs are presented in Table 8. Using the higher cut-off will result to a higher leakage rate but lower exclusion rate. It is recommended that a cut-off of 0.8 be used since at this cut-off, the poor are correctly classified as poor more than 90 percent of the time. This implies that the exclusion will be less than 10 percent. This leakage can then be

Table 8. Sensitivity and specificity at various probability cut-offs

Item	Probability Cutoff							
	0.5	0.55	0.6	0.65	0.7	0.75	0.8	
Sensitivity	Pr(+ D)	86.72%	80.43%	79.00%	74.62%	69.21%	67.39%	59.45%
Specificity	Pr(- ~D)	55.28%	68.37%	71.42%	77.26%	83.66%	85.26%	91.33%
Positive predictive value	Pr(D +)	82.05%	85.70%	86.69%	88.55%	90.89%	91.51%	94.17%
Negative predictive value	Pr(~D -)	63.84%	59.71%	59.06%	56.37%	53.55%	52.60%	48.87%
False + rate for true ~D	Pr(+ ~D)	44.72%	31.63%	28.58%	22.74%	16.34%	14.74%	8.67%
False - rate for true D	Pr(- D)	13.28%	19.57%	21.00%	25.38%	30.79%	32.61%	40.55%
False + rate for classified +	Pr(~D +)	17.95%	14.30%	13.31%	11.45%	9.11%	8.49%	5.83%
False - rate for classified -	Pr(D -)	36.16%	40.29%	40.94%	43.63%	46.45%	47.40%	51.13%
Correctly classified		77.35%	76.84%	76.74%	75.41%	73.51%	72.72%	68.95%

Note: Classified + if predicted Pr(D) >= (Probability Cutoff)

reduced by the other criteria that will be used such as income and electricity consumption.

Application to CBMS data

The regression coefficients derived from the logit model serve as the weights for these variables. These coefficients can then be applied to the dataset from the LGU to come up with the composite index for economic status.

Electricity consumption

Electricity consumption has been used as a good indicator of the economic status of the household. The idea is that a poor household will have very few electrical appliances and light bulbs. Thus, electricity consumption will be closely correlated with poverty status.

The key is to find that threshold of electricity consumption that can serve as the cut-off between the poor and the non-poor. Assuming that poor households would have the barest of appliances and lighting fixtures, one can derive the appropriate cut-off. For instance, if one assumes that the household used three light bulbs at an average of 8 hours each day and a radio cassette for 6 hours each day, the electricity bill for the month would be around P100 (Table 9). The electricity usage of specific appliances are obtained using the Meralco Appliance Calculator from the website of Meralco, <http://e-services.Meralco.com.ph>.

If one further assumes that in addition to the light bulbs and the

Table 9. Electricity usage for monthly electricity bill of P100

	Hours used	Cost per Month
Light Bulb (25w)	8	22.85
Light Bulb (25w)	8	22.85
Light Bulb (25w)	8	22.85
Radio cassette rec.	6	34.27
Electricity Bill (in pesos)		102.82

radio cassette, the household uses a television set and electric fan, one arrives at an electricity bill of around P200 per month (Table 10).

Table 11 illustrates possible electricity usages for electricity bills amounting to P300, P400 and P500, respectively.

Table 10. Electricity Usage for Monthly Electricity Bill of P200

	Hours used	Cost per Month
Light Bulb (25w)	6	17.14
Light Bulb (25w)	6	17.14
Light Bulb (25w)	6	17.14
Light Bulb (25w)	6	17.14
Light Bulb (25w)	6	17.14
Radio cassette rec.	6	34.27
TV set (14") color	6	54.84
Electric fan (stand,desk)	6	20.56
Electricity Bill (in Pesos)		195.37

Table 11. Electricity usage for monthly electricity bill of P300, 400, 500

	300		400		500	
	Hours used	Cost per Month	Hours used	Cost per Month	Hours used	Cost per Month
Incandescent Bulb (25 watt)	8	29.84	8	29.84	8	36.81
Incandescent Bulb (25 watt)	8	29.84	8	29.84	8	36.81
Incandescent Bulb (25 watt)	8	29.84	8	29.84	8	36.81
Incandescent Bulb (25 watt)	8	29.84	8	29.84	8	36.81
Incandescent Bulb (25 watt)	8	29.84	8	29.84	8	36.81
TV set (color 14")	8	95.50	10	119.37	12	176.71
Electric fan (stand, desk)	12	53.72	16	71.62	18	110.44
Radio cassette recorder			6	59.68	3	27.61
Electricity Bill (in Pesos)	298.42		399.87		498.81	

Case application to Pasay City

The number of households in Pasay City who consume electricity of P100 or less per month is 3,953, representing 8.51 percent of the total number of households. About 8.9 percent consume electricity of more than P100 and less than P200 per month. This means that 17.38 percent of the households spend P200 or less on electricity. More than half of the households spend more than P500 per month on electricity. Table 12 shows the percentage distribution of households by electricity consumption per month.

In terms of decile, the lowest 10 percent of the households in terms of electricity bill spends P53 per month on the average (Table 13). The second lowest decile spends P218 per month on the average on electricity. The highest decile spends P5,043 per month on electricity on the average.

The rankings of households using the three criteria are examined to see if there is a correlation among the rankings. Statistical tests indicate significant positive correlation among the ranks of the households based on the three criteria. This lends support to using electricity as a second stage screening variable.

Table 12. Percentage distribution of households by electricity consumption

Electricity Consumption per month	Frequency	Percentage	Cumulative Percentage
P100 or less	3,953	8.51	8.51
More than P100 – P200	4,118	8.87	17.38
More than P200 – P300	3,792	8.17	25.55
More than P300 – P400	2,298	4.95	30.50
More than P400 – P500	5,381	11.59	42.09
More than P500	26,887	57.91	100.00
Total	46,429	100.00	

Table 13. Average monthly electricity bill by decile

Decile	Average electricity bill (in pesos)
1	53
2	218
3	339
4	490
5	615
6	878
7	1,030
8	1,335
9	1,798
10	5,043
All	1,180

Estimate of eligible beneficiaries for the Philhealth Indigent Program

Using the data from Pasay City, the proportion of households that can be considered poor based on each of the criteria is shown below. If income is used as the criterion for choosing the beneficiaries for the Philhealth indigent program, then there will be a target population of 13.2 percent of the total number of households. If the socio-economic index is used as the basis for identifying eligible beneficiaries, then the target population is 19.6 percent. On the other hand, if electricity consumption is used as basis, wherein a household who consumes P100 or less of electricity per month is considered poor, then the target population is 8.5 percent. If the P200 electricity consumption is used as the cut-off, then the eligible population is 17.4 percent.

Since the use of the socio-economic index may lead to leakage, a second-stage screening is recommended. The electricity consumption of those who are determined poor based on the socio-economic index is examined. The data indicate that if the cut-off of

Table 14. Estimate of eligible households

Criterion	Frequency	Percent
per capita income	6,148	13.24
socioeconomic index	9,108	19.62
electricity consumption (P100 or less)	3,953	8.51
electricity consumption (P200 or less)	8,071	17.38
electricity consumption (P300 or less)	11,863	25.55
electricity consumption (P400 or less)	14,161	30.50
electricity consumption (P500 or less)	19,542	42.09
socioecon index and electricity of P100 or less	2,126	4.58
socioecon index and electricity of P200 or less	4,032	8.68
socioecon index and electricity of P300 or less	5,442	11.72
socioecon index and electricity of P400 or less	6,128	13.20
socioecon index and electricity of P500 or less	7,393	15.92

P500 electricity bill is used, the eligible population is 15.9 percent of all households. If P400 is used as the cut-off, then the proportion of eligible households goes down to 13.2 percent. Similarly, if the cut-off is reduced to P300, the eligible population is further reduced to 11.72 percent of the total number of households. If the cut-off is reduced to P200, then the corresponding proportion drops further to 8.7 percent. Finally, if the proportion is reduced to P100, then the proportion of eligible households goes down to 4.6 percent.

In summary, the two-stage screening method can be used to prioritize the eligible beneficiaries of the Philhealth Indigent Program. It is recommended that the socio-economic index using a probability cut-off of 0.8 be used at the first stage. Then the electricity consumption is used as the second filter. It is recommended that a cut-off of P100 monthly electricity bill be used to identify the poor and those who are eligible for the Philhealth Indigent Program. In cases where there are still funds available to support the enrollment

of more people, a higher cut-off for electricity consumption of P200 can be used.

Concluding remarks

The present method of identifying the eligible beneficiaries of the Philhealth Indigent Program, using reported income, can be improved by adopting the methodology being proposed here.

Three criteria are used as the basis for identifying eligible beneficiaries, namely: income, socio-economic index and electricity consumption. Since many poor people may not have verifiable income records, it is recommended that a two-stage screening, using the other two criteria, be adopted. Households are first classified using socio-economic variables that are predictors of income-based poverty status. Then, a second-stage screening based on electricity consumption can be applied to those who passed the first screening.

***Session 2:
Use of CBMS for
Evidence-Based Legislation***



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CBMS as a Source of Information for Evidence-based Legislation

*Albert Garcia**

At the outset, I wish to thank the Angelo King Institute for spearheading this CBMS Network Conference and for inviting us from the legislative branch to share with the other CBMS users our thoughts on the utility of the system in legislation.

Indeed, it is a rare opportunity to be sitting with representatives of the different development stakeholders and practitioners throughout the Philippines and sharing my insights on how the CBMS may be used in the performance of our given mandates in Congress — to legislate and set the policy directions of the country in general and of our corresponding congressional districts, in particular.

You cannot blame me or any other congress person for being parochial most often since we were elected to represent the people of the district we come from — in my case, the second district of Bataan that covers the southern half of Bataan Peninsula.

I was requested to share with you my experience as a freshman/ greenhorn legislator and my insights on how CBMS can be utilized for legislation. It would be ideal if I can share an actual application of the CBMS in crafting legislation but I may disappoint you on this. Our CBMS in Bataan is still to be completed by the end of this year.

*Congressman, Second District of Bataan Province

We are in the midst of encoding the results of the surveys among the eleven municipalities of the province.

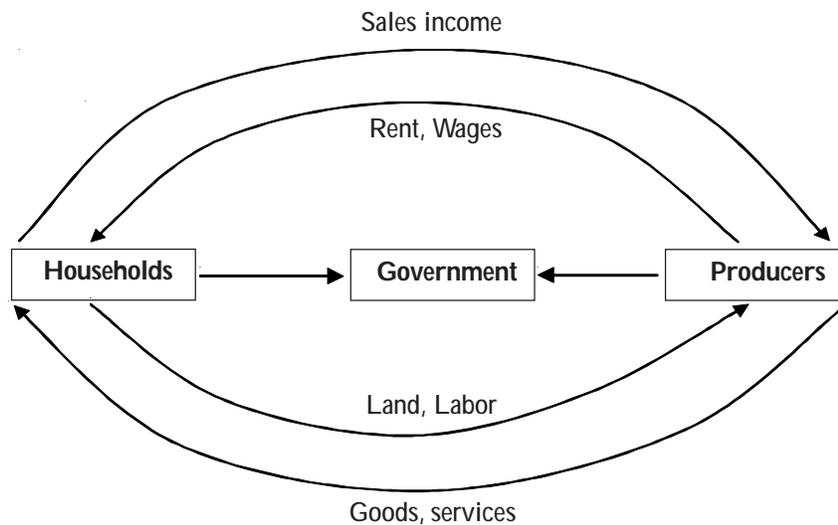
However, I shall advance some thoughts on how CBMS can interact with the existing legislative processes of the country resulting into more effective legislations.

Effective legislation

The pursuit of human development and security toward a peaceful and prosperous society involves interaction between and among various stakeholders who, in their own rights, have specific interests. The production and consumption cycle (shown in Figure 1) that is very familiar to all economics practitioners gives a simplified framework that governs such relationships.

In a utopia, Adam Smith's invincible hand causes the competing interests of the actors involved to meet through negotiations, dialogues and other avenues. But the real world is far from enabling the

Figure 1. Production and consumption cycle



achievement of a condition that will be acceptable to all.

Most often, government has to intervene in order to ensure that the relationships function efficiently and satisfactorily. Laws consistent with the Constitution define government's interventions either in the form of projects and policies. As we all know, the national expenditure program which lists down the activities to be undertaken by the national government for any particular year has to be legislated into the annual General Appropriations Act before any national government money can be spent.

Legislation must provide clarity regarding the rights and obligations of individuals and government. Laws must clearly define the rights and obligations of individuals and government. They must be workable and should encourage people to make their own choices and share in the responsibility toward a peaceful and prosperous society.

For legislation to be effective, it must be well-thought out and efficient. It must be formulated in such a way that it can be understood and enforced. In essence, it must be:

fair and unbiased – the law cannot favor one party over another

consistent – it cannot apply differently in different situations,
and

responsive – the law must be appropriate to the existing social climate.

Laws, however, are not carved in stone. An issue that was important 20 years ago may now be outdated. Society is constantly changing and legislation must be reviewed at regular intervals to make sure that it is still appropriate to the current social climate. All legislation, both national and international, has to be amended and updated.

The legislative process¹

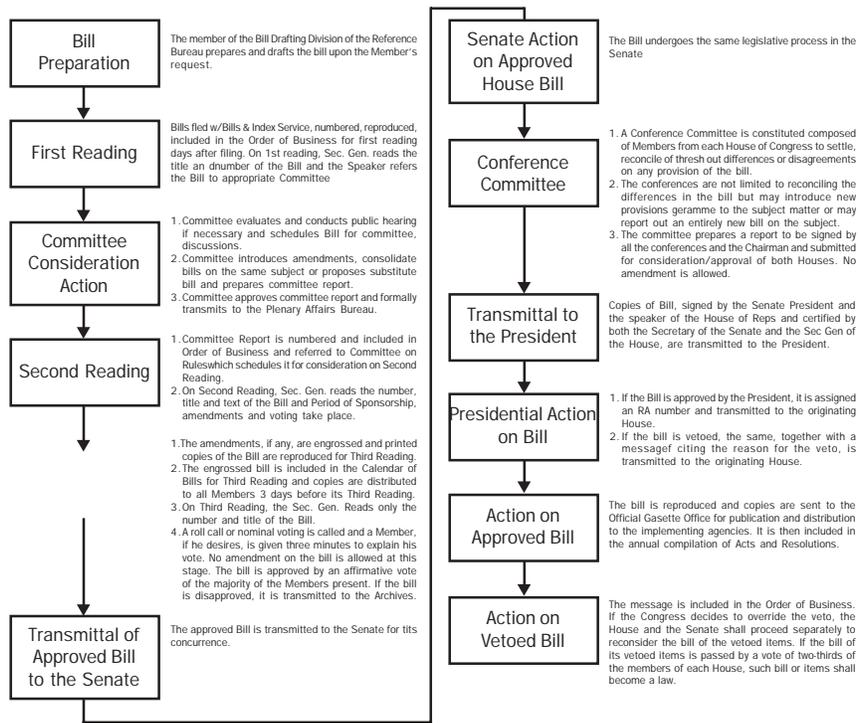
Legislation is not formulated in a vacuum. As seen in Figure 2, laws are constructed through a complex, multi-step and multi-tiered legislative process.

There are generally four methods in which Congress can initiate legislation:

1. **Bills** — bills are the common form that most legislation is initiated with. These are general measures, which if passed upon, may become laws.

2. **Joint Resolutions** — joint resolutions have little practical difference from a bill and can begin in either the House of

Figure 2. Legislative process



¹ For a more detailed discussion of the legislative process, please refer to Appendix A.

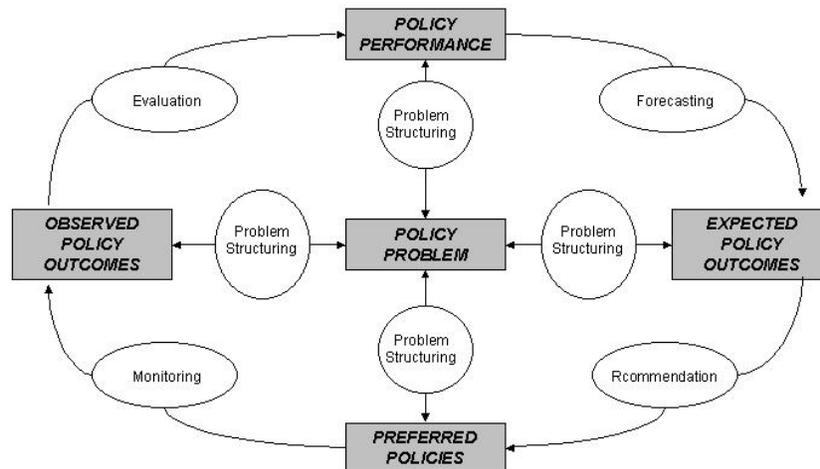
Representatives or in the Senate. The latter generally is used when dealing with a single item or issue such as a continuing or emergency appropriations bill. Joint resolutions are also used for proposing amendments to the Constitution.

3. Concurrent Resolutions — concurrent resolutions deal with the operations of both the House of Representatives and Senate.

4. Simple resolutions — a simple resolution deals with matters entirely within the prerogative of one house of Congress such as adopting or receiving its own rules. A simple resolution is not considered by the other chamber and is not sent to the President for signature.

We are all aware that legislation, or public policy for that matter, is constructed, adopted and implemented to address practical problems. All throughout the legislative process—from bill preparation to final approval—the proposed legislation or public policy undergoes the various steps in policy analysis advanced by Dr. William Dunn of the University of Pittsburgh. Policy-related information are required in all of the five stages of policy analysis—from problem structuring,

Figure 3. The process of integrated policy analysis



forecasting, recommendation, monitoring and evaluation (Figure 3).

Dr. Dunn argued convincingly that the required policy-related information are answers to the five basic questions raised in policy analysis:

- What is the nature of the problem for which a solution is sought? —information about policy problems;
- Which of two or more courses of action should be chosen to solve the problem? — information on policy performance;
- What are the outcomes of choosing that course of action? — information on expected policy outcomes;
- Does achieving the outcomes contribute to solving the problem? — information on preferred policies; and
- What future outcomes can be expected if other courses of action are chosen? — information on observed policy outcomes

These types of information are shown as shaded rectangles in Figure 3.

A *policy problem* is an unrealized value or opportunity for improvement which however identified, may be attained through public action. Knowledge of what problem to solve requires information about a problem's antecedent conditions (e.g., school dropouts as an antecedent condition of unemployment) as well as information about values (e.g., safe schools or a living wage) whose achievement may lead to the problem's solution.

Information about policy problems plays a critical role in policy analysis because the way a problem is defined governs the search for appropriate solutions. Inadequate or faulty information may result in a fatal error: solving the wrong formulation of a problem when instead one should have solved the right one.

An *expected policy outcome* is a probable consequence of a policy designed to solve a problem. Information about the circumstances that gave rise to a problem is essential for producing

information about expected policy outcomes. Such information is often insufficient, however, because the past does not repeat itself completely, and the values that shape future behavior change over time.

A *preferred policy* is a potential solution to a problem. To select a preferred policy, it is necessary to have information about expected policy outcomes. Information about which policy to select also depends on judgments about the value or utility of expected outcomes. Another way to say this is that policy recommendations are based on factual as well as value premises. Facts alone do not justify the selection of a policy.

An *observed policy outcome* is a past or present consequence of implementing a preferred policy.

Policy performance is the degree to which an observed policy outcome contributes to the attainment of values, goals, or objectives. In reality, policy problems are seldom “solved”; they are most often resolved, reformulated, or even “unsolved”. To know whether a problem has been solved, resolved, or unsolved not only requires information about observed policy outcomes, it is also essential to know whether these outcomes contribute to the attainment of the values, goals, or objectives that originally gave rise to a problem. Information about policy performance provides a basis for forecasting expected policy outcomes.

From what I have just shared with you, one thing is apparent – for public policy to be effective (in our case, legislation), related information as to past performance, experiences and existing conditions obtaining for stakeholders are very necessary.

Database systems for effective legislation

The information requirements of policy analysis and legislation are almost always sourced from existing databases. We cannot question the utility of our country’s existing databases since each of these was formulated with specific purposes. What we can ask ourselves in

using such databases is whether they conform to the attributes of a good database.

A good database must exhibit integrity, accuracy, methodological soundness, serviceability or usefulness, and accessibility.

One of our country's major databases would be the results of the regular census of population and households. This is a rich source of information for development and security-related issues. We are supposed to have a regular census every 10 years (with updating every 5 years) but the latest that we have had was in May 2000. It is already 2006 and a census is yet to be conducted. Financial resource limitation was cited as the major reason for skipping the 2005 Census. We in Congress may be a party to this in view of the failure to enact a new national budget since 2004. In short, what we have as our main population database may be inutile since the National Statistics Office (NSO)'s plans to conduct the next Census in 2010.

A second major database that we usually turn to is the regular Family and Incomes Expenditures Survey (FIES) conducted every 3 years. The lag time between the actual survey and the release of the official results (usually one and a half years) makes the information contained therein useful for analyzing past performances. But for responsive policy formulation or legislation, the three year-interval between surveys may be too late.

In response to some of these shortcomings, especially for poverty alleviation policy formulation, various government agencies have tried to come up with poverty-related database systems. The Department of the Interior and Local Government (DILG) had the Integrated Rural Accessibility Planning System (IRAPS) and the Local Government Performance Monitoring System (LGPMS) while the Department of Social Welfare and Development (DSWD) had the Minimum Basic Needs Survey (MBN). The National Economic and Development Authority (NEDA), through the United Nations Children's Fund (UNICEF), now has the Development Information System. The latest addition to these initiatives is the Community-Based Monitoring System (CBMS).

It must be emphasized that all of these database systems have tried to address the dearth of poverty-related information. Each has its limitations and advantages. A common limitation to most of these is the volume of information required and the data acquisition methods employed. Only a very few local government units (municipalities, cities and provinces) continued the data gathering and updating of the IRAPS database. Manpower and financial resource limitations have been raised as reasons. The LGPMS, on the other hand, is a self-evaluation system among LGUs and biases on the results are difficult to contain. The MBN had so many indicators and the volume of data inputs was seen as overwhelming that some provinces did not pursue finishing the processing of the survey questionnaires they gathered way back in the early 90s.

We have yet to document our experience with the CBMS but my initial insights indicate that it has more advantages primarily because it considered the lessons from the previous database systems that were introduced. I am confident that we, in Bataan, will be able to maintain our CBMS database and regularly update it. This is one very important quality of a database that may have been taken lightly — timeliness.

As we may well be aware of by now, CBMS boasts of such property. Once the baseline is established, updating can be done by LGUs at less cost and less manpower requirements. This translates into more regular and more timely information that is an essential requirement for responsive policy formulation or legislation in our case.

As seen in Figure 4, the information requirements of policy analysis can be sourced from database systems, the most promising of which is the CBMS. At present, however, it is faced with the limitation that it has yet to be adopted by all LGUs and a national CBMS database is yet to be put in place.

Closing statement

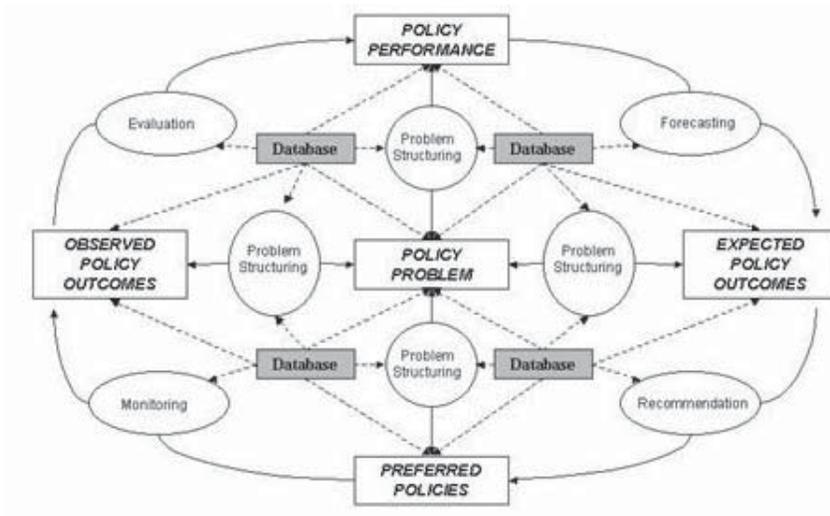
Indeed, the usefulness of databases as sources of information for

public policy formulation or legislative work cannot be questioned. What we need, however, is a database system that is regularly updated at intervals that may be considered timely in order for policy to be responsive to a given problem.

As we are all aware, the value of addressing a problem today may not be equated to the value given to the same problem tomorrow.

Thank you and good day.

Figure 4. Databases as sources of information for integrated policy analysis



Appendix A. Legislative Process

There are generally four methods in which Congress can initiate legislation:

1. Bills — bills are the common form that most legislation is initiated with. These are general measures, which if passed upon, may become laws. Bills originating in the House of Representatives are designated by the letter “H.” and are followed by an identifying number that remains with it throughout the legislative process. Bills originating in the Senate begin with an “S.” and are also followed by an identifying number. The vast majority of legislative proposals—recommendations dealing with the economy, increasing penalties for certain crimes, regulation on commerce and trade, etc., are drafted in the form of bills. They also include budgetary appropriation of the government and many others. When passed by both chambers in identical form and signed by the President or repassed by Congress over a presidential veto, they become laws.

2. Joint Resolutions — joint resolutions have little practical difference from a bill and can begin in either the House of Representatives or in the Senate. The latter generally is used when dealing with a single item or issue such as a continuing or emergency appropriations bill. Joint resolutions are also used for proposing amendments to the Constitution. Joint resolutions originating in the House of Representatives are indicated by “H.J.Res.” followed by its identifying number, and those originating in the Senate are indicated by “S.J.Res.” followed by its identifying number.

3. Concurrent Resolutions — concurrent resolutions deal with the operations of both the House of Representatives and Senate. Concurrent resolutions originating in the House of Representatives are indicated by “H.Ct.Res.” followed by its identifying number, and in the Senate by “S.Ct.Res.” followed by its identifying number. On approval by both chambers of the Congress, a concurrent resolution is then signed by the Clerk of the House and the Secretary of the Senate. It does not require Presidential action.

4. Simple resolutions — a simple resolution deals with matters entirely within the prerogative of one house of Congress, such as adopting or receiving its own rules. A simple resolution is not considered by the other chamber and is not sent to the President for his signature. Like a concurrent resolution, it has no effect and force of a law. Simple resolutions are used occasionally to express the opinion of a single house on a current issue. Oftentimes, it is also used to call for a congressional action on an issue affecting national interest. A simple resolution is designated “P.H.Res.” and “P.S.Res.” followed by their identifying number in the House of Representatives and the Senate, respectively.

After a bill is introduced by a member of Congress, and provided it meets various requirements such as signature of the sponsor, as well as signatures of any co-sponsors (it is not necessary for a bill to have co-sponsors), the bill is assigned its legislative number and referred to the appropriate committee. The committee phase of legislation is one of the most critical stages of the legislative process. It is an opportunity for open discussion on the matter. The first step by a committee is to hold a public hearing, where a committee can engage in discussion with witnesses representing various viewpoints on the bill. The committee will announce the date, place, and subject of any hearing it holds on pending legislation. Upon the completion of hearings, a bill is then considered in a session referred to as a “mark-up.” The committee examines the evidence, viewpoints, and other information it has gathered and can then offer amendments to the bill, with the whole committee then voting whether to accept or reject these changes. These mark-up sessions may happen at the subcommittee or full committee level, or both. At the conclusion of a committee session on a particular bill, one of three things may happen: the bill can be reported as is, reported with amendments, or tabled, which would mean that no further action would be taken on the bill. A fourth possibility is a “clean bill,” which are usually reported when there are extensive amendments to a proposed bill where it would be better presented in a new format. These bills would receive a new

identifying number. A Committee Report is drawn up if the committee decides to report the bill. This report would explain the purpose of the bill along with reasons as to its approval.

The next step is floor consideration of a bill. This can be a simple or complex operation that is dictated by what “rules” of debate are adopted for the consideration of a specific bill. Debate time is usually divided between proponents and opponents, and amendments may also be debated on and voted upon. After the debate stage has concluded, the bill goes for final passage, unless some opposition is able to vote to “recommit” where a bill is returned to the committee for further modification. Both the House of Representatives and the Senate follow special and distinct rules in parliamentary procedure for floor consideration of a bill. Suffice it to say, the general explanation above is satisfactory in understanding the general process for floor consideration.

After a measure is passed in either chamber of Congress, it is sent to the other chamber for consideration. A bill must pass both chambers in the exact same form before it can be presented to the President for signature into law. If the Senate changes any aspect of the legislation, it is returned to the House for concurrence, or a conference committee may be drawn up consisting of both members of the House and Senate to work out the differences in committee.

The final step is a vote for final passage. In the House of Representatives, this may be done by recorded electronic vote where individual votes are registered or by a voice vote and no record of individual responses is made.

The Senate does not use electronic voting mechanisms, and votes are Yea/Nay votes by voice and are registered in the record. After a measure has been passed, it is considered “enrolled” and is then sent to the President who can sign it into law, veto it, let it become law without his signature, or at the end of a session, pocket-veto it.

The summary of the legislative process is presented to provide context for better understanding on how and why certain matters are enacted into law and others become lost in the abyss of theoretical

policy. It is important to recognize that the above schema of the legislative process does not take into consideration the full political scope and mechanism under which legislators must work to effectively carry a piece of legislation from introduction to enactment into law. Nevertheless, with a contextual framework, it provides for a better opportunity to pursue legislation affecting public concerns in a manner that can make legislative efforts more effective.

CBMS as Framework for Evidence-Based Legislation: Agusan del Sur's Experience

*Allan Santiago**

Introduction

It is virtually impossible to implement an effective, large-scale poverty reduction outside the context of an effective and accountable local government. A strong legal framework is required for the effective implementation of a poverty reduction strategy.

The need for evidence-based legislation has risen against a backdrop of rising demands from civil society for transparency and accountability in government and for an efficient and effective allocation and use of development funds.

Local governance reflects a range of concerns, to wit:

- the quality, effectiveness and efficiency of local administration and public service delivery at the local level;
- the quality of local public policy and decisionmaking procedures, their inclusiveness, transparency and accountability; and
- the manner in which power and authority are exercised at the local level.

Growing need for evidence-based legislation

In the process of government policymaking and legislation, there is

*Provincial Board Member, Provincial Government of Agusan Del Sur

always a need for the best evidence in making decisions. Along with the evidence, there is also the responsibility of legislators and policymakers to utilize quantitative and qualitative sources of evidence in a conscientious, transparent and judicious manner. Evidence-based legislation is necessary to answer questions like, “How do you know that? How can you be certain that what you are hearing is true? Can you verify that? Where did you hear that? Can you share your sources with me? Where are the data?”

Evidence-based legislation is based on objectively verifiable data rather than on political prejudice. In this regard, the consequence of evidence-based legislation is to link high quality information with development policy needs and subsequent program design.

The sources of evidence in the formulation of legislation and policy come from many areas. Examples are LGUs’ demographic and socio-economic data, surveys and research studies, constituents’ opinions and feedbacks, and comments during public meetings. The evidence may further be refined through national policy directives and the Local Chief Executive’s program of government.

When evidence is treated by a legislative body, it passes through a process whereby it is analyzed with regard to its quality. Here, quality of evidence or data may mean scientific, verifiable, measurable, and objective. At the same time, the limitations on the collection of evidence or data are expressed.

An important aspect of this analysis is that the evidence which is reviewed is representative and has been the result of participatory process. Moreover, that the source of evidence is held accountable. At the same time, there is a responsibility to safeguard the evidence or data.

As suitable evidence in the legislative process, the Community-Based Monitoring System (CBMS) provides data which are high in quality. It is based on objective and verifiable facts, quantifiable information and is collected and validated with the full participation of the communities concerned.

The consequence of using CBMS data in the legislative process is that the communities themselves benefit from the policy and legislative reforms. Legislation becomes more responsive to their needs and is thus more democratic. Improved procedures and institutional space become available for interaction between the public and the local government.

The CBMS creates an enabling environment for evidence-based approaches. Particularly in the CBMS data validation activities and subsequent barangay development planning using CBMS results, community level users are able to appreciate the data that are collected in their areas. This intensifies the awareness of the community on the analytical results of their data, thereby promoting evidence-based decisionmaking at the local level.

A key function of the legislative body is also to generate and maximize the use of resources and revenues for the development of the LGU. When the allocation of funds is linked with the evidence provided by CBMS, there is a cost-effective approach to growth which is of direct benefit to the communities.

With respect to the Province's poverty-reduction strategy, evidence-based legislation becomes an important tool for empowering local groups as full participants in anti-poverty initiatives. Overall resources are also allocated in such a way that better match priorities and requirements of the poor. It brings all relevant aspects of people's lives and livelihoods into development planning, implementation and evaluation.

The processes of policymaking, development planning and decisionmaking which arise from the evidence-based approach, are made clearer and simplified, making the task of development planning and project design much more efficient and effective. The CBMS offers an information management system that feeds directly into these processes.

Since CBMS offers a direct link down to the household, the use of such a system in legislative and policy-making processes means that it takes into consideration the rhythm of the people. Programs

and projects of the Province move toward that rhythm and the chances of a positive and lasting impact of those programs and projects increase. Successful projects almost always originate from the people.

The Province's efforts at poverty reduction require a sustainable approach that reaches far into the future. Evidence-based legislation is the first step toward cultivating the necessary mechanisms and the political support that will sustain the effort over the long-term.

The adoption of evidence-based legislation in Agusan del Sur will also be supported through a legal framework that will institute the necessary mechanisms. The legislative back-up, through creation of a local ordinance, will support the continuation of the CBMS and will guarantee the sufficiency of resources to provide continuous assistance in aspects such as data collection, data banking, interpretation, capacity-building and advocacy strategies.

The ordinance is also intended to include provisions on access and distribution of CBMS datasets and to clarify questions on how the processed data will be disseminated, who will have access to the processed information and who will be the repository of the processed information. The underlying principle will be to ensure that legislation is in place to support the distribution of CBMS information to all who want them without compromising the confidentiality of householders.

The progress of Agusan del Sur towards evidence-based legislation

The first steps toward developing a legal framework in Agusan del Sur have been taken this year through the creation of local resolutions at the barangay and municipal levels in the CBMS data validation activities. This establishes a formal process whereby all projects will eventually be in consonance with the CBMS, using its results as a basis for evidence. Thus, after a successful completion of the validation process in each barangay/municipality, a resolution was signed by the appropriate officials adopting the CBMS survey results as a basis for planning purposes and identification of project allocation.

The next step will be to consolidate the resolutions from 314 barangays and 14 municipalities. These documents will feed into the creation of a provincial resolution. So far, 301 barangays and 13 municipalities have signed their respective resolutions. The completion of resolutions throughout the province is expected by the end of November.

Along with other supporting information, the provincial resolution will serve as the entry point in the creation of a CBMS Ordinance when the Proposed Ordinance (P.O.) is formally filed with the Sanggunian. In 2007, the process of formulating the ordinance will be in full swing. In the first quarter of the year, the first reading will be calendared. The proposed ordinance is expected to pass through the first reading, after referral to the appropriate committees. It is hoped that soon after this, the second reading will be debated upon in the plenary session.

Once the Sanggunian approves the P.O. in the second reading, with or without amendments, the P.O. will be calendared for the third and final reading. And, once the Sanggunian approves the P.O. after the third and final reading, the Sanggunian Secretary will transmit it to the office of the Provincial Governor for approval. The approved ordinance will then become Law.

It is anticipated that by the time of the next CBMS survey, expected in 2008, Agusan del Sur will have passed the appropriate legislation. With it, the message will be sent to our partners at the regional and national levels that Agusan del Sur has deepened its commitment to the principles of good governance.

As a result, the Province will be establishing a framework that relies directly on the results from the community and will therefore show democracy in its most simple and direct form. The voice of a community in a remote barangay in Agusan del Sur will be heard at the highest political level.



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The Importance and Application of CBMS to Local Legislation

*David Ponce de Leon**

The need for authentic reliable data that are available at the fingertips of provincial legislative officials and decisionmakers becomes imperative if the provincial administration is to be operated smoothly and effectively, especially for a province like Palawan with its unique geographical configuration and size.

Being the largest province in the Philippine archipelago, Palawan consists of 1,700 islands and islets with an area of 17,030.75 square kilometers or 1,703,075 hectares. With the main island measuring 425 kilometers from tip to tip, the province stretches from the Mindoro strait in the north to the Sulu sea in the south. The width of the province at its widest is 40 kilometers at the municipality of Brooke's Point, and narrowest at 8 kilometers in Bahile point, Puerto Princesa City.

By political subdivision, Palawan has 23 municipalities and one capital city, with an annual population growth rate of 3.64 percent. The current population is estimated at more than 921,000, dispersed throughout 430 barangays and affiliated with over 78 major ethnic groups from all over the country. Palawan is truly also a melting pot of the Philippine republic.

The economy of our province is still primarily agricultural, with fishing a modest second. About 60 percent of marine and fish products

*Vice-Governor, Provincial Government of Palawan

being shipped to Manila come from the rich fishing grounds of Palawan, notably around the Malampaya area. Palawan also abounds with rich mineral deposits. This is highlighted by the recent commercial production of the Malampaya deep water gas to power project. Add to this the potential of the province for eco-tourism on account of its rich fauna and flora and its scenic, historical, and natural environment.

The physical attributes of Palawan place the province in the forefront of immense developmental challenges. The enactment of Republic Act 7061 or the 1991 Local Government Code particularly Section 289, entitles the province and all local government units (LGUs) to a share from the proceeds of the natural wealth extracted within the LGUs' territorial jurisdiction. From 2002 up to the next 20 years, an estimated windfall of revenue would accrue to Palawan from the Malampaya gas project worth \$2 billion. The law provides that 80 percent of the natural wealth revenues should be used to lower the cost of energy and 20 percent thereof for livelihood and other development projects.

We, in the provincial government, see the expected revenues for Palawan as an opportunity to address the power and energy requirements of the province and a source of funds for livelihood and development projects. And the community-based monitoring system (CBMS) has become an important tool in assessing unmet needs and in determining accessibility to basic services of households in order to determine the kind of projects to be developed. In this sense, the CBMS plays a critical role in decisionmaking.

For the past six years, the province has exerted considerable effort to provide tools to monitor project implementation and developmental goals. CBMS' primary information consists of a set of 17 core human development indicators collected at the household level which are analyzed and discussed with the local chief executives. Said system is used to monitor the changes in the welfare conditions of households in terms of economic, social, and environmental parameters. It is also being used to provide a knowledge resource for

development interventions. CBMS data are used in the formulation of the annual state-of-the-province address by the governor which clearly shows the importance of CBMS in the planning process.

As a legislative tool, CBMS guides provincial planners as well as the executive and legislative council to assess current realities — to know where we really are in relation to our definite goals and to determine how much time is left on hand to achieve or address them effectively vis-à-vis our moral commitment to the people we have vowed to serve.

One example is access to electricity. The current energy situation in Palawan falls below the national average. This is due mainly to the large land area and rapid population growth. Despite these adverse conditions, significant improvements have been made in the past 20 years. From a low of 10.3 percent in 1980 per a socio-economic survey conducted by the Provincial Planning and Development Office (PPDO) in 1983, households with access to electricity rose to 31.82 percent in 2000 as indicated in the CBMS survey results. With the implementation of additional electrification projects carried out by both the national and local governments, households with access to electricity further improved by 4.94 percent in 2002 based on the CBMS survey results. This figure, however, is still far behind the national average of 72.30 percent. This situation prompted the Palawan provincial board to take legislative action to address power requirements of the province and the need for improved access to electricity especially in remote barangays and island communities.

On November 25, 2003, the board enacted an ordinance known and cited as Provincial Ordinance No. 729-03 creating the energy division under the PPDO. Its main function is to take charge of conducting studies and formulating provincial energy development plans and programs/projects as well as coordinating and implementing the same. The newly created division is composed of six staff headed by an electrical engineer. Since its creation in 2003, a total of seven million pesos (PhP7,000,000.00) has been allocated for the

implementation of the division's plans and programs/projects vis-à-vis the new mandate.

The division currently handles the implementation of electrification in priority areas in the province consisting of barangays where the population has the lowest access to electricity as identified in the CBMS survey results. Those electrification projects utilize various energy sources, including new and renewable sources of energy as recommended by the provincial energy committee and the Department of Energy.

With the back-up of significant CBMS data, the board also passed a resolution on September 20, 2005 adopting the JICA-funded master plan of power development in Palawan as a basis for implementing all electrification programs and projects of the province.

The CBMS also provided the provincial legislators the number of households with access to safe water. Over the past 25 years, substantial improvements have been made in providing households with safe water supply. From a measly 22.33 percent in 1980 as indicated in the 1983 socio-economic profile of the PPDO, the percentage of households with access to safe water rose to 51.83 percent in 2000 as per CBMS survey results conducted that year. This development could be attributed to the PATUBIG project, a bilateral technical cooperation project between the Federal Republic of Germany and the provincial government of Palawan implemented from 1994 to 1998. Said project provided Level I water supply facilities in the southern mainland municipalities of the province. Nonetheless, access to safe water in the province is still way below the national average of 78.10 percent based on the 1998 Annual Poverty Indicator Survey (APIS) of the National Statistics Office (NSO).

To address the need for improved access to safe water supply, the provincial government embarked on a province-wide endeavor to provide its unserved populace with safe water supply. With authority granted by the provincial board, the provincial government participated in the water district development project—urban sanitation sewerage and drainage (WDDP-USSD) being funded by the World

Bank through its conduit bank, the Land Bank of the Philippines. The purpose of the PhP200m World Bank credit facility for Barangay Environmental and Sanitation Project (BESP) was to improve the water and sanitation facilities for barangay residents through the provision of Level III water supply facilities with off-site sanitation, and drainage systems for urban communities. In support of said development initiative, the board passed resolutions to satisfy the requirements for the province's availment of the BESP.

Ten densely populated, urban barangays with poor access to safe water supply were identified as pilot project sites. The selection of these beneficiary-barangays was based on the CBMS survey results during the year 2000. The first eight sites became operational in 2003 while the last 2 started operation in 2004. The impact of said project could be observed in the CBMS survey results conducted in 2005. The percentage of households with access to safe water supply in municipalities where recipient-barangays are located increased by as high as 20.62 percent from the figure in 2000. At present, the project has a total of 2,641 household-beneficiaries served with safe water. To manage the operations of the water systems that were installed, users' associations were formed in each project site. Beyond the provision of safe water supply, the project has greatly contributed to the capability-building process in the communities of recipient-barangays.

To ensure sustainability of the water facilities being installed, a water program unit was created in November 2003 under the special programs services (SPS) of the PPDO. The said unit oversees the operation and maintenance of the systems.

On May 10, 2005, the board enacted a resolution creating a trust fund for the water and sanitation facilities operated and owned by the provincial government. The rationale for the creation of a trust fund is to ensure proper management of the revenues generated out of the collected monthly water tariffs from member consumers of the ten pilot BESP sites.

The provincial government of Palawan has, in the past, funded as well as constructed and operated the water and energy projects needed for communities with low access to safe water and electricity. But like other government agencies everywhere, the province is finding it increasingly difficult to allocate enough funds to sustain the large investments needed for major public works construction. Sourcing out funds for such endeavors has become a major concern not only to the executive officers but also to the legislative office. To carry out our vision toward a better life for Palawenos, we did our best to tap BOI-approved schemes for project implementation. This innovative approach to fund sourcing and financing has enabled the provincial government to build vital infrastructure without draining its resources and without forfeiting its traditional ownership of such services. Moreover, we realized that strategies of this kind are a more cost-effective approach to infrastructure project development.

The efforts exerted by the government in other development sectors like education, through scholarships, strengthening of the teachers' pool and improvement of school facilities, have gained some headway in the improvement of our student participation in the secondary level between 2000 and 2002.

Through legislative intervention, the education sector in Palawan was targeted to benefit further through manpower planning and by giving students scholarships, and expanding educational institutions in areas where families were in most need of such services as identified in the CBMS results. Special grants were given to students from low-income families where the full cost of tuition fee was shouldered by the provincial government through an appropriation intended for the purpose. As of end of school year 2005-2006, the grant has produced a total of 2,243 graduates. To date, there are 1,622 scholars studying in various colleges and universities in the province.

There is no question that special attention should be given to children aged 0 to 5 years old, which is the period of a child's rapid intellectual and emotional development. These crucial years in a child's development call for concrete action in the education sector,

especially for children of disadvantaged or low-income families. To address this concern, the provincial government intensified efforts in the provision of more day care centers, particularly in the fifth and sixth class municipalities covered by the Comprehensive and Integrated Delivery of Social Services (CIDSS). Likewise, the delivery of nutrition services was also intensified through the barangay environment, agriculture and nutrition scholars (BEANS). This project has been the strategy adopted by the provincial government to combat malnutrition. The BEANS project includes the regular conduct of "Operation Timbang" for pre-schoolers and the provision of assistance for income-generating projects to families with malnourished children. We, at the legislative department through my leadership, see to it that budget allocation for such noble projects is recognized and supported as among our priority programs and projects. It is also noteworthy to mention that the BEANS implementors are also our CBMS partners in the communities, as they are tapped as enumerators during CBMS surveys for data gathering.

Aside from the CBMS, the provincial government of Palawan also used the project management system (PMS), based on the logical framework approach, for project planning and management, and performance monitoring. The PMS enables the province to determine project progress in terms of effort, time and output. Impact indicators are expected to provide insights on the relationship between gaps in service delivery and necessary changes in human development indicators being gathered by the CBMS.

The essential inputs provided by CBMS, whether numerical or experiential data, should not be overlooked. Instead, they should be used for their maximum benefits. For CBMS to work effectively, it must be given the necessary and adequate funding and legislative support.

This paper indicates that it is not only possible but essential that the implications of the planning processes are translated into policies, procedures and instruments that are effective at the level of individual projects and implementation units.

The government should develop its information base and provide resources to local governments and assist them in their attempts to address the human development issues and needs of their localities wherein the CBMS operates.

Local councils should therefore review existing planning instruments to see where development changes and processes might be applicable. At a minimum, they should include well-framed policy statements that would ensure that they are matters to be considered in assessing the development processes.

Clearly, elected officials have a responsibility to be well- informed in order to make informed decisions and craft policies based on credible, reliable data. It would also be desirable for elected officials to become more willing to be pro-active in sustaining research and monitoring tools to gauge developmental milestones. With scientific data, I believe that leaders and elected officials will be in a better position to confront and address issues, including those that may be politically contentious.

Thank you!

Session 3:
Application of CBMS for Poverty
Monitoring and Program Targeting

CBMS as a Targeting Tool for Poverty Reduction Programs: Experience from Indonesia*

*Daniel Suryadarma, Akhmadi, Hastuti, Nina Toyamah, Rizki Fillaili***

Introduction

Targeting is one of the most crucial aspects in a poverty reduction program. Without an accurate targeting method, it is very likely for the program to experience widespread leakage where the beneficiaries turn out to be non-poor individuals, and undercoverage where the program cannot reach every poor individual.¹ This means the program would not be effective in reducing poverty.

On the other hand, while targeting is very important, it is important to keep the cost of identifying the beneficiaries small relative to the program's benefits. Moreover, one should acknowledge that it is impossible to totally eliminate leakage and undercoverage. Therefore, the ideal targeting scheme in a poverty reduction program is one that is relatively affordable and sufficiently accurate.

In Indonesia, the national government continues to allocate a large amount of funds for its poverty reduction and assistance-for-the-poor programs. It spent around US\$2.5 billion in 2006, with a

*Contents of this paper are mainly taken from two research reports (Akhmadi et al 2006; Suryadarma et al 2005). See the references section for titles of the research reports.

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¹This paper does not address the theory of targeting. See, for example, Sumarto & Suryahadi (2001) for a theoretical background on the issue.

similar amount budgeted for 2007. The benefits that the poor receive are numerous: subsidized rice, school scholarship, free healthcare, and direct cash transfer. In addition to the benefits provided by the national government, district governments also allocate a substantial share of their budget for similar programs. Looking at the kind of benefits that the poor receive, there is a very large incentive to be considered as poor in Indonesia. This is especially true for non-poor families whose level of welfare is only slightly above the poor.

Despite the large amount of money for the programs, targeting of these programs has traditionally been based on weak, although relatively costly, methodologies. Two methodologies that are used to identify poor families are proxy means testing for the cash transfer program and simple checklist for the other programs. These methodologies have two main weaknesses. One, the criteria used to identify poor families are uniform for large areas, district-level in the former and national-level for the latter. This means that they are not sensitive to local poverty conditions. And two, the criteria are determined prior to the assessment, which means that everybody could tailor his or her responses during the assessment to be considered poor. These weaknesses are proven to reduce the impact of the programs. As an example, Sumarto & Suryahadi (2001) estimate that 75 percent of the subsidized rice program is received by non-poor families while 50 percent of poor families do not benefit from it.

Given the importance of finding an affordable and reliable targeting system, the SMERU Research Institute pilot tested the use of the community-based monitoring system (CBMS) in 2005 for targeting purposes. This paper provides an overview of the system and its results. The rest of this paper is organized into the following. Section 2 describes the CBMS design. Section 3 provides the welfare indicators. Section 4 contains description of the fieldwork. Section 5 discusses the statistical method chosen to analyze the data. Section 6 lays out the results. The penultimate section mentions the verification of the results and Section 7 concludes.

CBMS design

The CBMS in Indonesia eliminates the weaknesses of the currently employed targeting systems and builds on their strengths. There are four characteristics of the CBMS design.

One, it is a census of families, which means information of every family in the area are collected.

Two, it involves locals as enumerators. The advantages of involving locals include a more accurate description of families because it is harder to provide false information; respondents feel more comfortable talking to familiar people compared to enumerators from outside the area; data collection can be undertaken simultaneously in all areas; and the cost of collecting data is lower compared to using professional enumerators. The challenges, meanwhile, consists of having to provide rigorous training because some enumerators have no experience in conducting data collection. Furthermore, the system uses a simple questionnaire because majority of the enumerators only have nine years of education. Hence, the questionnaire must be comprehensive but easy to be completed.

Three, the CBMS in Indonesia determines the poverty criteria using the collected information. Thus, there is no ex-ante set of poverty criteria which makes it harder for certain respondents to tailor their responses. The poverty criteria are determined using Principal Components Analysis (PCA), which is a statistical technique that identifies commonalities between variables and then aggregates them (Zeller 2004). Further discussion regarding the PCA is contained in Section 5.

The final characteristic is that the CBMS only measures relative poverty as opposed to absolute poverty which requires the use of a poverty line. Relative poverty measure only informs a researcher on the position of a family's welfare compared to other families in an area. Hence, the result of CBMS is a list that contains the rank of every family based on its welfare.

In conducting the pilot testing, SMERU collaborates with the National Family Planning Agency (BKKBN), which is a government

agency whose task is to monitor the implementation of the national family planning program. The main reason for working together with the BKKBN is because it has staffs down to the village level and has been using locals to monitor the family planning activities. In the CBMS activity, the staffs at the village level serve as the supervisor during the data collection while most of the BKKBN enumerators are recruited as CBMS enumerators.

Welfare indicators

The initial welfare indicators consist of 63 variables. A comprehensive list is needed because no welfare indicator is chosen ex-ante to be used for identifying poor families. The 63 variables cover the indicators listed in Table 1.

Fieldwork

CBMS is tested in four villages in two districts in Java: Cibulakan and Parakantugu villages in the Cianjur District and Kedondong and Jungpasir villages in the Demak district. More than half of the enumerators recruited had experience working with the BKKBN. Each enumerator is responsible for collecting data in a hamlet, which, on average, consists of 60-90 families. In terms of education level, most enumerators have nine years of education, followed by 12 years and six years of education. Moreover, the majority are female, and the average age is 30 years.

Fieldwork began with the training of the enumerators, which took place in each village. The contents of the training include familiarizing the enumerators with the questionnaire, interview techniques, and allocating locations for each enumerator. Actual data collection, meanwhile, started the next day. The average data collection length is two weeks in each village.

Statistical method

As mentioned earlier, a factor analysis method called Principal Components Analysis (PCA) is used. In this method, the weight for

Table 1. Welfare indicators collected in CBMS

Type of Information	Indicators
Demographic	Age and sex of household head
	Marital status of household head
	Household size
Education	Education level of household head
	This household has a school-aged member who is out of school
Employment	Number of working-aged household members who are working
	Number of school-aged household members who are working
	The spouse is working
	Occupation that provides the most income in this household
	This household receives income from outside the household
Food Security	Number of meals a day
	Staple food usually consumed
	Household members consume meat, chicken, or fish at least once a week
Health	Type and place of treatment sought during illness
	Main source of drinking water
	Whether drinking water is boiled or not
	Ownership of toilet facilities and type used
	Use of contraceptives among adult/married household members
	Incident of child and/or infant death in the family
	Whether received routine antenatal and/or postnatal care from health officials during pregnancy for each child under 5 years old
	Each child under 5 years old has been immunized.
	Assistance during delivery for each child under 5 years old

Table 1. cont'd.

Type of Information	Indicators
Asset Ownership	Ownership status of house
	House size, number of rooms
	House material and characteristics
	Ownership of durable goods, including productive assets
	Source of light
	Source of cooking fuel
	Number of farm animals
	Whether household members buy new clothing at least once a year
	Access to formal credit market in the last 5 years
	Savings
Political and Security	Participation in last political process at national and local levels
	Whether any member has been a victim of crime in last 12 months, type of crime
	Access to information (television, radio, newspaper)

each asset is determined by the data themselves. Intuitively, principal component analysis is a technique for extracting from a large number of variables those few orthogonal linear combinations of the variables that best capture the common information (Filmer & Pritchett 2001). In addition, Zeller (2004) stated that the major advantage of PCA is that it does not require a dependent or left-hand side variable (i.e., a household's consumption level or poverty status). However, PCA measures only relative poverty whereas absolute poverty is measured by consumption level.

The first principal component is the linear index of variables with the largest amount of information common to all of the variables. Based on the results of this analysis, households can be ranked from

lowest to the highest socio-economic level. We follow Filmer and Pritchett (2001) in calculating the PCA index:

$$A_j = f_1 \times (a_{j1} - a_1) / (s_1) + \dots + f_N \times (a_{jN} - a_N) / (s_N) \quad (1)$$

where f_1 is the 'scoring factor' for the first asset determined by the method, a_{j1} is the j^{th} household's value for the first asset and a_1 and s_1 are the mean and standard deviation of the first asset variable over all households.

Results

Table 2 provides the scoring factor, mean, and standard deviation of the variables in Parakantugu. The mean is zero by construction. Since we are solely using binary variables, the increase in wealth index when a family moves from 0 to 1 in a variable can be shown by dividing the scoring factor with the standard deviation, as shown in the last column. For example, a family that purchases a refrigerator would have its index increase by 0.87. After calculating the scoring factor, it is straightforward to measure the rank of each family in the village compared to the others. The poorest family in Parakantugu has a wealth index of -4.18 while the richest family's wealth index is 12.07.

It is imperative to note that the most important feature of PCA is that it allows one to estimate local specific poverty indicators. Table 3 shows different poverty indicators in the four CBMS villages. While in general, asset ownership variables are the best predictors of poverty in each village, there are quite discernible differences in the types of asset. For instance, non-asset ownership variables that can predict poverty in Jungpasir are: type of floor in house and ownership of private toilet. Meanwhile, in Kedondong, although in the same district as Jungpasir, sex of family head and his/her marital status are more important predictors than toilet type.

There are also different significant poverty indicators in the villages in Cianjur. In Parakantugu, only one non-asset variable is in

Table 2. Scoring factor, mean, and standard deviation of family characteristics in Parakantugu

Variable	Scoring Factor	Mean	Standard Deviation	Scoring Factor / Standard Deviation
Own refrigerator	0.259	0.098	0.298	0.87
Own telephone	0.247	0.065	0.247	1.00
Own fan	0.242	0.145	0.352	0.69
Own air conditioner	0.042	0.002	0.039	1.07
Own satellite dish	0.237	0.078	0.268	0.89
Own DVD/VCD player	0.237	0.194	0.395	0.60
Own color television	0.235	0.495	0.500	0.47
Own black/white television	-0.051	0.110	0.313	-0.16
Own radio	0.131	0.389	0.488	0.27
Own tape recorder	0.187	0.257	0.437	0.43
Own computer	0.091	0.005	0.073	1.24
Own sewing machine	0.152	0.088	0.284	0.54
Own cellular phone	0.096	0.009	0.096	1.00
Own other electronic device	0.186	0.071	0.257	0.72
Own motorcycle	0.210	0.222	0.416	0.50
Own car	0.101	0.018	0.132	0.77
Own bicycle	0.186	0.081	0.274	0.68
Own land	0.020	0.933	0.251	0.08
Own house	0.020	0.939	0.240	0.08
Own chicken	-0.032	0.414	0.493	-0.06
Own goat	-0.033	0.112	0.315	-0.10
Own cow	0.004	0.011	0.104	0.04
Family head is married	0.091	0.846	0.361	0.25
Family head is female	-0.085	0.127	0.333	-0.26
Family head education: elementary	-0.197	0.761	0.426	-0.46
Family head education: junior secondary school	0.120	0.136	0.343	0.35

Table 2. cont'd.

Variable	Scoring Factor	Mean	Standard Deviation	Scoring Factor / Standard Deviation
Family head education: senior secondary school	0.137	0.061	0.240	0.57
Family head education: diploma	0.067	0.005	0.073	0.91
Family head education: university	0.105	0.011	0.104	1.01
Spouse education: elementary	-0.002	0.011	0.104	-0.02
Spouse education: junior secondary school	-0.114	0.649	0.478	-0.24
Spouse education: senior secondary school	0.131	0.132	0.338	0.39
Spouse education: diploma	0.152	0.043	0.204	0.75
Spouse education: university	0.106	0.005	0.068	1.56
Family head is working	0.080	0.950	0.219	0.36
Spouse is working	0.062	0.218	0.413	0.15
At least one school-aged child is working	-0.001	0.006	0.079	-0.01
Family in agriculture sector	-0.032	0.071	0.256	-0.13
Family in industrial sector	-0.156	0.481	0.500	-0.31
Family in trade sector	-0.006	0.032	0.175	-0.03
Family in services sector	0.089	0.168	0.374	0.24
Family receiving transfer (unemployed)	0.125	0.247	0.432	0.29
Own savings	0.244	0.116	0.321	0.76
Received credit from a formal financial institution in the past three years	0.158	0.126	0.332	0.48
Mortgaged assets in the past three years	0.033	0.009	0.096	0.34
Had to sell assets to pay debts	0.023	0.011	0.104	0.23
Eat two meals a day	0.017	0.985	0.121	0.14
Eat meat at least once a week	0.071	0.951	0.216	0.33
Eat fish at least once a week	0.049	0.970	0.171	0.29

Table 2. cont'd.

Variable	Scoring Factor	Mean	Standard Deviation	Scoring Factor / Standard Deviation
Eat egg at least once a week	0.025	0.980	0.141	0.18
Sought modern medical treatment when sick	0.080	0.900	0.300	0.27
Drink water from protected source	0.071	0.945	0.228	0.31
Use private toilet	0.176	0.670	0.470	0.37
Per capita family house size is more than 8 square meters	0.057	0.929	0.256	0.22
Live in dirt floor house	-0.032	0.003	0.056	-0.58
Experienced death of an infant in the past three years	-0.004	0.014	0.117	-0.03
Use electric light source	0.050	0.988	0.111	0.46
At least one school-aged child dropped out of school	-0.009	0.118	0.323	-0.03
High dependency rate (more than half of family members are younger than 15 years old)	0.008	0.035	0.184	0.04
Most members buy new clothes at least once a year	0.164	0.487	0.500	0.33
Victim of crime in the past year	-0.004	0.003	0.056	-0.08
At least one family member voted in the last general election	0.039	0.987	0.114	0.34
See television or newspaper at least once a week	0.155	0.802	0.399	0.39
PCA Index		0.000	2.477	

Table 3. Ten highest-scoring variables in CBMS pilot project villages

Jungpasir		Kedondong	
Variable	Score	Variable	Score
Own fan	0.27	Own color television	0.28
Own color television	0.26	Own fan	0.26
Own DVD/VCD player	0.26	Own DVD/VCD player	0.25
Own tape recorder	0.25	Family head is female	-0.23
Own motorcycle	0.25	Own motorcycle	0.23
Own refrigerator	0.23	Own tape recorder	0.23
Own cellular phone	0.22	Family head is married	0.22
Use private toilet	0.21	Own bicycle or boat	0.22
Own other electronic device	0.19	Use private toilet	0.21
Own radio	0.19	Live in dirt floor house	-0.21
Live in dirt floor house	-0.19		

Parakantugu		Cibulakan	
Variable	Score	Variable	Score
Own refrigerator	0.26	Own refrigerator	0.26
Own telephone	0.25	Own color television	0.26
Own savings	0.24	Own cellular phone	0.26
Own fan	0.24	Own DVD/VCD player	0.23
Own satellite dish	0.24	Own fan	0.22
Own DVD/VCD player	0.24	Own savings	0.22
Own color television	0.24	Own tape recorder	0.20
Own motorcycle	0.21	Use private toilet	0.20
Family head education: elementary	0.20	Eat meat at least once a week	0.18
Own tape recorder	0.19	Own motorcycle	0.18

the top ten: education level of family head. In Cibulakan, meanwhile, consumption pattern is included in the ten most important variables. Thus, we have provided evidence that there are indeed different poverty indicators among villages. More importantly, these locally specific indicators can be unearthed using the methodology we employed.

Verification of results

The last step that should be undertaken is to ensure that the results could accurately identify poor families. Therefore, we verified the results through Focus Group Discussions (FGDs) with village residents in Cibulakan and Kedondong.

The verification shows that around 70-80 percent of families considered poor by the CBMS are also considered poor by the FGD participants. This means that leakage would be reduced to merely 20-30 percent should CBMS be used as the targeting system, compared to 75 percent leakage that is experienced in the subsidized rice program (Sumarto & Suryahadi 2001).

Conclusion

The purpose of this pilot project is to introduce a better poverty monitoring system to policymakers in Indonesia. Given Indonesia's size, both geographical and population, it is important that the new monitoring system is easy to administer and can be expeditiously processed to provide the stakeholders with information on poverty conditions of an area.

Since poverty is very much a local phenomenon, the new system that this project introduces is sensitive to local poverty conditions and ensures that local residents play a significant role in carrying it out. Involvement of locals is important for another reason: the system can be conducted simultaneously in every village in Indonesia. This means that there is a possibility that data collection for the whole country can be finished in less than a month.

Since the main purpose is to identify poor families in a village, it is very important that the methodology used is able to do so. Since recording detailed family consumption expenditure is out of the question, we employed 63 indicators as proxy for welfare. They range from asset ownership and health characteristics to political participation and access to information. We processed these characteristics using the PCA method and calculated the welfare score of every family in the four villages. We found that asset ownership variables are the most significant welfare indicators although education, health, and consumption patterns are also important.

In conclusion, we believe that the chosen methodology was successful in enabling us to identify the poor in every village. We have also demonstrated that given enough support and supervision, locals are able to conduct their own poverty monitoring.

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Socioeconomic Determinants of the Nutritional Status of Children: An Ordered Probit Analysis*

Michael David Son and Ralph Menchavez

Introduction

Malnutrition comes in four forms: (1) undernutrition or protein-calorie malnutrition; (2) secondary undernutrition or chronic energy deficiency; (3) micronutrient deficiency; and (4) overnutrition. While the widespread problem in the First World countries is overnutrition, with its related diseases like hypertension, heart disease and diabetes, it is undernutrition, with its two other variations, which is identified as the leading problem in the developing world countries (Felps 1992). In fact, the World Health Organization (WHO) estimated in 1998 that between half and two-thirds of deaths among children less than five years of age in developing countries can be attributed to undernutrition, which occurs “when an individual simply does not get enough food. He or she is short on the calories or protein necessary for normal growth, body maintenance, and the energy necessary for ordinary human activities” (Gopalan & Rao 1979; quoted by Foster 1992, 16).

The Philippines is clearly not exempt from the malnutrition problem. Data from 1987 National Nutrition Survey (NNS) conducted

*Excerpts from the undergraduate thesis submitted to the faculty of the Economics Department, Ateneo de Manila University. The thesis was awarded by the university as the best undergraduate thesis among its batch.

by the Food and Nutrition Research Institute (FNRI) show that the dietary intake of children six months to six years old (excluding those who were fully or partially breastfed) was only about 65 percent of daily requirements. In 1990, the National Anthropometric Survey conducted by the FNRI revealed that among preschool children, 14 percent were underweight, 11.6 percent had less than the average height for their age and 9.0 percent recorded less than the average weight for their height (Herrin 1992). According to the National Statistics Office (NSO), the prevalence of malnutrition among children less than five years of age continued to decline to a level of 8.4 percent in 1996 but rose to 9.2 percent in 1998 due to the onset of the Asian financial crisis and the El Nino phenomenon (Reyes 2001). The most recent (2003) NNS conducted by the FNRI reported that 27.6 percent of children aged five years and below are underweight while 30.4 percent are short, and 5.5 percent are thin. Among children six to ten years of age, 26.7 percent are underweight while 36.5 percent are short. Finally, for the 11-19 year-old group comprising preadolescents and adolescents, 15.5 percent are underweight.

The condition of nutrition in the Philippines thus remains to be a grave issue for policy-makers to consider and a compelling area of study for research aimed at its alleviation.

Objectives of the study

This study aims to answer the following questions:

1. How do socioeconomic variables affect the nutritional status of children in certain communities in the Philippines?
2. How effective is the targeting of various health intervention programs with respect to children's nutritional status?
3. What policy implications suggested by the results of the study?

Significance of the study

A number of reasons urge these writers to conduct a study on the socioeconomic determinants of the nutritional status of children, and

in so doing redress the country's problems of malnutrition. The writers thus explain the rationale for conducting such a study by justifying every aspect of the research problem.

Undernutrition

Undernutrition is a pressing concern being addressed by the government. The Medium-Term Philippine Development Plan (MTPDP) of the current administration, under the section *Responding to Basic Needs of the Poor*, stresses the need for protection of the vulnerable, specifically of children. Some of the measures outlined by the MTPDP include supporting the Bright Child Program as a holistic approach in providing interventions on food, nutrition, and health, among others; and putting greater emphasis on child health and nutrition in general. These measures echo Target 2 of the United Nations (UN)'s Millennium Development Goals (MDGs): Halve the proportion of population below the minimum level of dietary energy consumption and halve the proportion of underweight children under five years of age. It is interesting to note that according to the Summary of Progress Towards Meeting the Millennium Development Goals, this target only has a low probability of being met, further asserting the gravity of the situation.

The effects of undernutrition further assign importance to its addressing. First, inadequate nutrition diminishes the body's immune response, which may, in turn, lead to infection. As such, undernutrition causes intestinal disorders like diarrhea, and other diseases like pneumonia, influenza, and bronchitis—largely preventable diseases that account for over 40 percent of childhood deaths in Third World countries (Foster 1992; Dever 1983, cited by Foster 1992).

Also, undernutrition has been linked to serious physiological defects. Male adults subjected to undernutrition have been found to experience loss of memory, difficulty concentrating, and problems with physical dexterity (Keys et al. 1950, cited by Foster, 1992). For children, on the other hand, undernutrition and its associated diseases may result in growth deficits in height and brain size that are never

made up. On the contrary, children who are better nourished will be more likely to be alert, active, and demanding of his or her environment and will therefore be more likely to advance intellectually to his or her fullest capacity (Myers 1988, cited by Foster 1992; Foster 1992, 26).

Furthermore, child undernutrition leads to poor school performance. Undernourished children have shorter attention spans, which make him or her apathetic to learning. They also miss more school days due to illness. Better health and nutrition leads to earlier and longer school enrolment, better school attendance, and more effective learning for proper educational development (Foster 1992; Alderman et al 2001; Todaro and Smith 2003).

Lastly, undernutrition places considerable burden on the macroeconomy. A level of dietary intake which can permit only substandard growth leads to loss of function relating to cognitive ability and a substantial decline in work time due to sickness. This reduction in peak work capacity and diminished labor productivity consequently exerts downward pressure on national income (Arcand 2001; Foster 1992; Gopalan 1992; Payne 1992).

Children

The vulnerability of children to undernutrition creates moral impetus for making them subject of the study. The *2001 Human Development Report* of the United Nations Development Program reported that in 1998 alone, before reaching the age of five 11 million children died from preventable causes while as much as 163 million children under the age of four are underweight. While adults do die of hunger during a famine, the majority of deaths, whether from famine or chronic undernutrition, occur among preschoolers. Thus children, by far the most defenseless to undernutrition, are the top priority for any aims at intervention (Foster 1992; WHO 1998).

The irreversibility of undernutrition's effects further necessitates addressing malnutrition during early childhood. Studies agree that there is a level of deprivation in very early life at which some

irreversible damage is done to brain function and growth. In addition, many studies have shown that children's peak work capacities are proportional to body weight, and more importantly, this holds when they become adults (Payne 1992).

Finally, from a statistical standpoint, the nutritional status of children is a rich and valid variable. Human physical growth and development are highly responsive to changes in dietary intake and is especially true for children under five years of age, when growth is so rapid. As such, assuming similar intra-household allocation of resources among households in a community, growth performance of children becomes a suitable and reliable indicator of community nutritional status (Foster 1992; Gopalan 1992).

Socioeconomic determinants

While most studies on health and nutrition of both children and adults look into the effects of nutrient consumption and food availability, few studies focus on the relationship between nutritional status and non-nutritional factors such as educational attainment and availability of water and sanitation, among others. Among these already few studies looked into socioeconomic aspects, fewer still give emphasis to children's nutritional status: most either focus on adult health on the one hand, or infant mortality on the other. In response, this study aims to address the knowledge gap regarding the relationship between the nutritional status of children and their socioeconomic environment.

In so doing, the study responds to the difficulty of measuring malnutrition. By examining the link between nutritional status and socioeconomic determinants in a community, one can find a criterion or set of criteria that can be sufficiently used to predict the nutritional status of children in other areas. This circumvents the difficulties in estimating nutrition and will especially be useful in assessing the nutritional status of children in areas where there is a lack of necessary data (Anand and Harris 1992).

Moreover, Phillips Foster, in his book *The world food problem: tackling the causes of undernutrition in the third world* (1992), insists

that nutrition intervention programs treat only the symptoms and do not treat the causes of hunger. Anand and Harris (1992) add that in order to design policies that attempt to alleviate undernutrition, it is important to first understand the relationship between economic and social characteristics and undernutrition. Knowing which variables significantly affect nutrition status would provide valuable practical leads for combating the causes of undernutrition in the community (Gopalan 1992).

Scope and limitations

The study will employ only one anthropometric proxy for nutritional status: weight-for-age. The choice is thus made not only because weight-for-age is the standard used in the CBMS-Philippines data set to be used, but also because weight-for-age is an apt indicator of a child's nutritional status, as low levels of such is a symptom of present undernutrition. Birth weight is more closely linked to undernutrition of mothers, while height and height-for-age are symptoms of past undernutrition (during growth years) and as such are more apt as indicator of nutritional status of adults and older children (Foster 1992).

Finally, the data set acquired is only cross-sectional. Panel data is not available. As such, no conclusions can be made about the impact of intervention programs. The data set is also confined to certain barangays or municipalities and are by no means said to be representative of the entire country. Therefore, there can be no claims for generalization beyond the locality in question and the results will be interpreted only insofar as the subjects of the study are concerned.

Theoretical framework

Various studies treat the nutrition problem as a multi-factorial one, necessitating action based on a multisectoral approach alongside policies aimed directly at food subsidization and nutrient fortification (Payne 1992; WHO 1998). Anand and Harris (1992), Gopalan (1992) and Tomkins and Watson (1989; cited by Payne 1992) agree that an individual's command over resources greatly influences his or her

health, and thus suggest approaching the problem of undernutrition through income subsidies, employment provision, strategies to improve housing, and ensuring access to health care and medical care. In addition, Srinivasan (1992) and the WHO (1998) highlight the importance of clean water in the prevention of disease and maintaining health, while Todaro and Smith (2003) underscore the importance of parental literacy in the production of child health. Finally, Thomas (1994) and Gertler and Zeitlin (2002) add that the productivity of an individual's production of health depends on individual characteristics such as education, age, gender, and family background, and household and community characteristics.

In response to the above propositions, the writers at this point propose a multidimensional approach to the analysis of nutritional status. Using a theoretical framework synthesized from J. R. Behrman and A. B. Deolalikar's "Health and Nutrition" (1988), Paul Gertler and Jennifer Zeitlin's "Do Investments in Child Education and Nutrition Improve Adult Health?" (2002), and Leonid Federov and David E. Sahn's "Socio-Economic Determinants of Children's Health in Russia" (2003), which in turn are based on Michael Grossman's seminal work, "On the Concept of Health Capital and the Demand for Health" (1972). In the work cited, Grossman suggested that health can be thought of as a form of human capital: an individual's health stock at any point in time is determined by an initial genetic endowment, subsequent behavioural choices (for example, nutrition, medical care, smoking, exercise), and exogenous shocks from the public health environment (for example, contracting cancer from toxic waste).

Household preference

The determinants of an individual's health and nutrition usually are decisions made by the individual or the household in which he or she lives—given assets, prices, and community endowments. Therefore a natural starting point is the determination of individual health and

nutrition at the household level.

The model is structured assuming that the household maximizes a single preference function subject to constraints (to be enumerated below). For simplicity, a static or one-period model is considered. The researchers now turn to an algebraic statement of the one-period, household model with constrained maximization of a joint utility function.

Assume that the household has a preference function:

$$U = U(H^i, C^i, C^p, T_L^i, E^{i/c}, S; x), \quad i = 1, \dots, I \quad (1)$$

where

H^i is the health of household member i ,

C^i is the consumption of household member i of private goods,

C^p is the consumption of household member i of pure public goods,

T_L^i is the leisure time of household member i ,

$E^{i/c}$ is the education of household child i ,

S is the number of surviving children,

x are taste norms, and

I is the number of individuals in the household.

(All of these variables and others defined below may be vectors with multiple dimensions.)

Utility is presumed to depend on the health of each of the household individuals, with a negative impact of poor health and mortality. Private goods consumption, pure public goods consumption and leisure of each household member have positive impact. The education of each child is included because of parents' possible altruistic interests and concern about the child's expected prospects as an adult which may affect the parents' material well-being in their old age. The number of surviving children is presumed to improve parental welfare whether for altruistic, insurance, or other reasons.

Finally, the utility function is conditional on norms, here assumed to be exogenous. What follows are the functions on which the maximization of the household preference function is constrained.

Production function determining health

The *health* of the i^{th} individual is produced by a number of choices relating to the consumption and time use of that individual, the education of that individual and of the key person(s) in the household making and implementing health-related decisions, and the individual, household, and barangay endowments:

$$H^i = H(N, C^i, C^p, I, E^i, E^m, T^i_H, T^m_H, h^i, y, W), \quad (2)$$

where

N is the nutrient intake of the i^{th} individual,

E^i is the education of the i^{th} individual,

E^m is the education of the person—often the mother—who makes critical health-related

decisions and implements them within the household, hereafter referred to as “mother”),

T^i_H is the time of the i^{th} individual devoted to health-related procedures,

T^m_H is the mother’s time devoted to health-related procedures,

h^i is the endowment of the i^{th} individual

y is the endowment of the household

W is the endowment of the barangay, and

the other variables are defined above.

Nutrient intakes (N) are emphasized because of their presumed importance in health determination, and its impact on health is assumed to be positive. Other consumption items (C^i, C^p) include goods and services with a range of direct effects on health (e.g. medicine, cigarettes, driving vehicles). The household size (I) is included to

represent possible scale and congestion effects. The individual's time use is included because the nature of his or her occupation (not explicitly included above), the extent of leisure time (T_L^i) and the time devoted to health-related activities (T_H^i) may have strong health effects. The individual's education (E^i) and that of the mother may affect health through affecting the choice of health practices, through better information, and through affecting the effectiveness of the use of given health-related inputs (e.g., food preparation, disease treatment, etc.).

The last three variables, the individual's endowments (h^i), the household endowment (y), and the barangay endowments (W), differ from the other variables in that they are not presumed to be the household's choice variables during the period being modeled. Examples, respectively, would be: individual's age, initial health and genetic make-up; the household's tenure status and type of housing; and access to water and basic utilities, and the presence of medical, health care and waste disposal facilities in the barangay. While the individual's endowments may posit direct effects to his or her health through biological mechanisms, the endowments of the household and the barangay affect the individual's health by way of its claims to the individual's disease environment and subsequently, its impact on the individual's nutrient-utilization capabilities.

Income constraint

In the modeled period, the household faces a budget constraint:

$$P_C C + SP_E E^i + X = SP_L^i (T^i - T_E^i - T_L^i - T_H^i) + SY + F, \quad (3)$$

where

P_C is the price (or vector of prices) of consumption good(s) C ,

P_E^i is the cost of education specific to child i ,

X is all other household expenses for the period (e.g. rent, utilities expense, etc.),

P_L^i is the wage rate of the i^{th} individual,
 T^i is total time of the i^{th} individual,
 T_E^i is the school time of the i^{th} child,
 Y is the non-labor income of the i^{th} individual, and
 F is transfers less taxes (assumed to be lump-sum for simplicity).

The reduced form

Assuming that the underlying functions have desirable properties in order to maximize (1) subject to (2) and (3), the constrained maximization of preferences leads to the reduced form demand function for health:

$$H^i = H(N^i, C^i, O^i, I, E^i, E^m, T^i, T_L^i, T_H^i, T_E^i, T_{H^i}^m, P_C, P_E, R, P_L^i, Y, F, h^i, y, W), \quad (4)$$

which provides a consistent framework within which to examine the impact of changes in, among others, household and barangay endowments, on the health-related consumption of different types of individuals. Equation (4) thus gives the relationship of primary interest in this study.

Research methodology

Since the study focuses not merely on the incidence of malnutrition in a community but also on the nutritional status of the individual child, health (H^i) would be represented by the anthropometric proxy of nutritional status. The children's weight and height, were not recorded in the data set: the nutritional status of children aged five years and below was simply assigned into categories. The writers thus employ an econometric analysis involving discrete choice variables, the possible outcomes being that the child is (1) undernourished (either mildly, moderately or severely), (2) of normal nourishment, or (3) overnourished. Owing to the inherent relatedness of the possible outcomes—the categories of nutritional status being a continuous spectrum exhaustive of possible outcomes—an ordered

choice estimation technique is applied. As such, the H^i at the left-hand side of equation (4) is operationalized as an ordered dependent variable with values representing the possible qualitative outcomes for the individual child's nutritional status outlined above.

Consequently, we assume that the endogenous disturbance to the function is normally distributed, which allows the use of a parametric ordered probit estimation technique. While using an ordered logit technique can also be considered, we chose the probit method because of the ease in interpreting its results—as probability is easier to interpret than odds—thereby benefiting policymakers. The necessary statistical software which will allow for the evaluation of multiple integrals—a computational obstacle to the probit method—is also available.

Specifying the reduced form equation (4) as an ordered probit function and estimating the function using data gathered would allow for the estimation of probability changes associated with differences in the right-hand variables (i.e., socioeconomic determinants present in the individual, household and barangay) on the severity and direction of malnutrition. This would then fulfill the first objective of the study, which is to see how socioeconomic variables affect the nutritional status of the individual child.

The right-hand variables shall be operationalized as afforded by the data set. The writers note, though, that since the data was obtained from an external source, the survey was designed without the proposed theoretical framework in mind. As such, certain variables may be modified or instrumentalized, if not omitted altogether. Other information available from the data set would have to stand as proxies to measuring certain variables. For instance, since nutrient intake (N) was not measured, the number of meals eaten in a day or the household's experience of food shortage, which is included in the data set, may be considered instead. Some variables, like time of the individual devoted to health-related procedures (T_H) may be dropped because children aged five years and below, the subjects of the study, can be assumed to exert almost no control in their own health

production.

In looking into the targeting and association of various health intervention programs with children's nutritional status, the household's participation in feeding programs will be included as a dummy variable in the vector of household endowments (y).

With the model properly estimated, an understanding of the dynamics between health and nutrition production and its significant inputs would be established, greatly informing policy recommendations and ultimately improving the nutritional status of children in the Philippines.

The data

Data for this paper come from the 2003 Community-Based Monitoring System (CBMS) survey of the Municipal Government of Sta. Elena, Camarines Norte and the 2001 CBMS Survey of Barangay Salvacion, Puerto Princesa City, Palawan. Data were obtained from the CBMS Network Coordinating Team of the Angelo King Institute for Economic and Business Studies.

The CBMS Survey of Sta. Elena was conducted in August, 2003 and covers the entire population of 7,521 households from all 19 barangays in Sta. Elena, Camarines Norte. Of the 38,091 population, 6,244 are children aged five years and below and are thus the subjects of the study. On the other hand, the CBMS Survey of Brgy. Salvacion was completed in November, 2001 and covers Brgy. Salvacion's population of 191 households. Of the 953 residents, 176 are children aged five years and below and are likewise included in this study.

Nutritional status of the child, represented by the variable MNUTIND, is operationalized as a discrete choice variable, and is based on a table of standard weight-for-age. The table supplies weight intervals or boundaries (in kilograms) according to age (in months) that correspond to the categories of nutritional status. After data is gathered at the household level, barangay health workers supply information as provided by records of the barangay health center regarding the nutritional status of the children in the household.

Most of the other variables are dummies taking on the value of either 1 or 0, depending on the information supplied. Also included are continuous variables like age and income, which will be used as regressants, together with the dummy variables mentioned, in the reduced form equation being estimated.

The variables with the -MOM suffix pertain to the mother, or the person assumed to make critical health-related decisions and implements them within the household. The variable is assigned to the actual mother for households with distinct nuclear families. For grandchildren living with grandparents only, the grandmother is assumed to be their caretaker. For households without a single matriarchal figure, the household head is assumed to be the "mother." For households where the identity of the "mother" is ambiguous, no assumptions are made, and these are then omitted by the regression software.

Empirical model

Based on the data provided by the CBMS surveys, the writers specify the reduced form function (4) into an empirical model, where nutritional status of the individual child (MNUIND) is expressed as an ordered probit function of socioeconomic determinants:

$$MNUIND = H(\text{SEX}, \text{MWJOBPROP2}, \text{INCOMETOTALPC}, \text{WATERSAFE}, \text{TOILSAN}, \text{ELECHOURS}, \text{FSHORT}, \text{M05FEED}, \text{AGEMOM}, \text{SCHOOLNGMOM}, \text{JOBINDMOM}, \text{COOPASSOCMOM}), \quad (5)$$

The model includes a dummy variable for sex, a characteristic representative of the individual child's endowments, as well as dummies for access to safe water and sanitary toilet facilities, and number of hours of access to electricity per day to capture the effects on nutrition of endowments to the household and to the community. A variable measuring total household income per capita is also included to measure effects of the budget constraint relative to household size, as are dummies for the experience of food shortage

and participation in feeding programs, taken as proxies for nutrient intake. The dummy for participation in feeding programs is likewise representative of the consumption of a public good. Moreover, variables representative of characteristics of the mother are included, like employment status to control for the effects on nutrition of time devoted to health-related procedures, age and schooling to examine effects of education and accumulation of experience, and membership in community organization to look into possible effects of social capital. A variable measuring the proportion of household members, excluding mother, who is employed is also included to capture the effects of all other time-related variables included in the reduced form model.

Analysis of results

Descriptive statistics

Table 1 shows the magnitude and proportion of the population of children aged five years and below in all nineteen barangays of Sta. Elena, Camarines Norte distributed in each of the four categories of nutritional status defined in the survey. Note that the children of mild undernourishment and normal nourishment are lumped together in one category, as this was the manner of recording employed by the survey. Of these barangays, Poblacion, or the town proper of Sta. Elena, registers the highest proportion of children reporting either mild or normal nourishment, with 99.12 percent of the population of children falling under this category, while the proportion for the same category is smallest for Bulala, at 76.33 percent. Also, Bulala and Kabuluan have the highest proportion of moderately undernourished children, reporting 12.33 percent and 12.08 percent, respectively. As observed, the proportion of children with severe undernutrition does not vary largely across barangays, with the proportion ranging from 0% (in ten of the nineteen barangays) to 2.61 percent in Kagtalaba. One can also see that overnourishment is most pronounced in Basiad, with 14.06 percent of its children falling under the category, followed by Bulala with 11.33 percent.

Table 1. Distribution of children across categories of nutritional status (Sta. Elena, Camarines Norte)

	Basiad Camarines Norte		Bulala Camarines Norte		Don Tomas Camarines Norte		Guitol Camarines Norte		Kabuluan Camarines Norte	
	Magnitude	Proportion	Magnitude	Proportion	Magnitude	Proportion	Magnitude	Proportion	Magnitude	Proportion
Severely Undernourished	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Moderately Undernourished	7	1.58	37	12.33	0	0.00	14	12.96	29	12.08
Mildly Undernourished and Normal Nourishment	372	84.35	229	76.33	326	97.60	94	87.04	209	87.08
Overnourished	62	14.06	34	11.33	8	2.40	0	0.00	2	0.83
Total	441	100.00	300	100.00	334	100.00	108	100.00	240	100.00
	Kagtalaba Camarines Norte		Maulawin Camarines Norte		Patag Ibaba Camarines Norte		Patag Ilaya Camarines Norte		Plaridel Camarines Norte	
	Magnitude	Proportion	Magnitude	Proportion	Magnitude	Proportion	Magnitude	Proportion	Magnitude	Proportion
Severely Undernourished	5	2.28	2	0.46	0	0.00	2	2.25	1	0.45
Moderately Undernourished	9	4.11	39	9.05	0	0.00	8	8.99	24	10.91
Mildly Undernourished and Normal Nourishment	203	92.69	390	90.49	100	99.01	79	88.76	194	88.18
Overnourished	2	0.91	0	0.00	1	0.99	0	0.00	1	0.45
Total	219	100.00	431	100.00	101	100.00	89	100.00	220	100.00

Table 2, on the other hand, presents data from the single barangay of Salvacion, Puerto Princesa in Palawan. In this data set, the children of both mild and normal nourishment are assigned to distinct categories. One can see that as much as 26.71 percent of the children in Salvacion are malnourished, with 22.16 percent reporting mild undernourishment.

Table 3 shows the statistical summary in terms of means and standard deviations of variables used in the study for the ten barangays whose regression results are reported in the following section. From the given means, one could see that most barangays have an almost equal number of boys and girls; only in San Lorenzo and Tabugon do girls outnumber boys. The inadequate access to safe water in Basiad is quite noticeable as more than half of its children do not have access to safe water, defined as water coming from the community water system, deep wells or artesian wells. This is compounded by poor access to sanitary toilet facilities in Basiad, as well as in other barangays. For eight out of the ten barangays, even if most households have toilets, less than half of the population of children has access to sanitary toilets, defined as shared or private toilets with sealed flush.

The high occurrence of food shortage experienced within the six months prior to administering the survey in Brgy. Salvacion may

Table 2. Distribution of children across categories of nutrition (Brgy. Salvacion, Puerto Princesa, Palawan)

	Salvacion Palawan	
	Magnitude	Proportion
Severely Undernourished	0	0
Moderately Undernourished	6	3.41
Mildly Undernourished	39	22.16
Normal Nourishment	129	73.30
Overnourished	2	1.14
Total	176	100.00

Source: CBMS Survey 2001, Brgy. Salvacion, Puerto Princesa City, Palawan.

Table 3. Summary of means and standard deviations of variables (Sta. Elena, Camarines Norte)

	Basiad Camarines Norte		Butlala Camarines Norte		Don Tomas Camarines Norte		Kabuluhan Camarines Norte		Maulawin Camarines Norte	
	Mean	Standard Dev.	Mean	Standard Dev.	Mean	Standard Dev.	Mean	Standard Dev.	Mean	Standard Dev.
Sex of child	0.5397	0.4990	0.5067	0.5008	0.5868	0.4931	0.5167	0.5008	0.5360	0.4993
Proportion of household members excluding mother employed	0.1730	0.0910	0.2010	0.0900	0.2130	0.0900	0.2100	0.0920	0.2040	0.0970
Access to safe water	0.3923	0.4888	0.7700	0.4215	0.5778	0.4946	0.8917	0.3115	0.5522	0.4978
Access to sanitary toilet facility	0.4014	.4907	0.4667	0.4970	0.4042	0.4915	0.5958	0.4918	0.3039	0.4605
Access to toilet facility ¹	0.5011	0.5006	0.5167	0.5006	0.9940	0.0773	0.9500	0.2184	0.6543	0.4762
Total household income per capita	4590.4039	5667.2514	5236.4529	4616.6815	4489.5958	3476.7850	9207.7489	7226.7250	9048.8496	7916.9655
Food shortage within last six months	0.0068	0.0823	0.0800	0.2717	0.0000	0.0000	0.0333	0.1799	0.1949	0.3966
Feeding program participation	0.0091	0.0949	0.6333	0.4827	0.0240	0.1531	0.8958	0.3061	0.1044	0.3061
Age of mother	32.6848	7.8209	33.0033	9.2282	30.8413	6.6207	32.1458	9.5466	32.3039	8.4939
Years of schooling of mother	9.2808	2.9583	9.1200	2.5272	9.4820	1.9920	10.4583	2.7577	8.7935	2.4469
Employment status of mother	0.1451	0.3526	0.2333	0.4237	0.0868	0.2820	0.1292	0.3361	0.2390	0.4270

¹Variable not included in empirical model; included in table only for illustration purposes.

Table 3 (cont.) Summary of means and standard deviations of variables (Sta. Elena, Camarines Norte and Salvacion, Puerto Princesa, Palawan)

	Plaridel Camarines Norte		Poblacion Camarines Norte		San Lorenzo Camarines Norte		Tabugon Camarines Norte		Salvacion Palawan	
	Mean	Standard Dev.	Mean	Standard Dev.	Mean	Standard Dev.	Mean	Standard Dev.	Mean	Standard Dev.
Sex of child	0.5364	0.4998	0.5177	0.4999	0.4991	0.5002	0.4901	0.5009	0.5170	0.5011
Proportion of household members excluding mother employed ¹	0.2100	0.0870	0.1930	0.1000	0.2060	0.2050	0.1764	0.1195	—	—
Access to safe water	0.2500	0.4340	0.7689	0.4217	0.7772	0.4163	0.5968	0.4915	0.5568	0.4982
Access to sanitary toilet facility	0.4455	0.4981	0.8828	0.3218	0.4567	0.4984	0.3992	0.4907	0.4318	0.4967
Access to toilet facility ²	0.7182	0.4509	0.9222	0.2680	0.5092	0.5001	0.8182	0.3865	0.4489	0.4988
Total household income per capita	8312.9790	8650.3623	15629.5928	23787.4486	13214.3463	45985.6690	7727.7930	9567.8467	8463.7995	5443.5747
Food shortage within last six months	0.0000	0.0000	0.0016	0.0400	0.0267	0.1613	0.0395	0.1952	0.6023	0.5023
Feeding program participation ¹	0.0364	0.1876	0.1132	0.3169	0.2127	0.4094	0.0000	0.0000	—	—
Age of mother	32.9635	8.9231	32.5883	8.2922	32.8783	9.7016	33.4071	8.6875	31.0682	7.5355
Years of schooling of mother	9.9452	2.3061	10.6571	2.9784	9.5171	2.7576	9.5257	2.4410	10.1591	3.1583
Employment status of mother	0.2283	0.4207	0.2245	0.4174	0.1889	0.3916	0.2925	0.4558	0.3011	0.4723
Membership of mother in community organization ³	—	—	—	—	—	—	—	—	0.46022	0.51114
Number of hours of access to electricity per day ³	—	—	—	—	—	—	—	—	1.03409	1.76278

¹ Variable present in data from Sta. Elena, Camarines Norte only.² Variable not included in empirical model; included in table only for illustration purposes.³ Variable present in data from Brgy. Salvacion, Puerto Princesa, Palawan only.

have yielded a relatively high case of undernourishment, with as much as 25.57 percent of the children in Salvacion being undernourished. The fact that Brgys. Bulala and Kabuluan enjoy the highest proportion of participants in the feeding program, with proportions of 63.33 percent and 89.58 percent, respectively while at the same time having high proportions of moderately malnourished children, may point to adequate site targeting, i.e., programs are implemented where they are needed.

Most barangays have approximately one-fifth of their household members excluding mothers employed. So on the average, in a family of five, at least one person is working and providing for the rest. Also, most mothers are in their early 30s, and so can still be considered young and able to learn and apply new methods of caring for children. It should also be noted that most mothers in these areas had not been able to finish secondary schooling, as the mean for years of schooling never exceeded 11. This may have influenced the low incidence of mothers employed, with these proportions ranging from 8.68 percent in Don Tomas to only 30.11 percent in Salvacion.

Ordered probit results

Don Tomas, having only children who were either overnourished or of normal nourishment (see Table 1), was estimated using binary probit instead. Results (Table 4) showed that residuals are normally distributed at a level of significance of less than 1 percent for all barangays, thereby validating the assumption of normal distribution and allowing for the use of parametric estimation.

Reporting separate results for each barangay fulfils the very purpose of the survey: supplying community-based information in order to monitor trends specific to the community and guide the formation of effective policy. This also allows for comparability between data for the barangays of Sta. Elena and Brgy. Salvacion. Different sets of variables appear to be correctly specified for certain barangays, and as such, presence of variables is not uniform across all regression equations. The LR statistic and LR index for each

Table 4. Maximum Likelihood Estimates of Coefficients in Binary Probit Regression
Dependent Variable: Nutritional Status

	Don Tomas Camarines Norte
Sex of child	-0.799886* (0.406708)
Proportion of household members excluding mother employed	-1.919054 (2.257867)
Total household income per capita	0.0000535 (0.0000428)
Access to safe water	-0.065774 (0.447503)
Access to sanitary toilet facility	0.898117* (0.465518)
Age of mother	-0.047855* (0.022548)
Years of schooling of mother	-0.074506 (0.078890)
Employment status of mother	0.670754 (0.605000)
S.E. of regression	0.145763
Sum squared residuals	6.926503
No. of included observations	334

*** significant at the 1% level
 ** significant at the 5% level
 * significant at the 10% level
 (standard errors reported in parentheses)

equation are also indicated in the table. In the interest of space, only regression results in barangays where the LR statistic is accepted at the 10 percent level of significance are presented here, as the data from the remaining barangays do not meet acceptable statistical criteria. Accordingly, reported only are coefficients (and standard errors) of the estimated equation for each of nine barangays in Sta. Elena,

Camarines Norte and the single barangay of Salvacion in Puerto Princesa, Palawan.

Sex of the child appears to be significant in explaining the nutritional status of children in four of the ten barangays. Male children have a higher probability of being of normal nourishment in Bulala, Kabuluan and Salvacion, most especially, the coefficient in Salvacion being accepted at the 1 percent level of significance. Anecdotal evidence from Salvacion attributes this to the larger appetite observed of male children relative to female children. This may also be explained by the theory mentioned earlier: that there are physiological and genetic differences between people—here put forth in terms of gender difference—in the way their bodies harness food nutrients.

This intrapersonal variation clearly cannot be captured by having a single standard of nutritional status for both male and female children. For Don Tomas, though the coefficient is negative at 5 percent, the same is true: male children have a higher probability of being of normal nourishment, since Don Tomas only has normally nourished and overnourished children. This also shows that there are inherent biases in child-rearing within the household, usually favoring one gender over another.

The proportion of household members, excluding the mother, who are economically active in the last twelve months evidently exerts a negative effect on the nutritional outcome of the population of children in Basiad, the coefficient being significant at 1 percent. This means that as the proportion of working household members (excluding the mother) increases, the probability of being undernourished for the children of that household also increases. This can be explained by considering this variable, as mentioned, as a proxy for time devoted to health care of children. Working requires time outside of the house and necessarily, takes away time that could have otherwise been used to supervise the eating habits and respond to the health needs of very young children. Having only one or a few adult members staying home may exert downward pressure on children's nutritional status, especially as the number of children

increases relative to the number of members who devote full attention to the care of children. The opposite, however, is true for Plaridel, where the coefficient is positive at 5 percent. In this particular barangay, absence from the home does not have an adverse relation to a child's nutritional status and may be compensated for by better household management, though the contrary is observed in most of the other barangays.

It was statistically verified in Basiad and Salvacion that income exerts a positive effect on the probability of better nourishment, as food security and the capacity for the medication of illnesses accompany higher levels of income. More affluent households can also purchase assets that support health, like refrigerators for keeping food safe and readily available. However, the same cannot be said for Plaridel and San Lorenzo, where the effect of income per capita is significant but negative. This may be because higher income levels can also mean more time invested in economic activities, hectic work schedules of parents, and consequently, less time with children at home. Income does not seem to be significant in six out of ten barangays, thereby affirming for these locales the conjecture of Behrman and Deolalikar (1987) that income does not exhibit as great an effect on nutrition as do other socioeconomic factors.

Access to safe drinking water shows a significant effect in explaining nutritional status of children in Plaridel, San Lorenzo, and more so in Basiad. The positive sign of the coefficients for these three barangays agrees with intuition: safe drinking water would more certainly protect children from infection and diseases and would subsequently increase their weight-for-age, than would water coming from dug or shallow wells, rivers, or streams.

A similar trend can be observed with sanitary toilet facilities. In Don Tomas and Maulawin, having access to a sanitary toilet significantly increases the probability that a child is not undernourished. The positive effect observed in both barangays is as expected: adequate sanitation facilities control the disease environment and thus serve to assist the preservation of health and the maintenance

of weight among children.

Ironically, number of hours of household access to electricity does not accompany greater chances of nutrition. It is surprising that although this is a significant variable for Salvacion, it implies an inverse relationship. Counter-intuitive as it may be, this only shows that electricity does not directly influence nutritional status. With an average of 1.034 hours of electricity a day (and a standard deviation of 1.763 hours), this kind of access to electricity may only be used for lighting at night, and as such does not immediately translate to the delivery of nutrition for children and may simply exhibit coincidence: children from households with access to more electricity tend to be undernourished. It is to be noted here that there is no data on access to electricity for Sta. Elena.

Experiencing food shortage in the household sometime within the last six months before the survey was conducted considerably decreased the probability that a child is of better nutrition. In fact, estimates are negative for all ten barangays. These findings simply confirm the direct link between food intake and nutritional status even for a short period of six months.

The succeeding variables measure attributes of the mother, or the household member assumed to make key household decisions and take on the task of childcare. The coefficient of the mother's age is seen to be consistently negative where it is significant, namely in Don Tomas, and Tabugon, in decreasing levels of significance. This says that the older the mother, the more chances there are that the child or children under her (or his) care has low weight-for-age. Older people, like grandparents, may be less able to take care of children properly because of deteriorating mental and physical health. It would also be more difficult for older people to keep up with new health practices and modern healthcare methods.

The mother's number of years of schooling also shows a positive effect in Poblacion and Salvacion, the variable being significant at 1 percent in both barangays. This observation confirms the notions

postulated by Glewwe (1999) that: (a) formal education directly taught health knowledge to future mothers; (b) literacy and numeracy skills in school assist future mothers in diagnosing and treating child problems; and (c) exposure to modern society from formal schooling makes women more receptive to modern medical treatments. It is interesting to note that both Poblacion and Salvacion are urban areas, showing that schooling gives comparative advantage to mothers and improves the nutritional status of their children especially in urban communities.

Most of the barangays reported no statistical difference in probability of better nourishment between children with a working mother, and children whose mother is economically inactive. The variable is significant, however, in Basiad, where it exhibits a negative effect at 1 percent. This means that for this community, higher chances of being of normal nourishment accompany children whose mothers do not work, for these mothers probably have more time to spend at home giving full attention to their children, and responding as necessary to any of their children's healthcare needs.

The Salvacion data set also shows that the mother's membership in a community organization or association also significantly and positively influences nutritional status of children. This can be explained by thinking of community organizations as networking mechanisms between mothers where they share health knowledge among themselves and assist one another in times of need, whether through physical or financial support.

Assessment of feeding programs

To assess the targeting of several feeding programs administered in Sta. Elena, Camarines Norte, a dummy variable for household participation in various supplemental feeding programs was included in equation (5), the empirical model to be estimated. These feeding programs, like the Department of Health's Garantisadong Pambata, Oplan Busog, Sentrong Sigla and Tatak Sangkap Pinoy, are long-standing interventions and regular in their implementation. Including

the dummy variable in the actual regression, however, led to estimation problems caused by near-singularity, which does not allow for estimation of coefficients. As such, the researchers omitted this variable and instead made use of two-way distribution tables to fulfill the second objective of this study. These two-way distribution tables for the twelve barangays of Sta. Elena where the feeding programs were administered, reported as Table 6, indicate the individual child's nutritional status and whether he or she participated in a feeding program.

Results show that 85.3 percent of the overnourished children in Basiad participated in the feeding programs. On the other hand, 26.3 percent of overnourished children in San Lorenzo also participated in these programs, as well as 1 child in Kabuluan. Whether they achieved this nutritional status by way of the feeding program, however, cannot be determined by this cross-sectional analysis. Only a dynamic approach would allow for examining changes to nutritional status over a period of time, while at the same time controlling for participation or non-participation in the programs. All other barangays report that their overnourished children do not participate in the feeding program.

What is more alarming is the presence of undernourished children who did not participate in the feeding programs. As much as 17 out of 18 (94.44%) of the severely undernourished children from the twelve barangays where the programs are implemented are not recipients of the intervention. Likewise, 140 out of 225 (71.1%) of the moderately undernourished children also did not participate in the programs. The proportion of undernourished children who are still not exposed to the programs is especially pronounced in Bulala, Kagtalaba, Maulawin, Plaridel, Poblacion, Pulong Guit-guit and San Lorenzo. As such, one can see that the feeding programs require better targeting, since substantially more of the undernourished children have yet to participate in the various supplemental feeding programs being administered.

Conclusions and recommendations

In summary, running an ordered probit analysis on nutritional status of children revealed that several socioeconomic determinants contributed significantly to the child's production of health. Male children appear to be associated with normal nourishment moreso than female children. Also, household income per capita exhibits contrasting effects on nutritional status of children, as does the proportion of household members other than the mother employed. Household endowments also generally affect child nutrition positively: children from households with access to a sanitary toilet facility and a source of safe drinking water have greater probability of adequate nourishment.

Attributes of the person taking care of the child also significantly affected the nourishment of children under his or her care. Negative effects accompany increases in the caretaker's age, while positive effects come with longer periods of formal schooling. Having an employed caretaker was also observed to have a negative effect on their ward's nutritional status in one barangay. Social capital, observed through a parent's membership in a community organization or association, is also shown to be associated with better child nutrition.

The significant socioeconomic determinants vary from one barangay to another as results vary across different communities. The mentioned variables, however, were significant determinants in at least one of the ten barangays where estimation met sufficient statistical criteria. As such, these socioeconomic factors can be said to be important in explaining nutritional disparities among Filipino children. Corollary to this, it could be said that the determinants of nutritional status are closely identified with peculiarities of the specific community.

While food shortage was experienced throughout the barangays and is in fact associated with undernourishment for all ten barangays included in the study, this study can make no conclusions as regards the impact on nutrition of supplemental feeding programs implemented in Sta. Elena, Camarines Norte. All that can be assessed is the

programs' targeting, which needs much improvement since these programs are not enjoyed by most of the undernourished children where these programs are implemented.

Policy implications

Socioeconomic determinants influence barangays differently, as has been showed by this study. The method employed—that of using an ordered probit technique of estimation—appears to be highly appropriate for the analysis of data coming from the CBMS Survey. Since the CBMS Survey is targeted to be conducted nationwide, the employed method of analysis can be used alongside every CBMS site in the Philippines, and even in other CBMS sites throughout the developing world. This would greatly enhance the quality of information gathered from the particular community. And since the government intends to combat the prevalence and severity of malnutrition, it is important that its causes are made known and its processes are understood.

The employed method of analysis also identifies significant socioeconomic variables. While some barangays report several significant variables, only one variable is reported to be significant in other communities. Also, certain variables are seen to be more significant than others. As such, this information would greatly inform policymakers and local government officials as to what are the gravest needs of a certain community, in order for priorities in any such efforts at intervention to be rationalized. Funds would then be allocated more efficiently and nutrition intervention programs would be structured more effectively. And since food shortage has been shown to be closely associated to undernourishment even in the short run, feeding programs aimed at ensuring food sufficiency during lean months and instances of calamity may improve child nutrition significantly.

The targeting of supplemental feeding programs in Sta. Elena, leaves much to be improved. Targeting should first identify who the undernourished children are and where they are located. Using the estimated equation for each barangay may help predict the probability

of a certain child's nutritional status and possibly aid in correctly identifying priority cases. Subsequently, it should be ensured that the feeding programs primarily reach these undernourished children. Effects of the feeding programs should also be strictly monitored to allow for efficient reallocation of resources according to child's needs. This would ensure minimal leakages and maximum benefits for all children.

Moreover, the direction of the effects of socioeconomic variables, supplied by regression analysis, is crucial in determining the apt strategies to address malnutrition. Public investments in expanding household access to safe drinking water sources and sanitation facilities would improve children's nutritional status as its effects are generally positive where significant. Also, income transfers and subsidies may be fitting for barangays where the effect of income is positive; but for communities where the income effect is negative, that may not be the best strategy. A daycare center for children in Basiad, for example, may arrest the negative effect of increasing number of working household members. In addition, promotion of health knowledge, being a good in itself, may be most beneficial if targeted also towards older parents, as the age of the child caretaker is shown to have an impact on nutritional status of children. Health knowledge would also be best shared among relatively less schooled caretakers of children to compensate for their assumed lack of literacy and numeracy skills essential for health practices, as schooling also exhibits significant positive effects in certain areas. Finally, encouraging the formation of community organizations and providing other avenues for accumulating social capital may also positively affect the nutritional status of children. At bottom, a multidimensional approach is seen as necessary in effectively combating malnutrition.

Recommendations for further studies

The main area for possible further studies is in using a dynamic approach to specify a reduced form relation between health and the inputs to the health production function. A dynamic analysis would

not only examine changes to nutritional status across time but also better capture the impact of any such intervention program implemented in the different communities. Since the CBMS Survey is currently being conducted on its second round for pilot areas in the country, consistent pooled data may be available for analysis in the near future.

Secondly, more and various other socioeconomic determinants may be sought for and used in future studies on the subject of nutritional status. Examples of these other variables are distance from community health center, dummy variables to mark lean months or incidences of calamity, price levels of food, medicine and other means of healthcare, and precise measures for nutrient intake, such as food intake recall or amount of food purchased.

Finally, improvements in nutritional status can be better captured if there was access to anthropometric data of the children, which is more precise and sensitive to changes than using nutritional categories in measuring nutritional status. As such, the writers suggest using anthropometric data of children's height and weight, coupled with data on their age measured in months, rather than merely in years.

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Developing Composite Indicators Using CBMS: The Case of Pasay City

*Joel Bancollita and Maria Norlan Alvarado**

Introduction

Since poverty reduction has been one of the overarching programs at the national and local level, ways and means on how to measure and monitor poverty have earned great interest. Income-based poverty indicator and other dimensions of poverty have been used to identify the poor and measure the extent of poverty.

National censuses and sample surveys are the often sources of data relating to the different aspects of poverty. However, these are conducted infrequently, in irregular intervals, and in different time periods that make it impossible to draw a comprehensive picture of different dimensions at a particular point in time. Moreover, data from these sources are too aggregated and just provide a lot of information at the national and regional levels but very little at the barangay and individual level.

Two important aspects of empirical study of poverty are the *identification* and *aggregation*. The former deals with how one decide who the poor are while the latter deals with the summary of the extent of poverty given the estimates of the poor. Existing national surveys

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on poverty deal more often on the latter—aggregation and with only sample information on the former—identification.

The Community-Based Monitoring System (CBMS) aims to complement the existing national data to fill in the gaps of information and enable both aspects of empirical study of poverty. CBMS is an organized way of collecting household level information at the local level. More than just a data collection tool, it seeks to integrate the use of data in local level development planning and program implementation to support evidence-based decision-making.

CBMS has now been widely used by several local government units to meet the challenge of effectively monitoring and targeting the poor. The system's 14 core indicators of multidimensional poverty aim to provide LGUs with instrument for effective implementation of poverty alleviation programs and interventions through accurate targeting. Aside from these core indicators, basic demographic variables, and other socioeconomic data can also be derived from the system to form a dynamic and comprehensive picture of identified poverty.

This paper would focus on the identification problem of poverty (the aggregation would follow). Furthermore, this will deviate from the income-based method of identifying the poor, which is probably the most popular, where the official poverty statistics are based. This would assume the multidimensional nature of poverty in order to derive composite indices using CBMS and present some applications.

Poverty and the composite indicator

Poverty is in any form of inequity, source of social exclusion, or in living conditions essential to human dignity that may correspond to capabilities of individuals or households to meet their basic needs in dimensions such as health, nutrition, housing, water and sanitation, primary education, income, employment, security, etc.

There are a wide variety of approaches to define and measure a multidimensional phenomenon such as poverty. The traditional one has focused on money-metric measures of poverty. This is based on

the assumption that material standard of living largely determines a person's well-being. The poor are then defined or identified as those with a material standard of living as measured by income (or expenditure) below a certain level—the so-called poverty line (or threshold). Poverty measures based on household income (or expenditure), although more sensitive to shocks (compared to other indicators), offers only a limited picture of household well-being. In addition, income (or expenditure) has been confronted by the difficulty in measurement and by the formulation of timely, accurate poverty lines.

Hence, CBMS adopted the 14 core indicators relating to different dimensions stated earlier to make a clearer image of poverty.

One key issue in analyzing the various CBMS indicators is how to combine them to come up with a single indicator that will identify who among the households are the most deprived. Simply put, the problem is: Given a set of indicators, which household can be considered as the poorest? Moreover, one desires an overall poverty rate based on the predetermined set of indicators just like the income-based poverty incidence, i.e., how many households can be considered as poor using the aggregated information. Coming up with this statistic is extremely helpful in targeting beneficiaries of a poverty reduction program and eventually in assessing the impact of the interventions done.

One of the various ways to extract the information from the set of indicators is through a *composite indicator*, which ideally, must summarize what the set of indicators conveys. This paper will exhibit that CBMS could not be only used to formulate a simple composite indicator through the conventional way of scoring unmet needs but also to come up with a single weighted composite index.

Definition: the composite indicator

A *composite indicator* is an integration formed when individual indicators of a unit to be characterized are combined through some multidimensional technique appropriate to the framework under which

the individual indicators are defined.

Suppose H is a set of N population units h_i , i.e.

$$(1) \quad H_{N \times 1} = \begin{bmatrix} h_1 \\ h_2 \\ \vdots \\ h_N \end{bmatrix}$$

each with a set D_i of measured $K > 1$ basic characteristic indicator values d_{ij} , i.e.,

$$(2) \quad D_{N \times K} = \begin{bmatrix} D_1 \\ D_2 \\ \vdots \\ D_N \end{bmatrix} = \begin{bmatrix} d_{11} & d_{12} & \dots & d_{1K} \\ d_{21} & d_{22} & \dots & d_{2K} \\ \vdots & \vdots & \ddots & \vdots \\ d_{N1} & d_{N2} & \dots & d_{NK} \end{bmatrix}$$

The population units in this section pertain to elementary entities in the data. It could refer to a person, household or other levels of observation. Meanwhile, each unit's indicator could be of different measurement:

- Quantitative, such as household income/expenditure, number of days experienced food shortage, etc.;
- Qualitative or Categorical, such as type of water facility, tenure status, etc.

Given the population units and indicators, the problem here lies in coming up with a set C of unobserved, unique numerical indicators $c_i \in \mathfrak{R}$ for each population unit summarizing the characteristics represented by the set of indicators, i.e.,

$$(3) \quad C_{N \times 1} = \begin{bmatrix} c_1 \\ c_2 \\ \vdots \\ c_N \end{bmatrix}, \quad c_i \in \mathfrak{R}$$

One of the most efficient, simplest, and most interpretable ways to address the problem is to find a set of K scores W for the indicators in common for each population unit h_i . Through these scores, each c_i in C can be expressed as a linear combination of the indicators d_{ij} in each D_i . Hence,

$$(4) \quad C_{N \times 1} = D_{N \times K} W_{K \times 1} = \frac{1}{K} \begin{bmatrix} d_{11} & d_{12} & \dots & d_{1K} \\ d_{21} & d_{22} & \dots & d_{2K} \\ \vdots & \vdots & \ddots & \vdots \\ d_{N1} & d_{N2} & \dots & d_{NK} \end{bmatrix} \begin{bmatrix} w_1 \\ w_2 \\ \vdots \\ w_K \end{bmatrix} = \begin{bmatrix} w_1 d_{11} + w_2 d_{12} + \dots + w_K d_{1K} \\ w_1 d_{21} + w_2 d_{22} + \dots + w_K d_{2K} \\ \vdots \\ w_1 d_{N1} + w_2 d_{N2} + \dots + w_K d_{NK} \end{bmatrix}$$

Simply put, an expression for the composite indicator c_i for each population unit h_i is

$$(5) \quad c_i = (w_1 d_{i1} + w_2 d_{i2} + \dots + w_K d_{iK}) = \sum_{j=1}^K w_j d_{ij}, \quad i = 1, 2, \dots, N$$

Poverty indicator, index and measure

It is essential to clarify some of the terms that would be frequently used throughout. The term *indicator* has been visible in the preceding sections; hence there is already a brief note on how the term *poverty indicator* would be used in this paper. However, the terms *poverty index* and *poverty measure* must be also elaborated, which will be of great relevance in the succeeding discussions.

Suppose D_j is the set of observed values for indicator j for all N population units,

$$(6) \quad D_j = \begin{bmatrix} d_{1j} \\ d_{2j} \\ \vdots \\ d_{Nj} \end{bmatrix}, \quad j = 1, 2, \dots, K$$

If D_j represents a variable or indicator related to dimensions of poverty, then D_j is a *poverty indicator* and each d_{ij} is an observed *poverty indicator* value.

Usually, D_j still does not convey or reflect any poverty concept (e.g., per capita income as a *poverty indicator* could not still reflect whether the household is poor or non-poor without the poverty line) unless transformed. Suppose there is a function m_j such that $m_j(d_{ij})$ better reflects a poverty concept in relation to poverty indicator associated to D_j , then m_j is a *poverty measure*. The most common type of function or transformation used as a poverty measure is the comparison to a poverty threshold or poverty line (e.g., per capita income and poverty line were evaluated to classify a household as poor or non-poor).

Now, denote M_j the set of values of each value of poverty measure $m_j(d_{ij})$ evaluated at each i , i.e.,

$$(7) \quad M_j = \begin{bmatrix} m_j(d_{1j}) \\ m_j(d_{2j}) \\ \vdots \\ m_j(d_{Nj}) \end{bmatrix}, \quad j=1, 2, \dots, K$$

if the poverty measure m_j is aggregated across all population units in H through some aggregating function say $G_j\{M_j\}$ then G_j is a *poverty index* (e.g., the number of poor households were counted relative to the total number of households to get the poverty incidence of households).

The composite case

1. C is the set of *composite poverty indicator* values.
2. Depending on the derivation of C , suppose each of the N functions $m_c(c_i)$ in the set M_c better reflects a composite poverty concept in relation to the composite poverty indicator c_i , then m_c is a *composite poverty measure*.
3. Similarly, assuming the function $G_c\{M_c\}$ could aggregate the composite poverty measure, then it is a *composite poverty index*. These figures could be used to either classify or rank the population

units based on the outcome or their performance in each of the basic indicators.

4. Moreover, composite poverty indices for subgroups could be derived to be used in ranking groups of population units (e.g. households in different villages). For simplicity, let the composite poverty measure $m_c(c_i) = c_i$. Also, define groups $H_\alpha, \alpha = 1, 2, \dots, A$ that sub-divide the population units H into subgroups such that the combined cardinality N_α or number of elements in each group totals to N . To wit,

$$(8) \quad H = \begin{bmatrix} H_1 \\ H_2 \\ \vdots \\ H_A \end{bmatrix}, \quad \sum_{\alpha=1}^A N_\alpha = N$$

One way to derive a *composite poverty index* for each subgroup is by simple average. Denoted it by G_{c_α} , it can be drawn as

$$(9) \quad G_{c_\alpha} \{M_{c_\alpha}\} = \bar{M}_{c_\alpha} = \frac{1}{N_\alpha} \sum_{i \in \alpha} c_i$$

Hence, the ordered indices $G_{c_{(\alpha)}} = \{G_{c_{(1)}}, G_{c_{(2)}}, \dots, G_{c_{(A)}}\}$ such that $G_{c_{(1)}} \leq G_{c_{(2)}} \leq \dots \leq G_{c_{(A)}}$ of the subgroups could be used to rank the subgroups to identify the groups with most depressed components.

The BS Nursing Degree Holder Case

1. The person who is a graduate of BS Nursing taking the board exam could be considered as one of the population units h_i in a stream of BS Nursing graduates aspiring to be nursing professionals H .

2. Each exam section's result of that person could be viewed as an individual indicator d_{ij} with the whole exam as the collection of indicators D_i .

3. The governing body may assign some qualifying marks in each section such that they could know how many examinees performed well/poorly in that section. The transformation of each section's result to reflect the performance of an examinee may be regarded as the poverty measure m_j and the magnitude/proportion of examinees who performed well/poorly as the poverty index G_j .

4. Taking the combination of the person's exam sections in the situationer to get her/his final grade through some appropriate method (as may be set by the governing body, commonly linear) could be viewed as the composite indicator c_i where the weights for the sections could be viewed as the set of scores W . The transformation of her/his final grade to determine whether he/she as passed or failed could be regarded as the composite poverty measure m_c .

5. Finally, taking all the final grades of all examinees and determining how many passed or failed could be compared bring the composite poverty index G_c .

Viable techniques: simple, weighted and categorically weighted composite indicators

Recall the linear function in (5). This section would tackle feasible methods to derive some forms of the composite indicator c_i . Although the composite indicator could take many forms, this part would tackle only those presently being developed in CBMS. From this point forward, it is assumed that the set of poverty indicators D_i has been already identified.

Simple poverty indicator and simple composite indicator

Suppose each of the poverty indicators is the same with each of the poverty measures, i.e. $d_{ij} = m_j(d_{ij})$. Moreover, each of them evaluates to a Boolean or binary defined by the function $1_j(d_{ij})$

$$(10) \quad d_{ij} = m_j(d_{ij}) = 1_j(d_{ij}) = \begin{cases} 1, & \text{if unattained} \\ 0, & \text{otherwise} \end{cases}$$

where one (1) denotes the negative side which means unattained and zero (0) otherwise (e.g. one (1) if the household is poor, zero (0) otherwise) and the poverty index is

$$(11) \quad G_j \{M_j\} = \bar{M}_j = \frac{1}{N} \sum_{i=1}^N 1_j(d_{ij})$$

which is essentially the arithmetic mean or proportion (e.g., the popular poverty incidence).

Furthermore, suppose the set of scores W would take its simplest form as a $K \times 1$ vector of unity, i.e.,

$$(12) \quad W = \begin{bmatrix} 1 \\ 1 \\ \vdots \\ 1 \end{bmatrix}$$

hence, the set of composite indicator C will reduce to a collection of magnitude of unattained indicators of each population unit h_i

$$(13) \quad C_{N \times 1} = \begin{bmatrix} c_1 = \sum_{j=1}^K 1_j(d_{1j}) \\ c_2 = \sum_{j=1}^K 1_j(d_{2j}) \\ \vdots \\ c_N = \sum_{j=1}^K 1_j(d_{Nj}) \end{bmatrix}, \quad c_i \in [0, K]$$

The set C is called the *Simple Composite Poverty Indicator* or simply *Simple Composite Indicator* (C_{SCI}) due to its simple, intuitive and straightforward derivation. It just essentially summarizes the characteristics of each population unit h_i by just counting the number of unattained indicators.

Remarks

1. It must be noted that this method treats each indicator independently, i.e., there is no account for relationship among the indicators.

2. Since the scores are just unities, each indicator has equal effect on the composite indicator. In turn, there is no varying importance given in any particular indicator.

3. At least in the case of CBMS, there is still no transformation that has been implemented to reflect a direct and composite poverty concept using the C_{SCI} .

4. This figure has been useful in ranking population units (e.g. households) according to number of unmet needs but has never been used in determining whether a unit is compositely poor or not.

5. However, C_{SCI} can still be used in ranking groups of population units through (8) and (9)

6. Sometimes, in identifying bottom population units (e.g. bottom 20 households), it is inevitable to have ties in the composite indicator. Most of the time there could be extensive ties in the bottom of the population units that identifying a subset will not be easy.

Simple poverty indicator and weighted composite indicator

It was mentioned in the previous section that C_{SCI} treats each indicator independently and equally. What if each indicator will still be treated as independent with the other but there is a need to give more weight to a particular indicator over the other?

If it is sought to give varying weights on some of the indicators, the set of scores W must be found systematically such as (1) adopting an existing weighting scheme of the indicators or (2) mining the data of population units and indicators. In the case of absence of an existing weighting scheme of the indicators, it is more feasible to perform data mining of population units and indicators.

Assume the poverty indicator and measure in (10) and poverty index in (11). Since each poverty measure indicates an unattained state and each poverty index indicates the proportion of unattained,

another feasible set of weights could be the set of proportions. In turn, this gives importance to indicators with much of the population units have unattained those indicators.

Aside—Bernoulli distribution:

1. The poverty measure in (10) is parallel to a Bernoulli random variable say x_{Be} . A Bernoulli random variable has two possible outcomes: 1 for success (unattained); and 0 for failure (otherwise) with probability of success p . It has discrete probability distribution function

$$(14)$$

2. If a collection of N Bernoulli random variables say $X'_{Be} = [x_1 \ x_2 \ \dots \ x_N]$ is at hand, an optimal estimator for the probability of success p is the number of successes over the

$$\hat{p} = \frac{n}{N}, \quad \text{where } n = \sum_{i=1}^N x_i \quad \text{and } f(x_{Be}) = p^{x_{Be}} (1-p)^{1-x_{Be}}$$

$$(15)$$

3. Note that each $x_{Be} = m_j(d_{ij})$ in (10) and each $\hat{p} = G_j\{M_j\}$ in (11).

Hence, the set of weights W could be the set G of poverty index in each indicator

$$(16) \quad W = \begin{bmatrix} w_1 \\ w_2 \\ \vdots \\ w_k \end{bmatrix} = G = \begin{bmatrix} G_1 \\ G_2 \\ \vdots \\ G_k \end{bmatrix}$$

and the composite indicator denoted by C_{wCI} will be

$$(17) \quad C_{wCI} = \begin{bmatrix} \sum_{j=1}^K G_j d_{1j} \\ \sum_{j=1}^K G_j d_{2j} \\ \vdots \\ \sum_{j=1}^K G_j d_{Nj} \end{bmatrix}$$

Notice that when there are some $G_j = 0$, which means that there are no population units that unattained those indicators, that indicator would cancel out. This means that the indicator/s has no effect to the composite indicator which makes sense since there is no use to analyze something that is constant or without variability at least in the case of composite indicators.

Most of the remarks in the previous method apply here. Aside from independently treating the indicators, there is still no reflection of a direct and composite poverty concept using the C_{wCI} but can still be used in ranking groups of population units with less likely ties than C_{SCI} .

Deriving weighted composite indicator through PCA

The two previous methods have treated the indicators individually and independently. Although the second method presents an example of giving weights to indicators, the weights are still derived independent from the other. For instance, the CBMS 14 Core Indicators draws the different dimensions of poverty, more likely than not, there is at least a pair of the indicators that are related to each other. Toilet facility and nutrition status for example could have a strong relation to water supply because water is an element of sanitation.

Hence, analyzing the multidimensional indicators could be made richer if the underlying relationships between the indicators could be

utilized. Such analysis would necessitate multivariate statistical techniques particularly dimensionality reduction techniques such as Principal Components Analysis (PCA).

Let $D = (D_1, D_2, \dots, D_K)$ be a collection of K numeric variables with mean $\mu = (\mu_1, \mu_2, \dots, \mu_K)$ and covariance matrix

$$(18) \quad \Sigma = \begin{bmatrix} \sigma_1^2 & \sigma_{12} & \dots & \sigma_{1K} \\ \sigma_{21} & \sigma_2^2 & \dots & \sigma_{2K} \\ \vdots & \vdots & \ddots & \vdots \\ \sigma_{N1} & \sigma_{N2} & \dots & \sigma_K^2 \end{bmatrix}$$

Suppose there exists a $K \times K$ matrix $L = (L_1, L_2, \dots, L_K)$ where each $L_i = (l_{i1}, l_{i2}, \dots, l_{iK})$ is a vector of scalar coefficients that could express $D = (D_1, D_2, \dots, D_K)$ as a linear combination

$$(19) \quad \begin{aligned} L_1 &: l_{11}D_1 + l_{12}D_2 + \dots + l_{1K}D_K \\ L_2 &: l_{21}D_1 + l_{22}D_2 + \dots + l_{2K}D_K \\ &\vdots \\ L_K &: l_{K1}D_1 + l_{K2}D_2 + \dots + l_{KK}D_K \end{aligned}$$

such that L_1 retains the most variation (most importance) in the data, L_2 has the next amount of variation (next importance) and so on with L_K has the least (least importance). Thus, an optimal set of coefficients could be selected to retain a considerable amount of variability but reducing the dimensionality of the data. Each L_i corresponds to a single principal component (PC).

This is a utility provided by the technique PCA through the covariance matrix (or correlation matrix) and singular value decomposition (SVD). However, this paper would not get further with the details of the technique.

Assuming that PCA is run on the matrix of indicators D in (2) and given that the first principal component corresponding to L_1 in (19) has the most amount of importance or variability in the data, the

PC loadings or set of weights that correspond to could be assigned to

$$(20) \quad W = \begin{bmatrix} l_{11} \\ l_{12} \\ \vdots \\ l_{1K} \end{bmatrix}, \quad C_{PCA} = \begin{bmatrix} \sum_{j=1}^K l_{1j} d_{1j} \\ \sum_{j=1}^K l_{1j} d_{2j} \\ \vdots \\ \sum_{j=1}^K l_{1j} d_{Nj} \end{bmatrix}$$

PCA assumes the data matrix to be of numeric types such as income, number of radio, etc. where real mathematical operations could be made. Hence, if the population units h_i are villages with numeric indicators D_j as poverty incidence, subsistence incidence, unemployment rate, etc., PCA would be an ideal technique to derive the composite indicator and rank and identify poor population units. It could be also run even given households as population units and the simple form of the indicator in (10) where the outcome of the data matrix is only $[0, 1]$. The composite indicator would reduce to somehow similar to (17), the weighted composite index, but with weights accounting for variability.

PCA runs and yields depending on the given data set. Weights changes depending on the data used. PCA may also lead the analysis to deletion of one or more of the variables, depending on the outcome of the data. For instance, if a variable is almost constant and with little variability, PCA would indicate a small weight such that it contributes almost nothing to the principal components. Hence, to reduce data in the analysis, one could better remove such variable to enrich analysis but such is in the decision of the researcher.

Deriving categorically weighted composite indicator through MCA

The previous methods have dealt only with poverty indicators of either numeric data types or binary/dichotomous data types. There are times that poverty indicators may take on categorical values, especially when dealing with households as population units, such as source of drinking water (community water system, artesian well, bottled water, etc.), tenure status in house/lot (owned, rented, with consent, without

consent, etc.), material construction of house, etc. which are of far different data type from income, number of days in food shortage, etc. In this context, there must be a method to be devised in order to utilize the existing structure of the set of categorical indicators and population units to generate weights, and eventually construct the composite indicator.

The first two methods, the simple ones, may have been already encountered in common real life situations especially with the form of the indicator which is just in dichotomous form. The second method which uses PCA just extended its immediate precedents by just utilizing the variability in the whole data of indicators and population units to generate weights. This fourth method is somehow different in terms of the structure of the indicators—which are categorical, and the construction of the composite indicator—which will be categorically weighted. However, this will derive the weights in a way essentially similar to the Principal Components Analysis (PCA) method.

$$R^j = \sum_{j=1}^K R_j$$

Multiple Correspondence Analysis (MCA) is a multivariate technique used to analyze simple two-way and multi-way tables that contain some measure of association between the rows and columns and to explore the structure of categorical variables included in the table. As a data reduction technique, this yields information on dimensions basically similar to principal components analysis; hence, the set of variables could be expressed in a low-dimensional way.

The technical details of this method would not be tackled in the paper, instead how it could be used to derive a categorically weighted composite indicator.

Suppose each of the K indicators is assumed to be categorical, one could expect a number of categories say R_j in each of the indicators. Denote π_{r_j} the r^{th} category level at indicator j , there could be R_j expected number of categories. Now, what if instead of a weight for each indicator j , category weights could be derived, one for each r so that each population unit could have a categorically weighted composite indicator? To illustrate,

$$(21) \quad c_i = \frac{1}{K} \sum_{j=1}^K \sum_{r=1}^{R_j} w_{r_j} 1_{r_j}(d_{ij})$$

where the dummy variable $1_{r_j}(d_{ij}) = 1$ if population unit h_i belongs to category π_{r_j} of indicator D_j and $1_{r_j}(d_{ij}) = 0$. $\frac{1}{K}$ is introduced to reflect the effect of given categories and weights in each population unit in comparison with other units. In effect, the weights are the ones averaged depending on the categories given. These category weights w_{r_j} (quantifications) could be derived through MCA.

Since MCA and PCA works similarly in nature, the set of categorical indicators could be integrated into a single indicator through the information yielded by MCA in a similar manner save only the treatment on the indicators since they are categorical. MCA derives dimensions (with maximum number equal to the number of variables used) with corresponding variance explained (importance) just like in PCA. In each dimension, category quantifications are derived as well as the discriminating power of each variable in each dimension. Similarly, the number of categorical indicators could be trimmed down depending on the result of MCA and decision of the researcher to reduce data.

Let $\{w_{r_j}\}$ be the set of R_j category quantifications of indicator D_j in dimension i and \mathbf{d}_i be the $R_j \times 1$ vector of dummy values $[0, 1]$ for each population unit with only a single (1) in the category where the population unit falls. Assume that by running MCA on the indicator values, the first dimension (which has the greatest variance explained) represents the composite indicator. Then the categorically weighted composite indicator through MCA C_{MCA} could

$\{1_{r_j}(d_{ij})\}$

be in the form

$$\begin{aligned}
 C_{MCA} &= \frac{1}{K} \begin{bmatrix} \{1_{r_1}(d_{11})\}' & \{1_{r_2}(d_{12})\}' & \dots & \{1_{r_k}(d_{1k})\}' \\ \{1_{r_1}(d_{21})\}' & \{1_{r_2}(d_{22})\}' & \dots & \{1_{r_k}(d_{2k})\}' \\ \vdots & \vdots & \ddots & \vdots \\ \{1_{r_1}(d_{N1})\}' & \{1_{r_2}(d_{N2})\}' & \dots & \{1_{r_k}(d_{Nk})\}' \end{bmatrix} \begin{bmatrix} \{w_{r_1}\} \\ \{w_{r_2}\} \\ \vdots \\ \{w_{r_k}\} \end{bmatrix} \\
 (22) \quad C_{MCA} &= \frac{1}{K} \begin{bmatrix} \sum_{j=1}^K \sum_{r=1}^{R_j} w_{r_j} 1_{r_j}(d_{1j}) \\ \sum_{j=1}^K \sum_{r=1}^{R_j} w_{r_j} 1_{r_j}(d_{2j}) \\ \vdots \\ \sum_{j=1}^K \sum_{r=1}^{R_j} w_{r_j} 1_{r_j}(d_{Nj}) \end{bmatrix}
 \end{aligned}$$

Poverty lines—the composite way

One of the most common ways of dealing with poverty measures is through poverty thresholds and one popular example is the income-based poverty measure to generate poverty incidence.

Given the methods of deriving composite poverty indicators, there has been an increasing interest as to whether it is possible to generate a composite poverty rate. This paper would like to present some methods that could be explored to generate *composite poverty thresholds* in order to generate composite poverty indices and composite poverty rates.

It was mentioned earlier that there is still no way of formulating a poverty line through simple methods of formulating composite indicators. This is because the indicators are just dichotomous and getting the ones (1) as poverty lines will in effect impose a total attainment of the indicators which is somehow stringent. This paper will explore how to formulate the poverty lines through the dimension reduction methods discussed earlier.

Poverty Lines through MCA

Dealing with categorical values, one could expect that there exists a set of categories $\{\ddot{x}_{r_j}\}$ which could be considered as a set of

well-off categories (above poverty line or threshold) in indicator D_j . That is, if a population unit belongs to either of the categories inside $\{\ddot{\pi}_{r_j}\}$, that unit will be considered as well-off or non-poor. For instance, community water systems and artesian wells are categories considered as safe water. Hence, since each π_{r_j} has a corresponding weight w_{r_j} , there could be such a set $\{\ddot{w}_{r_j}\}$, which is an array of weights corresponding to categories of well-off condition in indicator. If the weight corresponding to the category deemed to be as minimal condition in order to be well off, could be derived across all indicators, there could be a set of threshold weights in each indicator. Thus, an overall composite poverty threshold through the categories could be derived as

$$(23) \quad \tau_{MCA} = \frac{1}{K} \sum_{j=1}^K \tau_j$$

Given τ , there could be already a proper composite poverty measure through C_{MCA} . For instance, let the composite poverty measure be

C_{MCA}

$$(24) \quad m_c(C_{MCA}) = 1_{c_i > \tau_{MCA}}(C_{MCA}) = \begin{cases} 0, & c_i \geq \tau_{MCA} \\ 1, & c_i < \tau_{MCA} \end{cases}$$

From this, a composite poverty index and composite poverty rates could be drawn.

$$(25) \quad G_c(C_{MCA}) = \frac{1}{N} \sum_{i=1}^N 1_{c_i > \tau_{MCA}}(C_{MCA})$$

Poverty lines through PCA

Let \ddot{D}_j and l_{1j} be the numeric poverty line to classify a population unit as poor and the loading or weight of indicator D_j respectively.

$$(26) \quad \tau_{PCA} = \sum_{j=1}^K \ddot{D}_j l_{1j}$$

Intuitively, the indicators D_j were just held constant at their poverty lines and their linear combination, using the PC loadings or weights, is derived. Similar to MCA, a PCA version could be derived on poverty measure, index and rates

$$(27) \quad m_c(C_{PCA}) = 1_{c_i > \tau_{PCA}}(C_{PCA}) = \begin{cases} 0, & c_i \geq \tau_{PCA} \\ 1, & c_i < \tau_{PCA} \end{cases}$$

$$(28) \quad G_c(C_{PCA}) = \frac{1}{N} \sum_{i=1}^N 1_{c_i > \tau_{PCA}}(C_{PCA})$$

Although the PCA could also generate composite thresholds given that each indicator has its own threshold, in reality, it could not be guaranteed that every indicator would have a threshold given the population units especially in the quantitative case. Also, it is uncertain that each indicator would be purely quantitative. What if some indicators are quantitative but some are categorical at the minimum. At least in the quantitative case there would be a chance to directly categorize (e.g., from income to poverty status). For instance, in the CBMS Core Indicators, only income (relating to two of the 14 indicators—income poverty and subsistence) is the quantitative and the rest are categorical. Income could be categorized directly through poverty lines, however, minimally categorical ones such as tenure status and source of drinking water would be really as is as categorical.

Composite poverty—the identification case of Pasay City

Through the initial CBMS results (Table 1), the LGU-Pasay City, aside from their assessed usefulness of CBMS in base-lining and monitoring the Millennium Development Goals (MDGs), has been able to initiate new targeting schemes for the poor.

LGU personnel through the City Planning and Development Office (CPDO) and City Cooperative Office have identified the following priority problems:

**Table 1. Summary of CBMS core indicators
CBMS survey initial results 2005, City of Pasay**

Basic Needs		Core Indicators	Magnitude	Proportion
Health	1	Proportion of children 0-5 year old who died	64	0.20
	2	Proportion of women who died due to pregnancy related-causes	18	0.3
Nutrition	3	Proportion of children 0-5 years old who are moderately and severely underweight	28	0.1
Housing	4	Proportion of households living in makeshift housing	4,218	7.0
	5	Proportion of households who are squatters	2,440	4.0
Water & Sanitation	6	Proportion of households with no access to safe water	1,160	1.8
	7	Proportion of households with no access to sanitary toilet facilities	1,787	2.7
Basic Education	8	Proportion of children 6-12 years old not in elementary school	8,216	22.1
	9	Proportion of children 13-16 not in secondary school	5,709	29.7
Income	10	Proportion of household with income below the poverty threshold	8,933	13.7
	11	Proportion of households with income below the food threshold	2,497	3.8
	12	Proportion of households who experienced food shortage	785	1.2
Peace & Order	14	Proportion of persons who are victims of crime	1,260	0.5

1. Income and Employment

- i. High incidence of lack of jobs among members of the labor force have
- ii. Many households have insufficient income

2. Basic Education

- i. Low attendance of children in elementary school
- ii. Low attendance of children in high school

The city has geared the programs to be formulated towards these primary problems. Since, implementation of programs necessitates proper identification of beneficiaries; they have set on-going strategies on how to identify targets through the CBMS database and the techniques in using multidimensional poverty to identify the poor as mentioned earlier.

Just to show the household situation in terms of income Table 2 shows that in Pasay, more than one out of ten is poor based on the per capita income of the households and given a projected P18,732 poverty threshold. Zone 15 is the most depressed in terms of income while Zone 12 has the most households who are non-poor.

Since a zone is a cluster of barangays (Pasay has 20 Zones clustering the 201 barangays), it doesn't follow that the poorest zone have the poorest barangay in terms of income. Similarly, the poorest zone may not contain the household who is poorest in terms of income.

Now, given the multidimensional nature of poverty, the methods of pooling the indicators were employed on the data of Pasay City in order to look upon other facets of poverty to identify the poor.

Recall that data types of the indicator or variables will have a great bearing on the derivation of the composite indicator. Table 3 shows the data types of each of the indicator given households as population units. Since quantitative indicators could be directly recoded to be categorical but categorical types could not be directly converted to quantitative, Table 3 suggests that the data type to be common among all the variables, each must be of categorical type.

Simple composite indicator

Given households as population units, the simple method of identifying the poor was first employed by setting each of the indicators to be: attained (0) or unattained (1). For instance: income poverty—non-poor vs. poor; tenure status—formal settler vs. informal settler; toilet facility—with access vs. without access. Thereafter, the number of unattained indicators of each household was derived. With

Table 2. Proportion of households with income below poverty threshold, by Zone CBMS survey initial results 2005, City of Pasay

Zone	Total Households	Household with income below poverty threshold	
		Magnitude	Proportion
Pasay City	65117	8933	13.7
15	1662	403	24.2
19	6455	1406	21.8
7	1613	289	17.9
3	583	103	17.7
18	3238	560	17.3
8	3193	546	17.1
13	3316	541	16.3
16	4252	691	16.3
2	2174	353	16.2
4	878	141	16.1
17	4445	651	14.6
5	1361	194	14.3
1	1722	210	12.2
6	2297	261	11.4
9	2572	278	10.8
10	1535	157	10.2
20	16374	1559	9.5
11	1925	181	9.4
14	2742	216	7.9
12	2780	193	6.9

a minimum of zero (0) and maximum of fourteen (14), the average in each zone is derived in order to rank the zones.

Table 4 shows that, interestingly, Zone 15 still has the most depressed condition in terms of attainment of the 14 indicators. This is followed by Zones 5, 19, 18, and 4 of which Zone 19 ranked next to Zone 15 in terms of depression in income. Surprisingly, the best-

**Table 3. Indicator variables and data types
CBMS survey initial results 2005, City of Pasay**

Basic Needs	Core Indicators		Dominant Data Type
Health	1	Child death	Categorical/Quantitative
	2	Women who died due to pregnancy related-causes	Categorical/Quantitative
Nutrition	3	Children 0-5 years old who are moderately/severely underweight	Categorical/Quantitative
Housing	4	Makeshift housing	Categorical
	5	Informal settler	Categorical
Water & Sanitation	6	Access to safe water	Categorical
	7	Access to sanitary toilet	Categorical
Basic Education	8	Children 6-12 years old not in elementary school	Categorical/Quantitative
	9	Children 13-16 not in secondary school	Categorical/Quantitative
Income	10	Income-poverty	Quantitative
	11	Income-subsistence	Quantitative
	12	Food shortage	Categorical/Quantitative
Peace & Order	14	Victims of crime	Categorical/Quantitative

off zones—11, 12, and 14—in the income-based poverty ranking are still the best-off zones in this criterion.

Notice the high attainment of indicators. Overall, barely one (1) is generally unattained in Pasay with barely two (2) in the maximum and close to none (0) in the minimum. Sometimes it is useful to see how many of the indicators are usually unattained.

Table 5 exhibits that inside Pasay, the highest number of unattained indicators is eight where there is one household while almost more than half of the households have attained all the indicators. One third of the households have unattained only one of the indicators and more than one out of ten have unattained two indicators.

After arriving at the set of composite indicators of the households, the next useful thing to do is to identify who is this household with more than half of indicators unattained.

**Table 4. Simple composite indicator, by Zone
 CBMS survey initial results 2005, City of Pasay**

Zone	Mean number of unattained indicators
Pasay City	0.8
15	1.4
5	1.0
19	1.0
18	1.0
4	1.0
13	0.9
8	0.9
17	0.9
7	0.9
16	0.9
2	0.8
3	0.8
6	0.7
1	0.7
20	0.6
9	0.6
10	0.6
11	0.5
12	0.5
14	0.5

Table 6 shows a partial list of the bottom households. There is prior information that 21 households have unattained at least seven indicators. Then it could be expected that there will be ties. Hence, if a specific intervention can only fit 10 households, there could be a clash in the ranking because of ties.

Map 1 demonstrates how to locate households with the highest level of unattained indicators.

Table 5. Number of households by number of unattained indicators
CBMS survey initial results 2005, City of Pasay

Number of unattained indicators	Total households	Percent
Total	65,117	100
None	32,706	50.2
One	20,547	31.6
Two	7,607	11.7
Three	2,914	4.5
Four	993	1.5
Five	270	0.4
Six	59	0.1
Seven	20	0.0
Eight	1	0.0

Going back to the remark earlier that this method could not directly draw a specific composite poverty concept, it is evident that poverty rates could not be derived from this simple method of composite indicator. If one has to set the poverty line as attaining all the indicators, then almost half of the households would fall under poverty in that case as can be seen in Table 5. Again, this is a stringent criterion that yields half poverty incidence in a highly urbanized area.

Composite indicator using PCA

Since Principal Components Analysis (PCA) assumes that data are of quantitative types or at least binary (0,1), the form of the indicators could be no other but attained (0) or unattained (1) in order for the technique to be run. Recall that in Table 3, it was suggested that the indicators must be of categorical form to be of common types.

Given the indicators and households, a PCA was performed. Through a series of runs and iterations, weights for each of the indicators are derived. Income poverty has the highest weight while

Table 6. Partial list of bottom households and unattained number of indicators, CBMS survey initial results 2005, City of Pasay

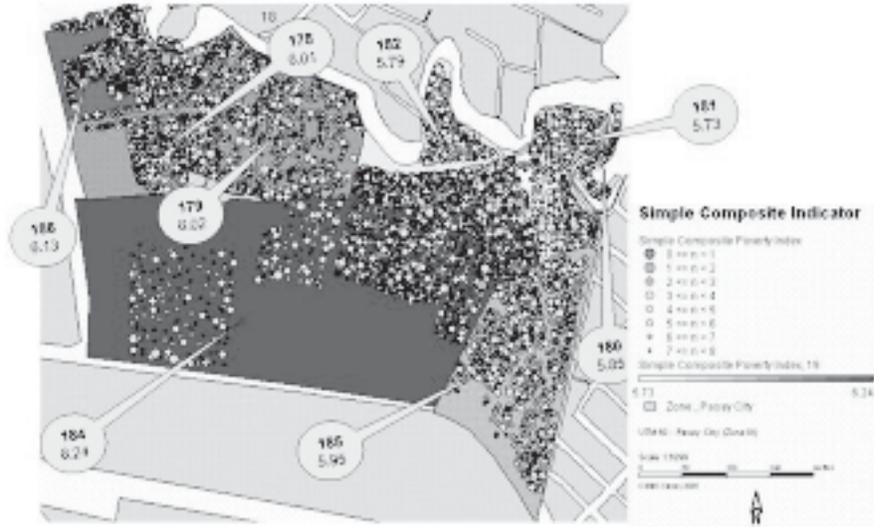
Rank	Zone	Barangay	HH ID	Number of Unattained Indicators
1	13	135	17638	8
2	20	201	24233	7
3	20	201	23456	7
4	19	179	621	7
5	19	185	1681	7
6	17	144	14471	7
7	16	148	12339	7
8	16	148	12355	7
9	16	148	12358	7
10	16	148	12387	7
11	16	148	12334	7
12	16	148	12360	7
13	16	148	12382	7
14	15	137	35352	7
15	15	143	28112	7
16	15	143	27957	7
17	13	130	45385	7
18	9	91	8452	7
19	6	43	38054	7
20	6	43	38043	7
21	6	43	38045	7

crime has the lowest. This would replace the value (1) in the computation of simple composite.

The first principal component was retained as the composite indicator. Although variables could be trimmed down in PCA, all of the indicators are still retained given the CBMS Core Indicators framework.

After running PCA, a list of households could be drawn with the ranks. Table 7 shows a partial list of the bottom households using

**Map 1. Location of households by number of unattained indicators
CBMS survey initial results 2005, City of Pasay**



PCA. Notice that the most depressed household in the simple scoring technique is now rank 10 in the priority list. This is because of the type of indicator unattained. Recall that each of the indicators has varying weights and attaining a specific set of indicators would not lead to a ranking the same with attaining another set of indicators.

Changes in ranking have been evident in this table. Household 8452 who is in the least priority at rank 19 in the simple method is now the one in the first rank while the fourth in the simple method who is household 621 is now the last in the rank.

Although in the technical part of this paper it was mentioned that it would be possible to formulate a composite poverty threshold using PCA, the data given would not easily allow doing so. Recall that each of the quantitative variables is held constant at the poverty line to derive a composite threshold. However, in the case of the dataset of households where every indicator is categorical, MCA would be more appropriate to formulate the poverty line.

**Table 7. Partial List of Bottom Households using PCA
CBMS Survey Initial Results 2005, City of Pasay**

Rank	Zone	Barangay	HH ID	Composite Indicators
1	9	91	8452	10.41
2	16	148	12334	10.38
3	16	148	12358	10.38
4	15	143	27957	10.08
5	17	144	14471	9.96
6	15	143	28108	9.73
7	15	143	28055	9.73
8	15	137	35352	9.64
9	16	148	12351	9.52
10	13	135	17638	9.50
11	19	179	744	9.39
12	18	165	42953	9.30
13	16	148	12355	9.20
14	16	148	12339	9.20
15	16	148	12360	9.20
16	15	143	27932	9.00
17	13	130	45248	9.00
18	2	8	66910	8.96
19	19	181	3481	8.78
20	19	179	621	8.73

Composite indicator using MCA

The data of households and indicators were recoded essentially to demonstrate categories discriminating the households. The data is set in a series of MCA runs to get a set of category weights to formulate the composite indicator. No variable is trimmed down during the runs to preserve all the elements in the composite indicator.

Table 8 shows the different categories arrived at, the varying category weights in each of the indicator and the set poverty line category. The category quantifications were transformed using the

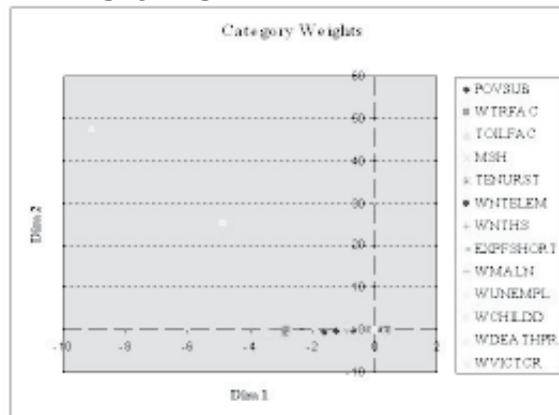
singular values and dimension quantifications such that the weight will be in a monetary-like form rather than decimals and negatives. Notice that each indicator’s contextually positive category is set to be the threshold in that indicator. As documented in the technical part, the thresholds in each indicator were averaged to derive a composite poverty threshold which is **6627.4**.

Figure 1 shows the dimension scores of each of the indicators. Notice that the first dimension has the most indicators discriminated compared to the second dimension.

Now, given the poverty threshold and computing for the composite indicator using the formula in the previous technical documentation on MCA (22), a composite poverty measure could be drawn just like in (24) in the MCA section. Hence, Table 9 was able to show a poverty rate similar to poverty rate shown using income and income poverty threshold.

Composite poverty rate is more likely to be higher than the univariate income-based poverty incidence since more variables are introduced. One out of four households is poor in the whole city based on the composite indicator. Still Zone 15 is the most depressed with nearly one out of two households is poor. The best-off zone in

Figure 1. Dimension 1 versus dimension 2 Plot of category weights



**Table 8. Indicator categories, category weights and poverty lines
CBMS survey initial results 2005, City of Pasay**

Indicator	Level	Weight	Poverty Threshold
POVINC	Core poor	0.0	←
	Non-core poor	1108.7	
	Non-poor	5339.4	
WTRFAC	Bottled water	9189.0	←
	Community water system/ artesian well	7704.7	
	Dug well, others	0.0	
TOILFAC	Water sealed - owned	10792.1	←
	Water sealed - shared	8565.9	
	Closed/Open pit	89.7	
	No toilet/others	0.0	
MSH	Makeshift	0.0	←
	Non-makeshift	1476.7	
TENURST	Owned	9512.5	←
	Rented/rent-free	8236.9	
	Squatter	0.0	
WNTELEM	With member 6-12 not in Elementary	0.0	←
	All members 6-12 in Elementary	2216.7	
WNTHS	With member 13-16 not in HS	0.0	←
	All members 13-16 in HS	2709.6	
EXPFSHORT	Experienced food shortage	0.0	←
	Did not experience food shortage	6903.5	
WMALN	With children 0-5 malnourished	0.0	←
	With no malnourished children	2338.3	
WUNEMPL	With unemployed labor force members	0.0	←
	All labor force members are employed	48.6	
WCHILDD	With members 0-5 who died	0.0	←
	No members 0-5 who died	14003.4	
WDEATHPR	With members who died due to pregnancy	0.0	←
	No members who died due to pregnancy	26223.9	
WVICTCR	With members who are victims of crime	0.0	←
	No members who are victims of crime	388.0	

the income-based retained its position here with more than one out of ten compositely poor.

Map 2 exhibits how to locate the compositely poor households. It also visually conveys information on the concentration of the poor (the red dots).

In listing of targets, table 10 shows that one could identify a subset more comprehensively than previous methods. Moreover, since the composite indicator was derived yielding several category

**Table 9. Composite poverty rate by zone
CBMS survey initial Results 2005, City of Pasay**

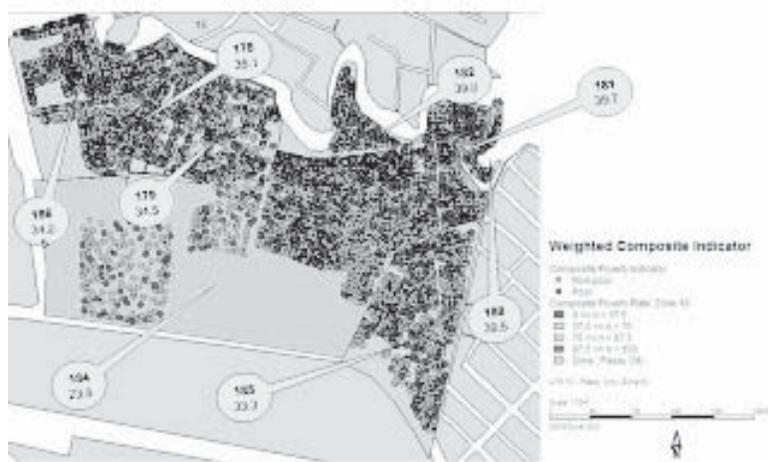
Zone	Total Households	Household that are poor based on the composite poverty indicator	
		Magnitude	Proportion
Pasay City	65117	16269	25.0
15	1662	759	45.7
18	3238	1,072	33.1
13	3316	1,079	32.5
16	4252	1,359	32.0
19	6455	2,039	31.6
7	1613	500	31.0
8	3193	960	30.1
2	2174	637	29.3
4	878	257	29.3
17	4445	1,185	26.7
3	583	154	26.4
1	1722	447	26.0
9	2572	618	24.0
5	1361	314	23.1
6	2297	487	21.2
20	16374	3,071	18.8
10	1535	260	16.9
11	1925	306	15.9
14	2742	408	14.9
12	2780	357	12.8

weights, components inside the ranking would most likely change compared to the previous methods. Recall that the previous methods only have two weights for each indicator, that is zero (0) and the proper weight. In this method, there could be weights equivalent to the number of categories set. Hence, the magnitude of the composite indicator will depend on what indicator and what category the population unit belongs.

As can be seen in table 11, some pertinent variables such as per capita income and household size are significantly (linearly) correlated with the composite poverty indicator. As per capita income increases, so is the composite indicator and inversely, as household size decreases, the composite indicator increases. Hence, households with higher income would likely have higher composite indicator (less poor) and households with larger household sizes would likely have lower composite indicator (poorer).

It is known that the usual poverty status through income may have some apparent and expected relationship to the assets (higher

**Map 2. Location and proportion of households who are poor based on the composite poverty indicator
CBMS survey initial results 2005, City of Pasay**



**Table 10. Partial list of bottom households
CBMS survey initial results 2005, City of Pasay**

Zone	Barangay	HH ID	Composite Indicators
9	91	8452	2892.123
17	172	13030	3170.323
19	179	117	3203.769
20	193	19129	3205.908
18	177	22179	3280.761
19	178	3135	3378.754
19	182	1794	3459.039
19	184	4607	3492.931
13	129	59930	3532.946
13	135	17634	3664.977
20	201	23442	3704.192
19	179	728	3772.469
20	201	23828	3802.315
15	139	67396	3818.369
13	135	17608	3885.685
13	135	17611	3885.685
13	135	17603	3892.585
13	135	17648	3892.585
19	185	1698	3939.338
16	148	12382	3985.815

income, higher purchase capacity). It could be interesting to see that the composite poverty status through MCA, which is a combination of the different indicators and could lack intuitive and direct relationship with the assets and household size, has significant predictors given the used data.

To explore this, if the probability of being poor based on the set of 14 indicators could be expressed in terms of some amenities or assets owned by the households, then there could be an opportunity to predict the status of a household based on what does that household own.

Table 11. Pearson's correlation of the composite poverty indicator with per capita income and household size

Pearson's Correlation	Per Capita Income	Household Size
Composite Poverty Indicator	0.0297	-0.1708
Significance (p-value)	0.0000	0.0000

Suppose p denote the probability of success of a variable and let θ denote the ratio of the probability of success and failure

$$(29)$$

Define a function *logit* say $\lambda(\theta)$ that takes the natural logarithm of θ such that it could be expressed as a function of some constant α , a vector of variables X with vector of coefficients β and an unexplained random fluctuation term ϵ . We have the following *logit* model

$$(30)$$

Higher values of X with higher β would mean higher value of $\lambda(\theta)$. High α mean high value of $\lambda(\theta)$. Lastly, high value of ϵ means high value of p . Hence, higher values of X and β would mean high value of the probability of success p .

Thus, given the observed y , if the vector X is known and the coefficients β could be estimated (via *maximum likelihood*) then the chance of having success could be predicted.

Now, let

$$(31) \quad y = 1_y(y) = \begin{cases} 1, & \text{compositely poor} \\ 0, & \text{compositely non-poor} \end{cases}$$

$$(32) \quad x_j = 1_{x_j}(x_j) = \begin{cases} 1, & \text{household owns asset } j \\ 0, & \text{otherwise} \end{cases}$$

$$\frac{\partial \ln L(\theta)}{\partial \ln \theta} = \frac{P(y=1)}{1-P(y=1)} = \frac{p}{1-p}$$

it is left only to know which of the assets predict significantly the chance of being compositely poor.

Given the data, Table 12 shows an estimated logit model of the composite poverty measure using existing amenities or assets. The above listed amenities contribute significantly to the odds of being compositely poor. For instance, the negative coefficient of *ref* indicates that households with refrigerator have less odds of being poor based on the 14 core indicators. In addition, the coefficient of *hsize* indicates that higher household sizes would increase the probability of being compositely poor and, of course, higher per capita income would decrease the chance of a household to be compositely poor.

Denote $\hat{\alpha}$ and $\hat{\beta}_j$ as the estimates of the intercept and coefficients, the probability from the model could be derived through the antilogarithm

$$\begin{aligned}
 e^{\lambda(\hat{\theta})} &= e^{\ln\left(\frac{\hat{p}}{1-\hat{p}}\right)} = \frac{\hat{p}}{1-\hat{p}} \\
 \frac{\hat{p}}{1-\hat{p}} &= e^{\hat{\alpha} + \hat{\beta}_1 x_1 + \hat{\beta}_2 x_2 + \dots + \hat{\beta}_p x_p} \\
 \hat{p} &= (1-\hat{p}) e^{\hat{\alpha} + \hat{\beta}_1 x_1 + \hat{\beta}_2 x_2 + \dots + \hat{\beta}_p x_p} \\
 \hat{p} &= e^{\hat{\alpha} + \hat{\beta}_1 x_1 + \hat{\beta}_2 x_2 + \dots + \hat{\beta}_p x_p} \cdot \frac{\hat{p}}{1-\hat{p}} \quad (33) \\
 \hat{p} + \hat{p} e^{\hat{\alpha} + \hat{\beta}_1 x_1 + \hat{\beta}_2 x_2 + \dots + \hat{\beta}_p x_p} &= e^{\hat{\alpha} + \hat{\beta}_1 x_1 + \hat{\beta}_2 x_2 + \dots + \hat{\beta}_p x_p} \\
 \hat{p}(1 + e^{\hat{\alpha} + \hat{\beta}_1 x_1 + \hat{\beta}_2 x_2 + \dots + \hat{\beta}_p x_p}) &= e^{\hat{\alpha} + \hat{\beta}_1 x_1 + \hat{\beta}_2 x_2 + \dots + \hat{\beta}_p x_p} \\
 \hat{p} &= \frac{e^{\hat{\alpha} + \hat{\beta}_1 x_1 + \hat{\beta}_2 x_2 + \dots + \hat{\beta}_p x_p}}{1 + e^{\hat{\alpha} + \hat{\beta}_1 x_1 + \hat{\beta}_2 x_2 + \dots + \hat{\beta}_p x_p}}
 \end{aligned}$$

Figure 2 shows that as the household size increases, the probability of being poor also increases, while as household income increases the probability of being poor decreases.

Validation

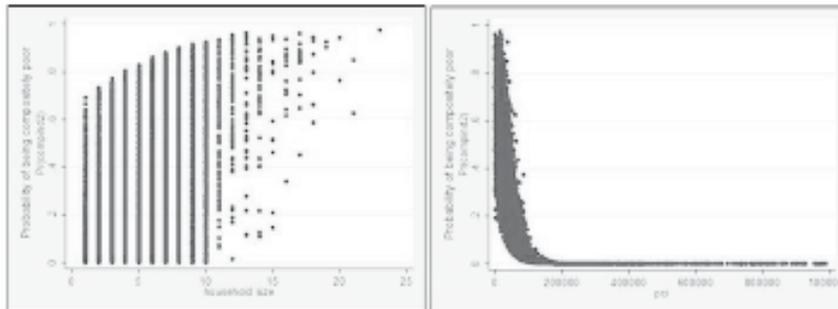
The CBMS Team of Pasay City has conducted initial validation incorporating the results of ranking through the MCA composite indicator. The results depicted that Zone 15 which is located along Tripa de Gallena, indeed catered the most number of depressed households. This coincides with the prior information of the City. The validation exercise just shown that CBMS data have captured the most disadvantaged households in the community.

From the list of the 20 bottom households in composite indicator ranking through MCA, eight households are located along the Tripa de Gallena, and the rest are located from other identified depressed areas of Pasay City such as Maricaban and Sto Niño. It was also found that two out of the 20 can no longer be found in their given address. This explains that in densely populated areas such as in Pasay, the community is mobile in nature.

Those households located along Tripa de Gallena are living in makeshift housing at the creek side. One household is living in Pasay Cemetery and the one still experience food shortage. Three out of 20 households are currently overcoming their poverty situation.

Given the CBMS results and other important findings, the City of Pasay, geared its programs and projects towards addressing the major problems. The composite indicators generated from CBMS

Figure 2. Graphs of estimated probability of being compositely poor by varying household size and per capita income



results, was presented in different sectors in the city, such as business sectors etc. The City Planning and Development office has been coordinating with the possible donors from private/business sectors to tap their social concern plan, wherein the private sectors extend their funds to government programs.

Conclusions and recommendations

There is no question whether poverty is multidimensional or not. One of the questions to be addressed is how to treat its multi-faceted nature.

CBMS core indicators have been formulated to capture the different dimensions of poverty both for the use of national agencies and at the local level. However, as far as poverty monitoring is concerned, there is still minimal simultaneous use of the multidimensional nature of poverty. The different dimensions are often looked upon individually depending on the given sectoral problem. It is already given that identifying the poorest is not by looking at a single indicator. Hence, the composite indicators using CBMS Core Indicators is being developed to address simultaneous analysis of the indicators depicting faces of poverty.

The use of composite indicator has provided a tool for ranking the households in almost any geopolitical level. This will be very helpful particularly to government agencies and other organizations with the capacity to do such analyses. Several methods were presented and used to derive composite indicators—simple, weighted and categorically weighted.

The first, simple scoring, is the most feasible as far as local government units are concerned because of its simple statistical procedure. Just count the number of unattained and they could rank the households. This is also incorporated in the simple statistical software distributed by CBMS Team for CBMS-implementing LGUs. However, weights are arbitrarily set in this technique. On the other hand, the weighted composite poverty indicator derives weights using data reduction techniques such as principal component analysis (PCA) and multiple correspondence analysis (MCA). PCA and MCA are

similar in nature except for the fact that PCA is more appropriate in quantitative data and MCA is more appropriate in categorical ones. However, MCA is recommended to be more appropriate in the case of CBMS because it could generate more complete analyses such as formulation of composite poverty lines and rates given the set of categorical household indicators.

The basic problem in latter techniques is its adoption by LGUs. Aside from lack of even the simplest statistical software of LGUs, these methods require a rigorous training and statistical skills due to its technically oriented derivation of composite indicator.

There are many aspects that must be considered in identification of targets particularly in a composite indicator. Learning from the experience of Pasay, it has been found out that the composite indicator captures depressed and vulnerable households in the community. Prior information of the City about household depression has been also validated. Although there are many images of vulnerable conditions, there are also findings that some are currently moving out of their poverty situation. However, timing and monitoring is very important. Although only a few in the list have been found to have transferred to other location, this could be similar cases in other households in other locations particularly in highly urbanized areas. The experience just indicates that although poor and vulnerable groups have been identified, it is not guaranteed that they could be found in another point in time. This exhibits a fact there is indeed a dire need for a more timely, accurate and well analyzed data.

This paper just presented a subset of doable methods and a specific case, data and application but there are still many methods to explore and many aspects to improve.

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Day 2
Theme: Empowering Local Governments Through CBMS



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Keynote Speaker

Pushing Past the Poverty Line

*Datu Zamzamin Ampatuan**

It is an honor for me to speak before you today. A few weeks ago, I turned over the task of leading the National Anti-Poverty Commission (NAPC) to a man very qualified for the job, former Secretary of the Department of Agriculture, Honorable Domingo F. Panganiban. I am confident he shall pursue whatever gains we have started and further enhance what is needed to improve on. On my first year as Lead Convenor of the NAPC, I got the opportunity to meet with Dr. Celia Reyes of the CBMS Network and be oriented on what the CBMS is all about. It did not take long for me to be convinced that this is the system that is needed and I hope that under Secretary Panganiban's leadership, the NAPC will continue to pursue it.

Throughout my term in NAPC, I have pushed for focused poverty reduction programs because the depth of the problem does not deserve a hit-and-miss approach. There is also the scarcity of social services funds to factor in. So today, I shall discuss with you on how we found an appropriate response that shall more speedily reduce the incidence of poverty among Filipinos.

*Administrator, Southern Philippines Development Authority and former Lead Convenor of the National Anti-Poverty Commission. The speech was delivered by Datu Reza Sinsuat, Chief of Staff of Administrator Ampatuan.

My discussion shall be in three parts: First, on community-based monitoring system (CBMS) as a poverty monitoring tool or system to adopt in the country. Second, on the measures we took to ensure its countrywide adoption. And third, on where we can go from what we have already gained so far.

Why did we choose CBMS? Official poverty incidence data come from statistics collected from a survey done every three years. These data are generated from the province up to the national level. When we go to the countryside, however, we see a different picture. Hence, with the CBMS, the data which are gathered from households and regularly updated prove to be more reliable. The local communities also now play a major role in ensuring that the data are accurate. What we therefore get is a clearer, more recent and more accurate picture. There is now ownership by local governments of the data that are generated. With the ownership, they can focus on the challenges and respond appropriately. The data that they generate present to them their constituents' actual needs. These needs cannot be set aside because these are the realities. Thus, programs and resources are allocated to where they should be and planning and implementation become transparent, effective and measurable.

After we have decided on the use of the CBMS, what measures have we taken to institutionalize the CBMS? First, we had the major agencies to agree on adopting the CBMS. The Department of the Interior and Local Government (DILG) becomes the foremost advocate and valuable partner of the NAPC in enabling local governments to adopt the CBMS. I also got the opportunity to preach the value of CBMS projects in the form of talks. It is important that LGUs see the merit of what we are doing and support us in our efforts.

The CBMS Network then started training NAPC secretariat staff. We also started building the capacities at the NAPC in terms of being the repository of CBMS poverty data, especially with regard to managing and operating the data banks. At the same time, it is also imperative that everyone in government is equally supportive of our CBMS efforts. So we conducted a series of orientation briefings in

both national and local governments. We also did the same for the private sector.

Continuous capacity-building on the CBMS is also being done by the DILG and NAPC. Today, 22 of the 70-plus provinces are already in the CBMS loop after two years of implementation.

Finally, where do we go from what we have already started? We are aiming for a countrywide use of the CBMS by 2010. Our focus of activities is aimed at getting support for local governments to equip them with CBMS knowledge and technologies. Our next steps include building capacities in the use of the CBMS data for planning and programming. The task does not end in generating data. The bigger task is in translating these data into action items for the local governments. In making the local governments use the CBMS data, we hope to effect an increase in the allocation in resources by local governments for poverty reduction programs and plans.

In sum, the CBMS enabled us to properly answer three questions aimed to reduce poverty incidence in the country. Number one, where are the poor? Number two, what do they need or what are the causes of their poverty? And number three, what are the plans and programs that will address these needs? At the end of the day, we hope to see more and more Filipinos pushing past the poverty line and never going back. That is my dream and I am hoping that what we have started will come true very soon.

Thank you very much and good day.



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Session 1
Institutionalization of CBMS in the
Philippines: Issues and Future
Directions



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CBMS as a Local Monitoring Instrument

*Encarnacion Blanco**

One of the biggest challenges being faced by the Philippines is the reduction of poverty. To successfully fight poverty as indicated in the Millennium Development Goals (MDGs), it is important to know the nature and extent of poverty — who the poor are, where they are and why they are poor. Data from national sources like the country's National Statistics Office (NSO) are too aggregated and sometimes not sufficient to meet the demands of local government units (LGUs) particularly cities, municipalities and barangays, to be able to diagnose poverty and identify directions. The community-based monitoring system (CBMS) is a tool that can benchmark and monitor the MDGs.

Accordingly, in our commitment to attain the MDGs, it is imperative to monitor performance versus targets, and the CBMS will allow us the monitoring of the achievements not just at the provincial and municipal levels but also at the barangay level. Because of our decentralization policy, the demand for local data will naturally increase and the Department of the Interior and Local Government (DILG) acknowledges the fact that the CBMS can fill the gap. Thus, to institutionalize CBMS, the DILG has done the following measures: (1) issuance of enabling policies that adopt CBMS as the MDG poverty monitoring instrument to serve as a strategy in localizing our MDGs;

*Assistant Secretary, Department of the Interior and Local Government

(2) conduct of capacity-building programs to assist LGUs in their CBMS implementation; (3) formation of regional teams as regional trainers to assist LGUs on CBMS implementation; (4) approval of the use of CBMS as local monitoring instrument that can be used by LGUs in planning and budgeting; and (5) adoption of the CBMS partly by local development indicators for the rationalized planning system being promoted by the DILG.

To assist in scaling up the CBMS, we have implemented it in the United Nations Fund for Population Activities (UNFPA) pilot projects in Regions 5, 7, 8, 12 and the ARMM as well as in World Bank-pilot areas in Camiguin in Region 10, Marinduque in Region IV-B and Masbate in Region 5.

On networking and partnership, the DILG is continuously mobilizing tie-ups and partnerships with the National Anti-Poverty Commission (NAPC) and the League of Municipalities of the Philippines to be able to help LGUs implement the CBMS. At present, the list of local governments has increased tremendously and they are in varying stages of their CBMS activities.

CBMS in Palawan: Looking Back and Drawing Out

*Joel Reyes**

Introduction: how did CBMS start in Palawan?

The Provincial Government of Palawan (PGP), through the Provincial Planning and Development Office (PPDO) and the CBMS Network Coordinating Team, has been undertaking the community-based monitoring system (CBMS) since 1999.

I was then a Vice-Governor when I posed a challenge to the PPDO to come up with a system for monitoring the impact of government interventions in the barangays and municipalities and provide decisionmakers with a tool to make a scientific and systematic appraisal of Palawan's development.

Soon after this, in March 1999, former Governor Salvador P. Socrates entered into an agreement with the Policy and Development Foundation, Inc., through the Micro Impacts of Macroeconomic Adjustment Policies (MIMAP) Project Philippines (now the CBMS Network), for the implementation of the CBMS in Palawan.

Thereupon, in September 1999, the CBMS project team was created and composed of staff from the CBMS Network led by its MIMAP-Philippines' Executive Director, Dr. Celia Reyes; the PPDO; and Mr. Dirk Heinrichs, who is connected to the provincial government

*Governor, Province of Palawan

through the Integrated Expert Program of the Center of International Migration and Development (CIM).

Two months later, the CBMS was piloted in 2 barangays in Taytay municipality in the northern part of Palawan to test and validate the survey methodology and instruments.

The province-wide implementation of the project was formally launched through Executive Order No. 15 and took place in January 2000, marked by a CBMS forum attended by local chief executives and municipal planning and development coordinators.

How was the CBMS implemented in Palawan?

First, the key actors in each of the local government levels were involved in the process.

At the barangay/ community level, the persons and organizations involved were the enumerators composed mostly of barangay health workers, barangay nutrition scholars, members of the sangguniang kabataan, school teachers, and students from the student privilege employment service and various colleges.

At the municipal level, the municipal mayors, municipal planning and development coordinators, municipal local government operations officers, and municipal social welfare officers took the lead in the implementation.

Meanwhile, at the provincial level, the governor and the PPDO were also actively involved. Other key players who had important roles in the implementation of the system were the NGOs.

The second step was to conduct and put in place appropriate training, supervision and consultations/validation of results.

In the first quarter of 2000, 4 training teams of the PPDO research were deployed and 24 orientation seminars were conducted. All in all, 1,300 local representatives were trained in 354 barangays in 21 municipalities.

Between March and September, surveys were conducted under the lead coordination of the municipalities. Staff from the PPDO research, which were organized into groups, conducted field visits

from June to November 2000 to assist the municipalities and the barangays. Then, after the completion of the surveys, the results were processed at the purok, barangay and municipal levels. This was done in partnership with all involved LGUs.

In September 2000, the survey results were consolidated and validated at the PPDO and then presented to and validated with the communities and barangay officials. The results were also presented to and validated with the different national line agencies, and again with the municipal officials during the provincial development council meeting.

Because the results of the CBMS show the performance of key indicators on human development, this facilitated the effective utilization and allocation of LGU resources. In line with this, I issued Executive Order No. 03 in 2004 which enjoins all municipalities to allocate twenty percent of their local funds for the implementation of projects addressing priority needs of the communities identified through the CBMS.

Moreover, a series of municipal development council (MDC) conferences were held province-wide where the results of the CBMS were used in identifying the major constraints confronting the municipalities.

How were the CBMS results used?

In terms of development planning, we have adopted innovations in our municipal development planning exercises which involve the establishment of development zones (earlier six, now eight) province-wide. Before coming up with zonal development plans, each municipality, through the facilitation of our PPDO staff, had undergone regular development planning exercises that include the formulation of vision, mission and goals, situational analysis and identification of programs and projects.

Again, because the CBMS results show the performance of indicators on human development, we were able to measure the human development index (HDI) in Palawan. HDI is a composite measure

of life expectancy, school participation, literacy and income. Studies have shown a strong connection of the HDI with social/human development expenditures/intervention. In fact, countries that invest more on social/human development tend to rank high in HDI.

At the same time, the CBMS has always been part of my state-of-the-province address (SOPA) for the past four years. Data and information featured in my SOPA have always been culled from the CBMS.

The CBMS has enhanced the recognition and credibility of local governance and political leadership. Before the Department of the Interior and Local Government (DILG) recognized the CBMS as a local initiative for development and poverty monitoring at the national level with the issuance of Circular Nos. 2001-109 and 2003-92, CBMS was already being used as a poverty monitoring tool in the province of Palawan. In fact, we were invited in four national and regional conferences in Manila, Davao and Leyte to present our CBMS experience to local poverty reduction action officers and planners. In 2001, I sent Vice-Governor David Ponce De Leon to Morocco—to represent me in the CBMS international conference.

We also use the CBMS as a source of reference for the preparation of comprehensive land use plans (CLUP) and socioeconomic profiles. This has correspondingly translated to savings for the LGU in terms of expenses such as data collection, surveys, and pre-developmental activities.

External support organizations likewise value the system because it gives them the proper basis for project allocation, points of interventions, participation and/or fund contribution. Examples include the BESP project of the World Bank, the Palawan Tropical Forestry Protection Program of the European Union, the Palawan Corridor of the Conservation International, and the Energy Development Program of the Provincial Government of Palawan.

What are the major strategies used in the CBMS implementation?

Probably the most important strategy used is the active dissemination of data which included the intensive sharing of information and dialogues with potential users.

Active data dissemination is also achieved through the Palawan Human Development Report, the first of its kind at the provincial level in the Philippines. It documents the CBMS data of the year and also provides analysis and interpretation of information.

Data are openly shared and made accessible across all LGU levels and civil society/private sector (academe, researchers, planners, etc.) Through a computer-based information system known as the natural resources database (NRDB). The database introduction has been justified on the grounds that it improves local data management, planning, resources allocation and decisionmaking.

Intensive networking is another key strategy used. This refers to the involvement of the LGU and partner agencies in the process of data generation, interpretation and utilization.

The expansion of the CBMS database is being done in order to keep it relevant for other data users. An example is the inclusion of environmental indicators and trends.

The CBMS implementation saw an increasing number of partner agencies both as part of data generation and utilization. For instance, the Provincial Government of Palawan has entered into an agreement with National Economic and Development Authority (NEDA) Region IV-B (MIMAROPA) regarding the implementation of the CBMS at the regional level.

Another strategy used to enhance utilization and relevance of the CBMS information is the integration of the key results into the regular planning process.

CBMS data and findings are frequently presented and discussed with stakeholders such as the local development councils, sectoral agencies and local legislative bodies.

Data validation is also another strategy employed. This made barangay officials aware of the human development condition in their communities. The activity has likewise facilitated the justification by the PPDO of the trend/results of the CBMS.

Some Lessons for Institutionalizing and Scaling up the CBMS

*Oscar Francisco**

Let me share with you today 5 key lessons that I have learned from the Eastern Visayas experience which are worth sharing with others. Much of these are already known to many of us. These are mainly factors that could facilitate the institutionalization and scaling up of CBMS.

The first lesson is to foster national government agencies (NGAs)-local government units (LGUs)-civil society organizations (CSOs) partnership and promote the Community of Practice (CoP). Build on existing institutions, programs, local knowledge and experience. My point is that when you talk of training, the local government units or communities may actually already have existing capacities. These can thus be tapped and will make the training more cost-effective. The first national government agency to tap into the project is the Department of the Interior and Local Government (DILG). The other national government agency to talk to is Department of Social Welfare and Development (DSWD) which is the lead implementor of the Kalahi-CIDSS. The third one is the Department of Agrarian Reform through its agrarian communities. The DSWD, through its Kalahi-CIDSS and agrarian reform communities, practices participatory local governance with focus on the barangay. I am happy to note that it

*Managing Trustee, Institute for Democratic Participation and Governance

had affirmed the inclusion of the CBMS in the participatory process and the location of the CBMS in the SABIME (situation, analysis, budgeting, implementation, monitoring and evaluation) in particular in situation analysis.

Meanwhile, the civil society groups that we got into the project are those involved with participatory local governance programs. Their partnering with NGAs and local government units will enable their work to be mainstreamed and at the same time scaled up.

Lesson number two is to use the learning-by-doing approach. In Eastern Visayas, CBMS was implemented in three phases: pilot, demonstration of the piloting effects and then scaling up. From the beginning when we attended an international conference in scaling up poverty reduction sponsored by the World Bank, we have wanted to immediately scale up the implementation of the CBMS. And scaling up for us meant that we have to approach and show the leadership and communities at the barangay, municipal/city and provincial levels what was being done in other places in terms of the CBMS implementation and what benefits were gained so that they would immediately know and learn what CBMS uses are. Hence, we wanted to get a province or a governor to be an icon or champion of CBMS because in the architecture of decentralization, the missing role is the province.

The third point or lesson that I would like to share is to get the incentives right to enhance capacities. When I was asked what incentives LGUs would get from the CBMS, I told them that the incentives are shown by many local government units that have adopted CBMS. Palawan's experience in getting grants from the United Nations Development Programme (UNDP) and the Peace and Equity Foundation (PEF) for implementing certain interventions to address the concerns identified in the CBMS implementation is a good example.

Fourth is to instill stakeholder mentality through cost-sharing schemes.

And finally, the last lesson is to take a few risks in scaling up the CBMS. In Eastern Visayas, for example, our risk was in the sustainability of the project. We are thus fortunate that our work has more or less been mainstreamed when the DILG-Regional Director officially said that they will be the one to pursue CBMS in the region. This support from the DILG ensured the mainstreaming of the CBMS and its sustainability. We took a number of risks, though, along the process but we were eventually rewarded by the DILG support.

Creativity is also important. In our case, we want to have a provincial development summit using CBMS as starting point. We started with the Panoan Island Development Summit using CBMS and came out with a common development agenda. It is smaller than the province but bigger than the municipalities.

These lessons greatly helped us in further scaling up CBMS in Eastern Visayas.



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CBMS Data as Effective Aid in Targeting Beneficiaries for Intervention Programs

*Veronica Villavicencio**

First, allow me to introduce myself. I am from a local funding organization which is known as Peace and Equity Foundation (PEF). Our primary mission is to empower communities and help reduce poverty. Although it might be perceived that we have a lot of money, this is rather misconstrued. If we divide the funds in as many villages that are considered poor where majority of the individuals live below the poverty threshold, then we will not be able to give even PhP1 to these poor families. Thus, we have to use our resources in the best way possible and promote appropriate tools such as the community-based monitoring system (CBMS) to be able to feel confident that we are reaching the poorest communities and the poorest households. That is precisely the perspective that we have in CBMS.

Since we partner closely with nongovernment organizations, we find that their participation in the process of data gathering, analysis and subsequent planning using CBMS data is crucial for them to be able to link up or partner with the different programs adopted and being espoused by the local governments. This kind of partnership is what we hope can be entrenched in all the different programs that our organization, together with donor agencies, is supporting.

*Executive Director, Peace and Equity Foundation

To address the needs of poor households in all communities, we need to have a targeting tool. We usually do poverty mapping. This is basically using maps locating specific indicators. This is what we use in CBMS. But we use it more on the national and provincial levels. From the overall Philippines level where you have a set of houses or municipalities, we look at official data from the National Statistics Office (NSO) or National Statistical Coordination Board (NSCB) so that we can have a certain kind of baseline. And using these data such as the basic human development indicators and putting them in a map for a province, we are able to basically interact with NGOs and local government units so that they would tell us what the major concerns are and where we should target the programs that we support. This is where the funds that we will program will go. But that is only up to the extent of the municipal level where we are able to use national-level data. When we go to actual planning, in which households are to be targeted for a specific project, that is where the CBMS data become very important.

In the provinces like in Palawan where we are actively engaged with the nongovernment and people's organizations, we look for CBMS data. So when we meet with local NGOs and they present to us CBMS data and say that these are the villages that they think are priorities, we feel confident that we have the right areas to work with and work on in the next, say, three years. This makes the targeting process very much easier.

The partnership that CBMS generates is also very valuable. We hope that this partnership can be entrenched in all of the projects that we support. Partnership at the provincial level is something that we are able to leverage with through the poverty maps that I described earlier. But at the municipal/town and village level, this is where the CBMS data really make a difference. We are able to engage with the LGUs and the village government in mapping out where the resources should go and to also plan for monitoring. The monitoring aspect of CBMS is therefore important.

There are also 3 specific aspects that are coming out in our projects which can be linked with the CBMS. These are possible areas for further cooperation. First is in developing the process of identifying the households that do not happen to be within the bracket of being considered as beneficiary in our projects. How can these households be able to share their resources with others? This is one area where CBMS can be very useful.

The second example is in providing information for identifying the people with disabilities so that we can have a national registry of persons with disabilities. If there are programs that are directed toward them, then they can easily be targeted. Perhaps for the provinces that already have CBMS databases there could just be an additional tag for these households and some kind of qualifier of what the disability of the person is. This could be the anchor for that national registry.

Third is targeting at the national level but with municipal focus like in the area of microfinance. National government has microfinance in the forefront of its anti-poverty program. Part of our difficulty is looking at underserved areas at the level of the villages. Which barangays do not have any form of microfinancing? There are microfinance institutions that basically lend out money. We want to be able to direct them to the communities that need microfinancing services. We find it difficult to do this though because we do not have the poverty data at the municipal level with microfinance. This could probably be another link with the basic CBMS database.

Finally, in terms of institutionalization, we are encouraging our partner NGOs in the provinces to link up with or use CBMS, together with the local governments, as a tool for equity in terms of access to resources.



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Learning from CBMS Implementation: Selected Case Studies*

*Victoria Bautista***

Introduction

The study focuses on three case study sites to demonstrate the mobilization for and implementation of the Community-Based Monitoring System (CBMS). The CBMS entails the installation of a set of indicators to determine quality of life advocated to be applied at the barangay level and other local government units. The CBMS was initially a part of the Micro Impacts of Macroeconomic Adjustment Policies (MIMAP) Project implemented by the Philippine Institute for Development Studies (PIDS) with the aid of a grant from the International Development Research Centre (IDRC) of Canada. Subsequently, the MIMAP Project was housed at the Policy and Development Foundation Incorporated before it was transferred to the Angelo King Institute for Economic and Business Studies of the De La Salle University in 2001. Starting 2002, CBMS has evolved as a stand-alone project, taking over from the MIMAP Project. Coordinative work is under the CBMS Network, still based at the Angelo King Institute, and continues to be funded by the IDRC through its Poverty and Economic Policy (PEP) Project.

*Excerpts from the paper of the same title prepared for the PEP-CBMS Network Coordinating Team.

**Vice-Chancellor, University of the Philippines-Open University

The study hopes to draw lessons for policymakers and implementors at the national and local levels with respect to the improvement of mechanisms in order to address poverty. In academic parlance, this can draw theoretical perspectives for governance in poverty alleviation.

The three case study sites are: Palawan and two of its municipalities (San Vicente and Brooke's Point) and a case barangay per municipality, New Agutaya and Oring-orong, respectively; Pasay City and two case barangays—179 and 184; and two municipalities of Camarines Norte—Labo and Sta. Elena—and a barangay to represent each municipality, namely, Barangay Tulay na Lupa and Barangay Poblacion, respectively.

Barangay New Agutaya of San Vicente in Palawan distinguishes itself by having benefited from the implementation of the Comprehensive and Integrated Delivery of Social Services (CIDSS) that already implemented a set of 33 indicators constituting the Minimum Basic Needs (MBN). Furthermore, this national program, spearheaded by the Department of Social Welfare and Development (DSWD), steered people's organizations to participate in governance, such that identification of program plans emanates from the convergent effort not only of the local government stakeholders but also of the people's organizations in the community.

A similar experience is also noted in Barangay Poblacion in Sta. Elena of Camarines Norte for having adopted the MBN through the delivery system of the Social Reform Agenda (SRA). Support for the installation of the system though was the initiative of the local government unit, unlike in the CIDSS which provides financial support to project proposals submitted by the community to address priority basic needs.

Both barangays (New Agutaya and Barangay Poblacion) also benefited from an earlier experience in the setting up of a community-based information system even before the CBMS was introduced.

The initiatives of the two municipalities of Camarines Norte have inspired the province to also set up the CBMS for the entire province.

The installation of the CBMS commenced in 2005 for the entire province.

Brief history of the CBMS

The study sites represent the initiative of various levels of local government to install the CBMS. One is by a province (Palawan); another by a city (Pasay); and still another by two municipalities in the province of Camarines Norte.

In Palawan, the governor posed the challenge to set up a system in order to systematically assess the progress of quality of life in the province. This motivated a Project Evaluation Officer to seek an efficient technology to make this assessment and found this in the CBMS.

For the municipality of Labo, the Planning Officer attended a forum on Local Government Initiatives for Poverty Reduction in August 2002. This spurred him to advocate the methodology of CBMS in his locality, after having witnessed the presentation of the CBMS in Palawan. In turn, the municipality of Sta. Elena was stirred by the initiative of Labo to set up the CBMS in the area. After Labo and Sta. Elena, five other municipalities in Camarines Norte also implemented the CBMS in 2003. However, the implementation in 2006 was a collaborative effort of the province. The remaining five municipalities that did not implement the CBMS in 2003 then decided to implement the CBMS in 2006, thereby making its implementation provincewide.

In the case of Pasay City, it was through the advocacy of the wife of the City Cooperatives Officer who got to know about the CBMS and inspired the City Planning and Development Coordinator (CPDC) to install the methodology. The CPDC had earlier been attracted by the idea of adopting a system for assessing progress in the locality for its development efforts and the CPDC immediately considered the CBMS technology.

Palawan was the first to implement the CBMS among the case local government units, thus recording the most number of cycles of

CBMS conducted—in 2000, 2002 and 2005. The survey was undertaken practically every two years, with the exception of 2005, since the election year was in 2004 and the governor deemed it wise to hold it in the subsequent year.

In the case of Labo, one cycle of CBMS had been completed in 2003. Another round of data collection was done in 2006 but the validation process was not yet completed when this study was conducted. In Sta. Elena, one cycle of data collection was completed a few months after data collection started in Labo. The experience on the installation of MBN in Sta. Elena facilitated the conduct of data collection of the CBMS in the municipality.

In Pasay City, the survey was started in 2004 but was only completed in 2005 (for the entire city). In the case of Barangay 179, the whole cycle was completed in three months.

Scope of coverage

Nearly all municipalities (21 in all) implemented the CBMS in Palawan, except for two distant municipalities with sparse population. The CBMS coverage of the municipalities included all barangays, although in some municipalities, sample surveys were undertaken until the second cycle of CBMS because of budget constraints.

In Pasay City, attempts were made to cover all barangays.

In the case of Camarines Norte, the two municipalities which initiated the implementation of CBMS targeted all their barangays in the 2003 survey. The initiative to implement the CBMS in the province in 2006 was inspired by Labo and Sta. Elena.

Coordinative structure

To oversee the implementation of the CBMS in each locality, coordinative structures were set up at each level. The most active structures in each of the study sites covered are the planning and development offices. In Palawan, it is the CBMS Study Group composed mainly of the staff of the Research and Evaluation Division of the Provincial Planning and Development Office, numbering 13

in all. They impart the essence and approach of the CBMS in the lower levels and conduct monitoring and evaluation of how the local level CBMS system fares. The case of Palawan is atypical since the provincial government deploys its own staff to witness critical periods in the implementation of the CBMS—data collection, processing, validation and consolidation of data. Since the CBMS had been institutionalized in the province, the coordinative function is now the responsibility of the CBMS Study Group.

In the two case municipalities in Palawan, the most active persons are two technical staff from the respective MPDOs. In San Vicente, the governing body is the Municipal Census Committee which includes not only the Municipal Planning and Development Coordinator but also the Municipal Social Welfare and Development Officer and the Civil Registrar. In Brooke's Point, the mayor sits in the Technical Working Group (TWG) together with the MPDC, the Kagawads and the barangay captains. The ones directly responsible for overseeing the operationalization of the CBMS are the technical staff of the MPDC.

In Pasay City, all the heads of the different offices sit in the TWG, which is headed by the CPDC.

The municipality of Labo has 11 members sitting in the TWG, all affiliated with the office of the MPDC. Their number compares with the three technical staff at the MPDC of Sta. Elena which oversees the implementation of the CBMS.

Among the different barangays covered in the study, it is Barangay Tulay na Lupa that has a very creative structure since the municipality mandated each purok to be constituted for the CBMS to be headed by the purok chairman, other purok officers and community leaders. The purok is expected to prepare a purok spot map which could readily indicate where the residents could be located together with a master list of households. The purok TWG assists and accompanies CBMS enumerators in obtaining relevant household information.

At the barangay level in Tulay na Lupa, the TWG is composed of the barangay captain, the councilors, the barangay secretary, the

sangguniang kabataan chairman and the enumerators (composed of a teacher-in-charge who serves as head, the barangay health workers or BHWs and barangay nutrition scholars or BNSs). It is supposed to regularly collect, process, validate and maintain the community-based data; prepare a summary record and report for submission to the MPDO; prepare the barangay profile using the CBMS results; prepare the CBMS data board and use the CBMS data in planning; and ensure the payment of P10.00 per accomplished questionnaire to enumerators.

In Barangay New Agutaya, the CBMS TWG which was created in 2005, is the former CIDSS TWG that functioned when the CIDSS was operational. Hence, active members included not only the barangay captain, BHWs, day care workers (DCWs), barangay agriculture, environment and nutrition scholars (BEANS) but also the community leaders represented in community welfare structures such as the youth, women, members of the cooperative, senior citizens and self-employment welfare association, among others.

In Pasay City, meanwhile, a TWG was not set up in Barangay 179 but the City TWG direct the implementation of the survey. In Barangay 184, the active members are the barangay captain, secretary, treasurer and all other officials.

In other barangays, the active members are the enumerators, from among whom a CBMS focal person is identified.

Commitment of the Local Chief Executives

The most prevalent practice to set the CBMS in place is the endorsement of the approach by the local chief executives. The CBMS was institutionalized in most of the localities through the issuance of executive directives recognizing the CBMS as a tool to assess the quality of life in the respective local government units. For Palawan, this was issued no less by the governor and the counterparts in the municipal study sites. In San Vicente, an executive order issued by its mayor directed barangays to contribute P5,000 each to reproduce the instruments for data collection. The commitment of the local

executives, through the issuance of executive directives, was matched by financial allocation for the CBMS.

Some case barangays even fostered this commitment by signing a Memorandum of Agreement with their mayors to implement the CBMS, such as in Pasay City.

There was much appreciation of the local chief executives among the localities' key informants because of their (executives') moves to rationalize data collection for decisionmaking purposes.

Sanggunian officials were not rated as well as chief executives because some of them were noted to be quite lukewarm in allocating funds for the implementation of the CBMS and in apportioning the budget for projects in response to the CBMS. Overall assessment tilts favorably toward the local chief executive. This can be seen in Table 1 where the average assessment for the local chief executives is 6.7, in a scale from 1 to 7, with 7 as the highest mark. On the other hand, the rating for the *Sanggunian* is 6. Ratings for the local chief executives and the *Sanggunian* for Barangay Oring-orong, Sta. Elena and Labo, though, are not consistent.

Consistent perfect scorers for both groups are Palawan, Barangay New Agutaya, Brooke's Point, Barangay Tulay na Lupa, Barangay Poblacion and Pasay City (Table 1).

Preparation for the CBMS

The conduct of training for the CBMS was undertaken with the assistance of the CBMS Network Coordinating Team from Manila. There was a more widescale implementation of capacity-building activities in Palawan because of the commitment of the provincial government for its implementation. Trainors from the province were capacitated and they in turn echoed the basic approaches and strategies for implementing the CBMS. It took about three months (from January to March 2000) to cover the advocacy targeting 21 municipalities starting with the local chief executives and the implementers. Further, intermittent advocacies took place with the modification of indicators and systems. For instance, new computer programs such as the

Table 1. Assessment of commitment of the local chief executive and local Sanggunian to CBMS

AREA	Commitment of Local Chief Executive to CBMS	Commitment of Local Sanggunian to CBMS
Palawan	7 (He talked to mayors to allocate funds for CBMS)	7 (Did not question allocation for CBMS)
Municipality of San Vicente	6 (A bit apprehensive about giving resources)	6 (Formal resolutions could have been issued regarding CBMS)
>Barangay New Agutaya	7 (Gave additional allowance to enumerators)	7 (Very supportive to CBMS)
Brooke's Point Municipality	7 (Sustained the implementation of CBMS)	7 (They believe that concrete data are essential in the formulation of a development plan)
>Barangay Oring-oring	6	5.5 (Can show more commitment in allocating resources)
Camarines Norte		
Municipality of Labo	7	6
Barangay Tulay na Lupa	7	7
Municipality of Sta. Elena	6	5
> Barangay Poblacion	7	7
Pasay City	7	7
> Barangay 179	7	Did not answer
> Barangay 184	6.5	6
Average	6.7	6

encoding, processing and mapping systems, which were instituted much later, facilitated processing of data and digitizing of maps.

In Labo of Camarines Norte, orientation on the CBMS was conducted on January 28, 2003 that already included the component barangays and paved the way for the mayor to institutionalize the process, commencing on March 18, 2003 with the issuance of an

executive order. Orientation was undertaken with the assistance of the CBMS Network Coordinating Team from Manila. The team was again invited by the governor of Camarines Norte to advocate for the CBMS with all the mayors when it was decided to hold it provincewide. The implementation started with the conduct of training on data collection in August 2005.

In the case of Pasay City, training was conducted in 2004 with the direct assistance of the CBMS Network Coordinating Team from Manila.

A summary of the key informants' assessment of preparation for the CBMS varies for the different localities studied. Table 2 shows that there is a close relationship between the local CBMS Teams' perception of preparation for the CBMS and the teams' satisfaction over the preparation given by their trainers. The key informants gave an average rating of 5.4 to their preparation in a scale from 1 to 7, with 7 as the highest. On the other hand, general satisfaction toward the preparation given by their trainers was rated as 5.9.

Perfect ratings of the local team's preparation and that of the trainers was given by Palawan, Sta Elena and Pasay.

An assessment of the utility of the CBMS training modules was made by the key informants exposed to it. It can be seen that the average assessment they received was high (5.9). The localities that gave comments regarding improvement of the training modules originated from Palawan possibly because they were the ones that first benefited from the advocacies on CBMS. They expressed the need for more time to undertake training to be able to internalize such activities as encoding of questionnaires, digitizing of maps, and consolidation and validation of data.

The other local government units had a perfect assessment of the training modules as shown in Table 3.

Key persons involved in data collection

Initial years of the CBMS implementation in Palawan tapped students to gather information from the community under the direct supervision

Table 2. Assessment of the preparation of the team for CBMS

AREA	Preparation of the team for CBMS	Preparation effort undertaken by trainors
Palawan	7	7
Municipality of SanVicente	5 (Need more computer to facilitate processing of data)	5
>Barangay New Agutaya	5.5 (Hope to learn more computerization of data processing and consolidation at the barangay level)	5.16
Brooke's Point Municipality	5	4.5
>Barangay Oring-orinig	6	6
Camarines Norte		
Municipality of Labo	6	6
> Barangay Tulay na Lupa	4	4
Municipality of Sta. Elena	5 (2003)7 (2006)	7
> Barangay Poblacion	5	5
Pasay	7	7
> Barangay 179	4	7
> Barangay 184	4*	7*
Average	5.4	5.9

of the municipality. This was demonstrated in Barangay Oring-orinig. It appears that the volunteers (BHWs, BEANS and *kagawad*) who were tapped in the third cycle of the CBMS data appreciated the data more when they were involved in their collection. They had less appreciation of the data when these were imparted to them with students collecting information for the community.

In Barangay New Agutaya in Palawan, the experience was different because MBN data collection was already undertaken by the community volunteers, composed of BHWS and DCCs and supervised by social welfare workers. This practice was continued in

Table 3. Assessment of the utility of the training modules

AREA	Usefulness of the CBMS Training Modules in Building Capability
Palawan	6.8 (Not enough time to absorb training on encoding—need 5 days)
Municipality of San Vicente	5.6 (Need more time to internalize encoding of questionnaires and digitizing of maps, and need more practice in consolidation of data and database management)
>Barangay New Agutaya	7
Brooke's Point Municipality	5.1 (Need more confidence in encoding and digitalizing maps scoring 2.5, consolidation and database management scoring 4, and validation scoring 5)
> Barangay Oring-orong	4.7 (Need more time to practice manual processing, encoding of questionnaires and digitizing maps, and consolidation of data)
Camarines Norte	
Municipality of Labo	7
> Barangay Tulay na Lupa	7
Municipality of Sta. Elena	7
> Barangay Poblacion	7
Pasay	7
> Barangay 179	Did not answer because barangay captain did not attend the training
> Barangay 184	7
Average	5.9

the implementation of the CBMS. In the case of the municipality of Sta. Elena, the experience in the implementation of MBN as a Social Reform Agenda area witnessed the support of community volunteers in the data collection of the CBMS which commenced in 2003.

Like Brooke's Point in Palawan and its corresponding case barangay, the Pasay City barangays focused on the study and harnessed students. Also in Pasay City, resident applicants interested

to participate in the survey and who were at least high school graduates were likewise considered. In Barangay 179, three *kagawads* were also active in data collection apart from the students.

In Camarines Norte, enumerators in the case barangays were mainly the community volunteers such as BHWs, DCCs and BNSs. In Barangay Tulay na Lupa, a barangay *kagawad* was designated to oversee the work of the enumerators. In Sta. Elena, a former Social Reform Agenda area, social welfare workers assisted in overseeing the work of the volunteers.

New set of indicators included in some areas

In some localities, new indicators were introduced in order to make the data set responsive to the needs of the people. For instance, in Palawan, information about electricity and sanitary waste disposal were included as the government deemed these needs most necessary for them. Other data were gathered by the municipality of San Vicente in the recent cycle such as religion, migration, marital status of household members, registration of births and deaths, and educational attainment of the household members. The insertion of these data sets entailed the addition of P5,800 in the development of the forms by the municipality.

In Labo and Sta. Elena and other municipalities, information on agriculture was included in the 2006 data collection.

In Pasay City, indicators on the number of senior citizens, persons with disabilities, households with Overseas Filipino Workers (OFWs), teenagers of the third sex orientation, persons with disabilities and sex workers were included in the data collection. The barangay officials and a religious group thought it wise to include information about households with OFWs as this caused psychological problems among their children. On the other hand, having a head count of senior citizens was important in explaining the high incidence of unemployment. However, the indicator pertaining to the third sex may not be able to obtain an honest response.

Remunerating data collectors

Payment of data collectors varied but fell within the range of P10.00 to P20.00 per household.

In Palawan, the financial responsibility for data collection of the CBMS was centralized in the municipality for the three cycles of data collection. Barangay Oring-orong enumerators received P10.00 per household from the municipality but were hopeful that this amount would be increased.

In New Agutaya, the barangay shared in paying the enumerators, giving an additional P10 per household interviewed, apart from the P10.00 paid by San Vicente.

Palawan's administration shouldered the cost of training and monitoring of the other levels of local governments.

For Camarines Norte's municipalities, responsibility for remunerating the enumerators was devolved to the barangays. In Barangay Poblacion in Sta. Elena, the local government shared in remunerating the enumerators who were paid the amount of P10.00 per household interviewed, allocating the amount of P91,163.00 for the CBMS implementation. This can also be seen in Tulay na Lupa of Labo where the barangay, not the municipality, shared in paying the enumerators. Each was given P10 per household in 2003. This was even increased to P15.00 in 2006.

Remunerating the enumerators is quite centralized in the case of Pasay City, which shouldered the expense for data collection at the rate of P20.00 per interviewed household. Encoders received P6.00 per encoded household.

Data processing

Data processing is highly centralized in Pasay City as the data collected in each of the barangays are tallied and consolidated by the CPDO. The city has also been equipped with computers in order to process the data and started utilizing the CBMS computerized processing softwares, i.e., Encoding System, Statistics Simulator and NRDB. The barangays of Pasay City which had not been involved in

the data processing phase expressed interest in doing this by themselves instead of submitting the data to higher levels of the local government.

In Camarines Norte, enumerators were involved in the tallying and consolidation of data in Barangay Poblacion of Sta. Elena, in accordance with the implementation of the MBN under the Social Reform Agenda. The data sets were then submitted to the municipality for collation and aggregation although the latter was done in manual mode in the first cycle of CBMS for lack of computers. It was only recently when the encoding and processing system were installed that computerization has been fast-tracked.

Tulay na Lupa generated an active involvement of the barangay in collecting, processing and consolidating the data. In fact, purok residents played an active role in tallying the data.

In Palawan, the barangay enumerators of New Agutaya took part in tallying data in a former CIDSS barangay. The community volunteers in Oring-orong only got involved in tallying in the third cycle of the CBMS.

Computerization

Palawan was the first province to adopt the NRDB when a foreign advocate started the implementation of the CBMS. It has had the longest experience, which filtered down to lower levels of the local government. But in San Vicente Municipality, the key informants had difficulty sustaining the use of computers because of the inadequacy of the unit that was only recently donated from another project. Brooke's Point has a better edge in this regard with computers available and enjoying more predictable electrical supply (although also occasionally bogged down by power interruption).

Pasay City has started processing data using the computers in its first cycle of CBMS with the encoding, processing and mapping softwares developed by the CBMS Network Coordinating Team.

Validation process

The validation process assesses the veracity of the information consolidated regarding the CBMS in the community. Among the case study sites, the most innovative in conducting the validation process was witnessed in the province of Palawan. It has adopted four models to present the information aggregated per barangay and then presented in the municipality. The first model was through the presentation of tables indicating the performance of a given barangay on the indicators assessed. In the initial cycles, this meant the use of Manila paper because of the absence of advanced technology in the earlier cycles.

The second model was to present the data on poverty, supplemented by the analysis of the root cause of the problematic indicators. This spurred the identification of relevant programs to respond to those unmet needs which had been prioritized.

The third model was the presentation of indicators through digitized maps to enable the participants to visualize where selected indicators were applied in the most problematic locations.

The most recent approach was the Technology of Participation implemented in San Vicente in which stakeholders assessed the top three indicators with poor and good performance; compared top performing and poor performing puroks and barangays per indicator; presented barangays with increasing and decreasing trends in performance; asked participants to give reasons for the nature of performance; and then finally, identified the “felt needs” the barangay representatives hope to address.

Participants in the validation process normally included the barangay captains, the focal persons of the different barangays for CBMS and other stakeholders invited to witness and react to the process. For instance, in San Vicente, teachers and other local technical staff had been invited to respond to the data that were presented, and also participated in giving reasons for the increasing and declining performances of selected indicators.

In New Agutaya, people’s organizations and sectoral groups actively participated in the validation process because of their wealth

of experience in participatory governance in CIDSS interventions that was carried over to the CBMS.

In Tulay na Lupa of Labo, purok officials were invited to react to the data collected and confirm whether or not problems identified were actually experienced by their constituents. The only issue raised pertained to the number of those living in “makeshift houses” which was reportedly lower than what was generally known to the barangay. Barangay officials led the validation process by the MPDO.

In Barangay Poblacion, a wider-scale community participation was undertaken in the validation process as the consolidated data were submitted to a barangay assembly before being submitted to the MPDO. Those present in the assembly were the barangay officials, *sangguniang barangay* officials, *purok* chairmen and representatives of the community. This approach is reminiscent of the process undertaken in the consolidation of MBN results under the Social Reform Agenda advocating the community-based information system. Another validation took place after the data set was returned by the municipality to the barangay in the *sangguniang barangay’s* presence.

Pasay City has yet to implement the validation process in most barangays although this had been completed in Barangay 179 which became the springboard for recommending projects for the unmet needs. In Barangay 184, some initiatives to implement projects had been undertaken even if the validation process was not yet completed.

Length of time to implement the CBMS

Pasay City took the longest time to implement the CBMS since it had a large population, being an urban area. The city completed data collection and consolidation in nearly a year (December 2004 to November 2005). The validation process has yet to be completed.

Palawan took about a year to complete the entire process, from data collection to validation. For instance, in Barangay New Agutaya, it took three months for data collection to be completed and two months for processing (tallying of data). Consolidation and validation were undertaken by San Vicente in about six months.

Like Palawan, Sta. Elena and Labo took about the same time to complete one CBMS cycle—3-4 months of training and data collection and 8 months for consolidation and validation.

Data banking

Databanking is mainly the responsibility of the higher level of local government units, i.e., beyond the barangay. Normally, copies of the aggregated data are given to the barangays by the municipality or the city.

Role of civil society groups

The most visible interface of civil society groups was witnessed in the CIDSS area of Barangay New Agutaya and in Barangay Poblacion in Sta. Elena. They were involved in formulating project proposals for financial support from the national government to finance projects that respond to the identified basic needs. In Barangay Poblacion, the active groups were the women, tricycle operators and members of the cooperatives and business groups.

In the case of Labo in Camarines Norte, the involvement of nongovernment organizations was visible in the preparation of project proposals for financial support for projects which had been offered by the Peace and Equity Foundation (PEF), with the CBMS Network Coordinating Team acting as the Secretariat.

In Pasay City, the visible civil society group is the Christian Ministry Program which paved the way for the adoption of indicators that affected marginalized sectors. They have seen the importance of the CBMS and advocated the inclusion of the indicator on Overseas Filipino Workers after having seen the effect on children of the absence of their parents. Other community groups are also active in the city such as the senior citizens who even helped in analyzing the data generated on the CBMS in Barangay 179, thus contributing to the empowerment process.

Many civil society groups participated in the implementation of projects in Barangay 179 such as the St. Vincent Foundation which

set up a scholarship program and Caritas which donated school supplies. This interface has eased up the burden of development on the part of the local government.

Governance innovation

In Palawan, what could be considered an innovative initiative is the introduction of the Participatory Impact Assessment. This was conducted in 2002 in four barangays introduced to the CIDSS and noted for their participatory approach in setting up the community-based information system. The set of indicators assessed the 1) impact of CIDSS on empowerment, 2) impact of CIDSS on poverty alleviation, and 3) cost effectiveness of the CIDSS. The 14 CBMS indicators were used to assess performance on human development indicators.

Palawan was inspired to divide the province into zones for planning purposes (earlier six, now eight), highlighting the peculiar economic, physical and cultural characteristics of a group of municipalities. For instance, fishing-rich localities were grouped together and separated from farming localities.

Labo in Camarines Norte can be acknowledged for introducing innovative mechanisms in conducting data collection more expediently. One was by presenting a letter signed by the mayor introducing the enumerators to every household. Another was to subdivide the municipality into eight districts, each district composed of clusters of barangays with a member of the Municipal TWG assigned to oversee the implementation of the CBMS in each area.

In Sta Elena, mandating the preparation of spot maps and master list of households per *purok* was a helpful strategy that facilitated the identification of the households by the enumerators.

In the two *barangays* in Pasay City, localities were subdivided into blocks, totaling 34 in all for Barangay 179 and 11 for Barangay 184, for ease in administration of the instruments by the enumerators and supervision by the CPDO. Each enumerator was under the supervision of a barangay kagawad, designated by the CPDC as her

representative. In Barangay 184, stickers were also put on the households already surveyed in order to avoid repetition. House numbers were also issued, facilitating detection of new households in the locality.

Data dissemination

Efforts were made to disseminate the utilization of the CBMS approach in each level of local government. The most common approach was the conduct of meetings to diffuse the information, often done in a local development council meeting.

However, other initiatives were made by some localities to disseminate the information on the use of the technology. A prominent initiative was the formulation of a Human Development Report by Palawan, which was published in 2000, immediately after the CBMS data were collected. The data were also used and publicized in the socioeconomic profiles of other LGUs. These were seen in the municipalities of San Vicente and Brooke's Point.

In Pasay City, the reliance on CBMS approach was posted in the website. The use of digitized maps was inspiring for the barangays who saw the technology for the first time.

In Labo, Camarines Norte, developments on CBMS are posted in the quarterly publication of the municipality called *Balingtataw* and aired on radio every Saturday from 8:00 a.m. to 9:00 a.m. In the urban barangay of Poblacion in Sta. Elena, radio has also been resorted to as an alternative in order to broadcast updates on the CBMS.

A locality which started with the MBN information system also adopted more community-based meetings and technologies such as community assemblies to discuss the results of the survey and the installation of purok spot maps in New Agutaya in San Vicente.

In the province of Palawan and the two case municipalities, sharing of information with researchers, private sector and civil society groups was also done. The Pasay City CPDO hopes to do the same

thing, too, after it has completed the full cycle of data collection and validation for the entire city.

Because of the long experience of Palawan in the implementation of the CBMS, it has been instrumental in imparting and disseminating the contributions of the CBMS to other publics in different fora conducted by the CBMS Network Coordinating Team and by other institutions such as the National Anti-Poverty Commission. It has also been a favorite site for visitation by many different stakeholders, and therefore contributes to the publicity of the utility of the CBMS approach.

Annex A provides a summary of the Best Practices demonstrated by each local government unit that facilitated the implementation of CBMS in the different localities.

Contributions of the CBMS

The CBMS has undoubtedly contributed positively to governance of poverty alleviation in the different local government units considered in the different case studies. First, it has made a remarkable improvement in the conduct of the planning process in the local government units that adopted it. The formulation of plans hinged upon the indicators that were not met and aided in identifying projects or interventions that could be adopted to respond to the unmet needs.

Second, in the planning process, the CBMS has steered the identification of areas or individuals that were prioritized in the delivery of the projects or goods to uplift the condition of areas and families of marginal status. In other words, focused targeting intervention had been made feasible such as identifying those who were considered to be PhilHealth beneficiaries in Brooke's Point or beneficiaries of the Educational Assistance Program in Barangay Poblacion. In Pasay City, the setting up of the CBMS had been helpful in identifying the in- and out-migration of people in the locality. Because the enumerators identified the households by numbers in preparation for the survey, the barangay could detect the rapid change in the total population.

Third, in the planning process, case study sites had been aided in identifying unmet needs that had to be prioritized because of inadequate resources on the basis of the urgency and magnitude of the problem witnessed such as targeting for electrification in Barangay Oring-orong.

Fourth, in the planning stage, other plans such as land use plans are expected to be accomplished by local government units utilizing the CBMS data.

Fifth, in barangays which had been adequately prepared for participatory governance among community members such as the case of CIDSS in New Agutaya in San Vicente and the Social Reform Agenda area in Poblacion in Sta. Elena, more community involvement was witnessed in the preparation of community development plans.

Sixth, in the monitoring/evaluation stage of management, decisionmakers had been assisted in their reflection of the reasons why some indicators improved while others deteriorated. Appropriate measures were crafted resulting from these reflective exercises, as witnessed in the case study sites in Palawan which had three cycles of CBMS.

Seventh, CBMS had been a credible instrument in generating resources since rational data were provided to signify what indicators need to be given support.

Eighth, the use of the technology spurred various technical staff to respond to the problems in a convergent way precisely because the indicators of the CBMS were multidimensional. Making decisions came about through team discussions and reflections.

Another contribution of the CBMS to those involved in the community was the feeling of "affiliation to" and "ownership of" the information that they helped in generating. Furthermore, the visibility of the data in the community steered the members to do something about their condition, and not just wait for government to respond to their needs. The CBMS also inspired confidence of the technical staff because decisions hinged on solid and reliable data.

Another consequence of the CBMS is the savings in resources for gathering information. The availability of data on various sectors prevented separate data-gathering activities.

Furthermore, the availability of data had been helpful for some local government units to earn recognition, e.g., “Child-Friendly Barangay” for Barangay Tulay na Lupa from the municipality of Labo and the province of Camarines Norte, and “Best Barangay” for Barangay Poblacion awarded by the province and the region.

Facilitating factors

There is consensus on the key role of the local chief executive in the implementation of the CBMS. This is demonstrated by the issuance of executive orders to institutionalize the application of the technology.

The commitment of the local technical staff spelled some difference. Their unrelenting energy to undertake the CBMS inspires other stakeholders in the application of the approach. Having well-trained staff is considered a plus factor in the implementation of the CBMS as acknowledged in San Vicente.

Support of civil society groups like nongovernment organizations and a religious organization is recognized in Pasay City. Community groups were also cited by New Agutaya, leading community members to identify and “own” the process for selecting projects to respond to the unmet needs.

Community cooperation is particularly cited by Barangay 184 in Pasay City, Sta Elena in Camarines Norte, and Palawan as another facilitating factor.

Some key informants acknowledged the contribution of the *sanggunian* in instituting measures to support CBMS such as in Labo and Sta. Elena of Camarines Norte.

Most of all, there is a general acknowledgment of the contribution of the CBMS Network Coordinating Team from Manila.

Impeding factors

Lack of funds was one of the impeding factors in the implementation

of the CBMS, as pointed out by a key informant in Pasay City. In Palawan, the difficulty of some municipalities to provide funds for the CBMS was also raised although the two municipalities focused on, Brooke's Point and San Vicente, had committed resources for CBMS.

Funds to undertake projects are critical in building the confidence of the people in the CBMS. Mere collection of data is not enough to solve unmet problems. While some localities prioritized some needs according to their capacity, the problem of poverty takes a long time to resolve since building capacities of people to be productive and self-reliant cannot be easily accomplished.

More computers are needed in some of the localities like Pasay City, Labo and San Vicente. Hence, shifting to computerization cannot be fast tracked.

In Pasay City, the unwillingness of some barangay captains to set up the CBMS was mentioned by a key informant.

Lack of ownership of the process was cited by Barangay 179 because data collectors who were not directly involved in local development efforts were paid to gather data. Barangay 179 preferred having local volunteers and officials participate in the data collection process since they are the ones directly involved in local development activities.

Lack of confidence to implement the data collection and consolidation processes were particularly cited by key informants from Labo and Barangay Poblacion in Camarines Norte.

In the case of Tulay na Lupa, key informants claimed that they did not have enough personnel to implement the technology, much less fast track its implementation.

One of the difficulties in gathering information is obtaining the income profile of the households. Of significance is that those who mentioned this difficulty came from urban centers like Barangay 179, Tulay na Lupa in Labo and Barangay Poblacion in Sta. Elena. Some residents were not truthful about giving their income because of possible tax implications. Regarding makeshift housing, Tulay na

Lupa expressed the need to clarify the indicator, in particular, the meaning of “makeshift.”

In urban localities, there was difficulty in obtaining the cooperation of households in middle or upper class dwellings. This was the experience in some barangays of Pasay City.

Some household members were not at home during the data gathering process which necessitated the return of the enumerators. This was the experience in Barangay Poblacion.

Some households are inaccessible, making it difficult for the enumerators to administer the instruments. This was the experience of Barangays Poblacion, New Agutaya and Oring-orong. Hence, in New Agutaya, some enumerators felt that the allowance given them for travel was not enough.

There was also the problem of dealing with households with low education so the enumerators had to exert extra effort to draw information from them, as pointed out in New Agutaya and Barangay Poblacion.

Pasay City cited the influx of slum dwellers and the outmigration of some dwellers which made it difficult for the pilot barangays to peg the population size.

Recommendations of key informants

A common concern is the need for more resources for implementing services to respond to the unmet needs. This was expressed by Palawan, Labo, Barangay Poblacion and San Vicente. In Sta. Elena, they feel they could network with funding institutions with CBMS data on hand.

Some of the recommendations submitted by key informants to enhance the implementation of the CBMS include:

- Pasay City and New Agutaya called for technical orientation on the use of computers.
- Pasay City urged more nongovernment organizations to be involved in the CBMS.

- Barangay 179 wanted to be involved in processing data while Barangay 184 felt the need for more involvement in data collection.
- Barangays 184 in Sta Elena and New Agutaya in San Vicente recommend technical training of barangay officials.
- Barangay 179 hopes to obtain more financial support from the city and from the community in the implementation of the CBMS.
- In Labo and New Agutaya, key informants hope to have exclusive use of computers and to have more computers, respectively. In Labo, the need is felt for full-time staff for the CBMS implementation.
- Sta. Elena agrees that the CBMS survey be undertaken regularly, like every three years.
- In San Vicente, it was suggested that more explanation is needed on the meaning of “makeshift” housing.
- For inaccessible areas like New Agutaya, transportation facilities are needed for travel and access.
- Oring-orong enumerators hope for an increase in the remuneration, from P10 to P20 per household.
- In San Vicente, the informants urge the retention of the indicator on electricity.
- Finally, in Palawan, defining income as indicator of poverty is basic. The key informants point out that the cut-off for poverty does not consider other sources for the sustenance of the family; hence, Palawan always obtains a low performance rating in terms of poverty.

Training needs

A common expression of concern is the need to be trained in data consolidation and data analysis. This was aired by key informants of Pasay City, Barangay 184 and Brooke’s Point.

For the province of Palawan and the municipality of San Vicente, training is needed on technical writing and the use of information technology.

Key informants in New Agutaya, on the other hand, suggested that participatory perspective be honed for appreciation of its value in development process, along with training on leadership for purok leaders and officers of the community welfare structures to make them more dependable leaders.

Impact of the CBMS

On the whole, only Palawan, as the only local government unit with three cycles of CBMS, shows the impact of the CBMS on the community. The three cycles allow for a comparison between the baseline year and the recently gathered data. Seven indicators in the CBMS have consistently improved for Palawan over time.

In the case of the municipalities and the barangays in the case study sites of Palawan, there were improvements on the indicators targeted in the planning process. However, it is possible that the dire need for resources prevented them from demonstrating overall improvement since many of the indicators had not been targeted. However, Barangay New Agutaya performed better than its municipality in general.

Conclusions

The role of the CBMS is remarkable in governance that included the technology in decisionmaking since identification of projects and target beneficiaries is based on objective criteria and blunts the potential for focusing on the basis of personal inclination by local officials.

Reliance on the CBMS has made a substantial impact on some localities which have used the CBMS data for prioritization, particularly in Palawan and the other local government units in the province. Indicators which had been targeted improved in terms of the condition of the population although the lack of resources of some localities led to poor performance for some indicators which had not been targeted.

The common denominator in the successful implementation of the CBMS is the commitment of the local chief executive in the implementation of the process, thereupon drawing the dedication of the technical staff and enjoying the cooperation of the community. The role of the local *sanggunian* can still be further enhanced as financial allocation for the CBMS hinges on the support of this body.

A feeling of “ownership” of the process is noticeable in localities which took part in data generation and data consolidation. This facilitated the utilization of the information in targeting and planning.

Furthermore, noticeable is the remarkable involvement of community leaders in a former CIDSS area like New Agutaya.

There are areas for improvement in the implementation of the CBMS in some of the localities.

Differences in the implementation of the CBMS in urban and rural areas were witnessed. Pasay City has a bigger population compared with other municipalities and therefore takes a longer time to complete the cycle. Furthermore, urban people have more resistance to participate in the data collection process, particularly on the part of middle and upper income families.

Recommendations

For the CBMS Network:

1. There is a need to clarify the meaning of “makeshift housing” as this caused confusion on the part of some localities.
2. There is a need to ensure that the indicators are presented consistently—either in a positive or a negative way, for ease in interpretation and for summary profile of a locality to be made, similar to what the Human Development Index applies.
3. There could be a need to supplement the CBMS with participatory technology or demonstrate how it works by showcasing local government units which adopted the approach such as those which started with CIDSS or similar interventions. The advocacy for the CBMS can be strengthened by infusing the capability-building activities with participatory governance.

Even community members themselves can be oriented on the value of people's participation in governance to be able to effectively participate in local development. Hence, community organizing is an intervention that can be considered in setting up the CBMS to be able to harness community groups to be involved in key decisionmaking processes; in identifying the projects to respond to the unmet needs; in identifying what community members can do to implement projects; and in participating in the assessment of how their CBMS has fared over time to help identify appropriate interventions for problematic indicators.

4. Technical preparation can be improved for data consolidation, data analysis and the use of computers for the CBMS implementation, giving more consideration to the profile of the participants.

5. Seeking out sources of support to improve the computer hardwares available in the community has to be done. Training on resource generation could provide additional skills for the CBMS implementers. There should be more advocacy with the national government and foreign funding institutions to consider the CBMS model as an approach in providing fund support to local government proposals.

6. There is a need to map out differential advocacy for local government units that have to deal with urban middle and upper class households and localities that have community residents with low education and who are slow in appreciating the importance of the CBMS and understanding the need for the information being gathered.

For instance, in urban middle and upper class areas, teachers or students may be hired to conduct the survey. A letter of introduction from the mayor could help in introducing what CBMS is all about and certifying the enumerator's identity. Advocacy may be done through mass media in order to obtain the cooperation of this group.

For household respondents who have low educational attainment, more time could be allotted to explain what the CBMS instrument is all about.

For localities whose respondents are literate, the instrument may be filled up by the respondents themselves. The enumerators should review the responses to detect doubtful information provided by the respondents.

7. More time is needed by community volunteers to appreciate and internalize the CBMS process. It is recommended that they be the ones tapped since they are more knowledgeable about the community, unlike students who may not see the direct implications of the data they collect. There could be immediate appreciation on the use of the CBMS data among community volunteers since they interface with the households. Furthermore, community volunteers are more familiar with household residents and could easily detect the veracity of the information provided them. The exception could be in areas where middle and upper class families are predominant, and therefore, teachers and students may be tapped.

8. More advocacies may be conducted in academic and training institutions undertaking orientations on poverty alleviation to consider the indicator system as a tool for decisionmaking. Showcasing the CBMS in their training and academic programs can be made to reinforce the potential of the technology for their participants.

9. The link-up with the Department of the Interior and Local Government (DILG) should be sustained to harmonize its methodology and platforms on community-based information system with that of CBMS to avoid confusion among local government units.

10. Researches contrasting CBMS- and DILG-managed systems for installing the Core Local Poverty Indicator Monitoring System can be undertaken to witness the areas of strengths and weaknesses of both. Defining their convergence points and differences can aid decisionmaking in the interface of the two methodologies.

11. Because of the numerous number of localities that will still have to be reached, other options in learning such as the utilization of technologies in distance learning can be made to inspire the application of the CBMS. For instance, instructional materials in CD form and self-instructional manuals can be formulated. Linking up

with educational institutions applying the distance learning technology can facilitate the preparation of materials and the certification process to acknowledge the local officials who had been able to complete requirements to prove their competencies. Teleconferencing can be installed to link up technical experts from Manila and those from local government units to reduce the cost in mentoring.

At the local level:

1. There could be more advocacy on the part of focal persons in the CBMS to link up with the *sanggunian* to ensure financial support for the installation of the system and the prioritization of needs that have to be addressed.

2. Initiatives on the part of the local government units to generate resources to support the programs they have identified as responsive to the CBMS data can be encouraged by focal persons.

At the national level:

1. There can be a revisit on how the cut-off mark for the poverty threshold is set. From the Palawan experience, it was suggested that other sources of sustenance that can be non-economic in nature be considered in defining the poverty threshold. For them, it is not enough to consider income alone because they do not buy some of their food, which helps them improve their level relative to the poverty threshold. While consideration of non-bought food is factored in in the estimation of the poverty line, this is done only at the regional level.

2. There should be a concerted effort among different stakeholders at the national level to recognize and consider local government proposals that utilize community information system like the CBMS to be assured that the bases for making decisions draw from and reflect the community needs. In turn, award-giving bodies (i.e., Galing Pook) can consider as a criterion of good performance, the ability of localities to provide information about their quality of life using community information system.

Institutionalization of the Community-Based Monitoring System (CBMS) Training Program*

*Simeon Ilago and Elyzabeth Cureg***

Overview

This report was prepared to study the possible scaling up of the Community-Based Monitoring System (CBMS) and the institutionalization of its training program. CBMS is an organized way of gathering household level information at the local government and community levels. Information generated from the CBMS can be used to facilitate resource allocation, serve as input to development planning as well as poverty mapping, monitor the impact of social services and development programs on poverty reduction, and track the progress in the localization of the Millennium Development Goals (MDGs).

As the usefulness of the system is shown to an increasing number of local governments, it is expected that demand for CBMS training will pick up in the succeeding years when the system becomes embedded in the local governments that have adopted it and as

*Excerpts of a report prepared for the World Bank. The views and opinions expressed in the report are solely those of the authors, including errors that may be contained in it.

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documentation of its uses in local governance becomes more available and disseminated.

Various national government agencies as well as donor institutions are keen on using CBMS and the data it generates for oversight and monitoring purposes in meeting the MDGs. Official recognition by several key national government agencies had been issued in support of the CBMS. In the near future, therefore, the key issue would be on how to meet the increasing demand for training and capacity building on the use of the CBMS in a sustainable and cost-efficient manner, with sufficient safeguards on data consistency and quality.

Among the objectives of this report are:

- To determine the institutional and organizational set-up and arrangement that would support the CBMS training program, including a collaborative framework with the academe and civil society.
- To determine the optimal composition of the pool of trainers/expert champions and the criteria for the selection of champions and methods of accreditation.

CBMS background, evolution and growth

CBMS evolved from the early 1990s' study under the Micro Impacts of Macroeconomic Adjustment Policies (MIMAP) Research Program of the International Development Research Centre (IDRC). Florentino and Pedro (1992) recognized the absence of disaggregated data for planning, program formulation, policy impact and poverty monitoring, and proposed a design for a monitoring system.

Initially, CBMS was designed to cover only the poor and disadvantaged households in the community because they were the focus of the MIMAP program. The idea in 1996 was to install the system in sentinel or index areas to keep track of the impact of government policies on vulnerable groups. The design made use of

the vulnerable groups identified by the then Presidential Commission to Fight Poverty (now National Anti-Poverty Commission or NAPC)¹.

The CBMS design was twice modified (1994 and 1996) and the resulting 13 core indicators in April 2003 were revised to 13+1 in November 2004. It was pilot tested (1995-1996) in two Bulacan barangays. By 1999, Palawan was using the system. In 2002, the system popularized the use of a core set of poverty indicators later adopted by the National Anti-Poverty Commission (En Banc Resolution No. 7 of 2003). The Department of the Interior and Local Government (DILG) in 2003 then issued a Memorandum Circular enjoining all local government units (LGUs) to adopt these same set of indicators for development planning (Memorandum Circular 2003-92).

In 2005, through Resolution No. 6, the National Statistical Coordination Board (NSCB) Executive Board acknowledged the usefulness of CBMS in strengthening the statistical system at the local level and in generating information for monitoring and evaluating development plans and progress in the attainment of the MDGs. Also in the same year, the NSCB issued a clearance for the adoption of the CBMS. Earlier in the year, the DILG, through its Bureau of Local Government Development (BLGD), officially espoused the CBMS instruments in coming up with core local poverty indicators and in monitoring the localization of the MDGs.

Statistics gathered from the CBMS Team showed that as of July 2006, there are 23 provinces, 161 municipalities and 13 cities, covering a total of 4,438 barangays, implementing the CBMS. So far, initiatives have been started in 12 regions. Among these, numerous barangays have been covered in Regions 3(Central Luzon), 5(Bicol) and 8(Eastern Visayas). Table 1 shows the number of local government

¹ The vulnerable groups identified were the (1) lowland landless agricultural workers; (2) lowland small farm owners and cultivators; (3) upland farmers; (4) artisanal fisherfolk; and (5) urban poor.

Table 1. Welfare Indicators Collected in CBMS

Region	No. of Provinces	No. of Municipalities	Cities	No. of Barangays	Source of Technical Assistance
NCR			1	201	CBMS Team
I	1	1		24	CBMS Team & BLGD
II	1	1		42	CBMS Team, BLGD & League of Municipalities (LMP)
III	3	33	4	843	(Bulacan) - CBMS Team(N. Ecija) - CBMS Team & BLGD(Bataan) - CBMS Team & BLGD
IVA	1		1	48	CBMS Team & BLGD
IVB	2	27	1	585	(Palawan) - CBMS Team(Marind.) - CBMS Team & BLGD (WB proj)
V	5	35	4	1097	(Cam Nor) - CBMS Team(Cam Sur / Albay / Sorsogon) - CBMS Team & RSSC(Masbate) - CBMS Team & BLGD (WB proj)
VII	2	1	2	71	CBMS Team
VIII	5	43		1133	CBMS Team, IDPG, EV-CBMS-TWG
X	1	5		58	CBMS Team & BLGD (WB proj)
CAR	1	1		22	CBMS Team / DILG-BLGD / LMP
CARAGA	1	14		314	CBMS Team
<i>Totals</i>	<i>23</i>	<i>161</i>	<i>13</i>	<i>4438</i>	

units that have implemented CBMS and their source of technical assistance.

To date, the continued implementation and expansion of CBMS work in the Philippines is made possible through a technical collaboration among the CBMS Network Coordinating Team of the Angelo King Institute of Economic and Business Studies of De La Salle University, the local government units and the DILG. Technical support in the design of the CBMS instruments and training modules as well as in the conduct of capacity-building workshops is being extended to local and national government partners by the CBMS Network Team of AKI through the Poverty and Economic Policy (PEP) Program of the IDRC.

By 2006, the NAPC and the League of Municipalities of the Philippines (LMP) were also providing advocacy support for the scaling up of the adoption and use of CBMS to more LGUs in the country.

The Philippines, however, is not alone in implementing the CBMS. There are also current initiatives on using the system in 9 other countries in Asia and 5 in Africa. These countries are Bangladesh, Cambodia, Indonesia, India, Lao PDR, Nepal, Pakistan, Sri Lanka, Vietnam, Benin, Burkina Faso, Ghana, Senegal and Tanzania.

Current approaches under the CBMS training delivery system

The current CBMS training delivery system is anchored on the CBMS Network Coordinating Team. From the interviews, three approaches can be identified:

1. Direct training by the CBMS Network Coordinating Team of local government trainers/coordinators in partnership with a technical working group led by the local planning units and composed of corresponding line agencies (DILG, Department of Social Welfare and Development or DSWD, and others) from the initial requesting local governments. Examples of this mode were those undertaken for Palawan, Camarines Norte, Bulacan, Bataan, Agusan del Sur,

Puerto Princesa City, Pasay City, and Mandaue City.

2. Training of partner civil society organizations who would then take responsibility for training and advocating with interested local governments in their areas of operation. In Eastern Visayas, the CBMS Network Coordinating Team has trained a pool of trainers from the Institute of Democratic Participation in Governance and from the Regional Office of the DILG. At present, Social Watch Philippines (SWP) has formed an agreement with the CBMS Network Coordinating Team to train SWP partners and selected trainers from participating local governments. This approach also involves advocacy on the part of the partner civil society organizations to local governments for the adoption of CBMS through its program of localizing the MDGs under a program funded by the European Union.

3. Partnership with DILG, BLGD to train DILG-initiated regional, provincial and city/municipal teams. A CBMS team made up of BLGD personnel has been trained by the CBMS Network Coordinating Team; they in turn have been involved in the training in the WB-ASEM funded project in Marinduque, Camiguin and Masbate. Forthcoming expansion of CBMS implementation in 10 additional provinces and cities through the DILG-BLGD will be supported by a grant from the United Nations Fund for Population Activities (UNFPA).

Characteristics of existing delivery system

The current training delivery system can be characterized as flexible, participatory and inclusive. CBMS partners have not been limited to either government or nongovernment. The flow of training has also gone several ways - to the region, province, or directly to the municipal level, or from the region or province down to the municipal levels.

Training has been demand driven, arising from the awareness of the local governments and other organizations of the value and usefulness of CBMS. Training has been conducted only for those who requested for it, and who had committed to invest their own

resources to cover the cost of setting up the system. The system thus draws its momentum from the interest and commitment of the participating stakeholders.

The cost of training has been largely undertaken by the requesting local governments, with CBMS the Network Team through the Poverty and Economic Policy (PEP) Program of the International Development Research Centre (IDRC), taking the tab for the services of resource persons and trainers.

Trainings are being conducted in phases, and while the modules are meant to be completed in six months, experience showed that the training completion may take at least a year because of particular realities in the partner local governments.

Approach and methodology

The report looks at the institutionalization of the CBMS training program as an active process of developing relationships, practices, and procedures to sustain or maintain the program. While there is no standard procedure by which an innovation is institutionalized, certain elements are considered essential in the process. These include an enabling environment, supportive institutional or organizational structure, and support functions needed to sustain the implementation of innovation. The enabling environment is made up of policies that support, guide and reinforce the innovation, leadership that guides the organization through the challenges of institutionalizing the innovation; core values that provide guidance on activities and decisions to be made; and adequate resources. The institutional or organizational structure delineates roles in terms of oversight, coordination and support, and implementation. Support functions cover capacity building, information, communication and advocacy, and rewards and recognition.

Information for this study were taken from interviews of key informants from the national government agencies considered relevant to CBMS implementation, local governments that have successfully implemented CBMS training, and other stakeholder organizations.

Published materials on CBMS and documents from the CBMS Network Coordinating Team were also used in the analysis.

Institutional arrangements needed to support the CBMS training program

This section identifies institutional arrangements in the following areas: national government recognition of CBMS and complementary policy support; multiple approaches to advocacy; cost sharing and leveraging of resources; and network and partnership in training implementation.

National government's recognition of CBMS and complementary policy support

CBMS has gained the official recognition and support from the NSCB, DILG and NAPC. Most recently, NAPC has initiated moves to harmonize poverty monitoring tools used by different government agencies. PhilHealth is reported to be interested in using CBMS as a tool for tracking indigent members eligible for health insurance in a community. DILG is keen on using CBMS not only as a means for tracking progress in localizing the MDGs by local governments but also as a way of measuring local government performance under the Local Government Performance Measurement System (LGPMS). However, there is an impression from the interviews that the national government is sending various signals when it comes to making CBMS as **the system** for information gathering and poverty incidence monitoring at the local level. The 2004 CBMS conference noted the need to increase acceptance/recognition of CBMS data as official data, as some donor agencies still insist on using NSO data instead of the data generated through CBMS.

National government commitment to CBMS needs to be strongly articulated and signaled by the national government agencies involved in poverty reduction and local governance.

While the issue of harmonizing the monitoring system remains to be resolved, the DILG has issued a memorandum circular

encouraging local governments to use CBMS, together with other monitoring systems, as a tool for poverty monitoring and development planning, and authorizing the participation of local government officials on official time in training and other activities related to CBMS implementation. This and other succeeding circulars stop short of making CBMS implementation mandatory, which is well because making CBMS mandatory negates the characteristic of the present training delivery system. The demand-driven nature of the present training program must continue. Those trained were aware of this and were willing to try out CBMS.

Information and communication and multiple approaches to advocacy

Institutionalization of CBMS training would require active advocacy of the system to local governments. Partnership arrangements between the LGA and the various leagues of local governments (League of Provinces, League of Cities, and League of Municipalities) as well as national leagues of local government officials (League of Vice-Mayors, League of Councilors, Liga ng mga Barangay, League of Planning Officers) in advocacy are highly recommended. The League of Municipalities has expressed interest in becoming part of the CBMS implementation, even to becoming the data repository. Annual conferences and meetings of these various leagues provide important venues to discuss the usefulness of the CBMS and the successes achieved so far by local governments which have implemented it. Local governments which had already implemented CBMS could take advantage of these venues to present their experience and gains.

Each of these leagues convenes a national conference, usually at the start of a new three-year term. It is highly suggested that a presentation be made during these conferences about CBMS and the successes achieved so far by local governments which have implemented it. For example, in the case of the League of Provinces, the presentation could be made by any of the governors of the provinces (Palawan, Bulacan or Bataan) that have successfully

implemented it. In the League of Cities, Pasay City could make the presentation. And in the League of Municipalities, any of the participating local governments, particularly those that had presented in the CBMS Conferences, could be tapped to share their experiences. Alternatively, a 15-20 minute video documentation could be presented. Printed materials can also be distributed during the conference. Smaller meetings are also held at the municipal and city levels in each province by these Leagues. The same advocacy effort could be replicated in these meetings.

Three initiatives are suggested to support advocacy: the development of a module on CBMS advocacy, production of a video-documentary, and case documentation.

Module on CBMS Advocacy. Interviews with key informants, the review of the current training package, and analysis of the features of the current training delivery system show the need for a standardized module for trainers on advocating CBMS to local governments.

The suggested module could be a one- to two-day orientation workshop during which local chief executives, *sanggunian* members sitting in the economic and social welfare committees, and department heads of the planning, treasury and other departments dealing with economic and social services should be invited.

The orientation workshop would focus on CBMS and its applications to local governments; what it is and what it is not; and how CBMS could improve political responsiveness and local government effectiveness. This should include a presentation or sharing of experience by a local government that has successfully implemented CBMS, and has used the data in guiding its programs and projects. If this is not possible, a 15- to 20-minute video documentary on CBMS and how it was applied by other local governments should be presented. The workshop would also discuss the investments required in CBMS, and the implementation process, including how the entire process should link to the planning and budgeting cycles. A discussion by a local government trainer (such

as a planning officer from another LGU) is suggested. The rest of the workshop should be small group discussions by the participants on their present needs, whether CBMS can help address the information requirements of those needs, and other possible applications.

Video Documentary. A 15-20 minute video documentary needs to be prepared about CBMS—what it is, how it can help in poverty monitoring and development planning, testimonials from local governments that have implemented it and initial successes and applications. The services of a professional media advocacy or development communications outfit are recommended, to be selected on a competitive basis. The selected outfit should have a demonstrated track record in developing documentaries with a social and educational bent.

Case Documentation. The other is case write-up of experiences in CBMS implementation, which could be in the form of 3-4 page feature story type of documentation, and a longer, academic type of documentation. The short version will be distributed to local governments and will serve as input in the preparation of CD or web-based materials. The longer version will be used as case materials for courses dealing with poverty reduction, social development, and governance. For the cases, the services of locally-based academic institutions as well as academe-based centers working on research and training for local governments can be tapped.

Alternatively, the annual CBMS conference can be expanded to become a national conference where other local governments could be invited to participate.

Cost sharing and leveraging of resources

The cost of CBMS training is high if based on the attached cost estimates. While the recommended strategy is for the local governments to assume the direct cost of training at the provincial and municipal/city levels, the cost of training the regional trainers will have to be shouldered by either the national government, other development organizations, or a combination of both. Several options

are identified below:

1. Seed funding for the institutionalization of the training program, covering the training of an initial number of region-based trainers and related costs to be provided by international development organizations that are interested in and supportive of CBMS. This, however, would require a strong signal of national government commitment to promote CBMS.

2. Leveraging support by international development organizations to integrate poverty information collection as a component of their capacity building efforts.

3. Integration of the cost of training for regional trainers into the regular budget of a host national government agency, including the cost of subsidizing the expenses for training 5th to 6th class municipalities.

4. Leveraging UNDP-Philippines support through its Fostering Democratic Governance (FDG) Portfolio.

The guiding principle remains that in general, local governments shall bear the cost of training as part of their investment in the process.

Networking and partnership in training implementation

The institutional arrangements established by the CBMS Network Team of AKI have been open and inclusive. This should also characterize the processes of training delivery for training implementation.

The envisioned structure for training delivery is decentralized. Training delivery is suggested to be administered under partnership arrangements with region-based and local resource institutions as well as academic institutions.

Partnership with CBMS Network Team. There is a need to further strengthen the organizational structure for training delivery of the CBMS Network Team through the hiring and development of additional trainers to support the training of regionally based trainers.

The work of the CBMS Network Team in transferring the present technology to a host agency might take from one to two years. The CBMS Network Team, along with the Statistical Research Training Center (SRTC) and academic institutions, will need to be involved in the development of future modules, particularly on applications of CBMS data, and in the introduction of further technical refinements and upgrading of the system.

Partnership with local resource institutions under the LOGOTRI-Philnet. Local resource institutions under this network consist of academic as well as research and training institutes which had taken training on such topics as coaching and mentoring, MDG localization, and community mobilization.

Partnership with academic institutions. Academic institutions, either nationally based or locally based, are expected to be involved substantially in institutionalization. Locally based universities and colleges can provide the continuity necessary in a long process of capacity building using CBMS; they can also be tapped for facilities, expertise and human resource that can complement the resources in local governments. For example, in the experience of Bulacan, the local colleges, Bulacan Polytechnic University (BPU) and Bulacan State University (BSU), were involved in the data processing phase where their facilities were used for training in data encoding and processing. Students from these colleges were also taken as on-the-job trainees who assisted in data encoding and digitizing. In the case of the municipality of Balagtas, a number of the enumerators were students from the local branch of the Systems Technology Institute (STI) and they also helped in data encoding and digitizing.

Academic institutions will also figure in deepening the use of CBMS data, as pointed out in the 2004 CBMS conference, to prevent creating data-rich but information-poor local governments.

Working with PASUC or ASPAP. A possible arrangement is to tap the organization of colleges and universities under PASUC (Philippine Association of State Universities and Colleges) through a MOA, making interested state universities and colleges serve as partner institutions in training, coaching, and technical assistance. This model has been applied by the SRTC in its existing arrangement with the Western Visayas State College in Region VI.

Another feasible arrangement is to work with the Association of Schools of Public Administration in the Philippines (ASPAP), the members of which are also members of PASUC and the LOGOTRI-Philnet Network but which deal more closely with local governments in their area.

ASPAP involvement can also tap the support of the UNDP for CBMS training institutionalization. At present, ASPAP has an existing MOA with the UNDP through the UP-NCPAG, under which UNDP seeks to strengthen the ASPAP schools in terms of curriculum development, training of trainers, and knowledge generation so that they can ably engage with local governments and other state institutions in their regions. A case writing initiative by the member schools can also be used to document CBMS experiences. CBMS data can also be used in teaching research, project management and public policy courses in these schools. All of these initiatives can be packaged into a program for inclusion for funding under the MOA.

Partnership with civil society organizations. The CBMS Network Team has already started a working engagement with civil society organizations such as the IDPG in Eastern Visayas and Social Watch Philippines. In addition to these, the CODE-NGO has provincial partners that have been trained as part of the LAPP II Project (a JSDF-funded, WB administered project) in poverty incidence monitoring using the 13 core indicators set out by NAPC. These provincial partner NGOs under CODE-NGO may be retrained to adapt the CBMS materials for data collection, analysis and application. Their experience

and insights on how to implement a poverty incidence monitoring tool will come handy.

Optimal composition of pool of trainers/expert champions

Who shall serve as trainers/expert champions?

From the interviews of key informants and based on the CBMS-Philippines experience, the suggested sources of trainers are from the academic institutions (especially those regionally and locally based), regional offices of national government agencies such as the DILG, NEDA and NSO, civil society organizations, and local governments that had successfully implemented the CBMS. Trainer qualifications that were commonly identified include those:

- With high literacy in computer;
- With good communication skills;
- Preferably with experience or had been exposed to survey operations and other data generation exercises; and
- Committed to mentoring and coaching of participants after training.

It is suggested that the trainers' pool be widely sourced. Trainers from regional offices have a drawback in the sense that their time will have to consider their regular functions and responsibilities, and the training schedule may not fit their workload and regular schedule. Their commitment will also depend on whether the regional directors buy into the system and commit their offices to support training and implementation. Without the regional director's concurrence and support, regional staff members may not be able to work on CBMS training on official time and with budget support from the regional office. However, a number of trainers should come from among the regional offices of the DILG, National Statistics Office (NSO) and National Economic and Development Authority (NEDA) who can be tapped to fill in the demand for training in cases where other trainers are unable to provide the service.

Civil society organizations can operate most effectively in the

local areas where they have established a history of working with local governments and have gained credibility and integrity in the process. The experience of CODE-NGO partners in the project LAPP II is instructive in that the local governments were willing to work with the partner NGOs which had been working in their areas and which had gained their trust and confidence (see Ilago and Esden 2004). The issue of funding also needs to be considered, inasmuch as CBMS training requires a commitment during the process and afterwards through coaching and technical assistance. The context of civil society organizations' participation as partner institutions in training should not be project-driven but more of an investment on their part in local development.

Trainers may also come from among local governments that have successfully implemented CBMS. From the experience of CBMS-Philippines, these trainers can effectively deal with their fellow local government participants and can provide practical insights and examples based on their experience. However, their participation would require taking leave from official duties and responsibilities even for two days, and permission from their respective superiors.

Size of trainers' pool

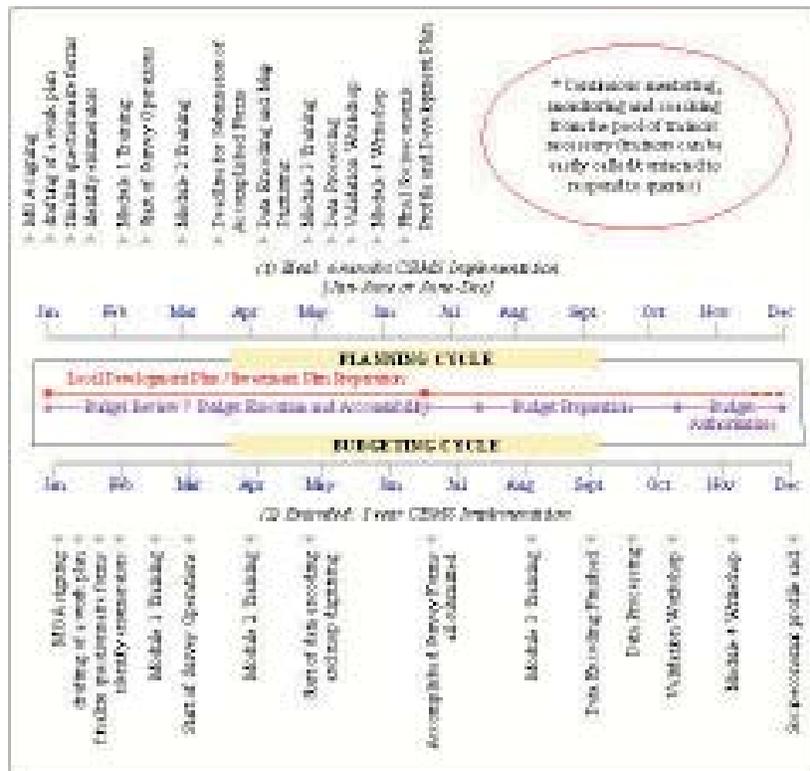
The detailed cost table attached to this report assumes a pool of five trainers for each region. The composition may vary from region to region, although it is suggested that at least two of the trainers should come from the region-based academic institutions dealing with local governance, another two should come from regional offices, and one from an intermediate or federated-level NGO.

A batch of 85 regional trainers can be trained initially by CBMS-Philippines in partnership with a host national government agency. The host agency can issue the call for training and screen nominations along with the CBMS Network Team.

Commitment to training

Figure 1 shows the timeline for CBMS training that ranges from 6

Figure 1. Comparative timelines: CBMS implementation and planning and budgeting cycles



months to a year. It is important that in the selection of trainers, the trainers should be aware of and should commit to render the expected services of trainers, including the required continuous mentoring, monitoring of program implementation and coaching.

Accreditation of trainers and institutions

The accreditation process can either focus on the accreditation of individuals or of training institutions. Both were suggested in the interviews.

1. Formation of a working group to develop and finalize

accreditation criteria. It is suggested that the CBMS Network Coordinating Team, an academic institution, and the host national government agency be members of this working group. Their main responsibility will be:

- To develop and finalize the criteria for accreditation of both individual trainers and training institutions;
- To come up with the appropriate competency tests to ascertain proficiency and competence of trainers in the various skills required by the CBMS training; and
- To establish the feedback mechanism as well as the feedback forms necessary for post-training and assistance evaluation by local governments of the training providers.

2. Criteria for accreditation of individual trainers. Individual trainers can be accredited upon completion of the standard training program for trainers. This means that to be a fully accredited trainer for CBMS, one must demonstrate the ability to:

- Explain the usefulness of the CBMS to local governments;
- Conduct interviews and record information with minimum errors or none at all;
- Edit questionnaires for reliability and consistency of data;
- Encode accomplished questionnaires with minimum errors or none at all;
- Prepare a digitized map based on CBMS data;
- Prepare a barangay CBMS database, including digitized spot maps and boundaries with data;
- Prepare a barangay socio-economic profile or a barangay development plan; and
- Prepare a project proposal brief.

3. Criteria for accreditation of training providers. The accreditation of training providers is contingent on the accreditation of their affiliated trainers/resident experts who should be associated

with the training provider for at least two years, and the feedback of the local government that they have assisted.

A feedback mechanism involving local governments that had been trained and assisted in CBMS implementation should be set in place to form part of the accreditation process. The feedback could be in the form of post-training reaction level assessment and a brief process assessment report evaluating the quality of post-training assistance provided to the local government upon completion of each module of CBMS training.

Because the length of completion of CBMS training will vary from one local government to another, the accreditation of CBMS trainers and training providers should be done once every two years. A provisional accreditation shall be given to a training provider or individual upon completion of certain modules; full accreditation shall be given only after the trainer has completed all the modules, demonstrated the abilities and proficiencies required, and have been positively assessed by their client local governments.

Other considerations for institutionalization of CBMS training

1. Preparation of additional modules on data analysis and applications by the CBMS-Philippines in partnership with SRTC and state colleges and universities.

2. Setting up a module on CBMS data for information-based legislation and preparation of the executive-legislative agenda. This module addresses a specific segment of the local government that can also be tapped for institutional support: the members of the local *sanggunian*.

3. Development of a system of recognition for local governments that had effectively implemented innovative programs or improvements using CBMS data. Rewards and recognition are crucial to the institutionalization of an innovation. A system of recognition for CBMS could be tied up with existing programs and

awards such as the Galing Pook Awards. A Memorandum of Agreement (MOA) could be negotiated with the Galing Pook Foundation for the creation of a special category for CBMS and the criteria for citation could be jointly formulated. Alternatively, a distinct recognition system could be set in place by the network of institutions involved in CBMS implementation. In fact, the CBMS Network Coordinating Team has already initiated a small grants program, supported by the UNDP and PEF, for LGUs that have successfully implemented CBMS.

4. Strengthening of training delivery and CBMS in general through the development of distance learning and on-line materials.

The UP Open University, through its Vice-Chancellor for Academic Affairs, is willing to explore the possibility of using the resources and facilities of the Open University. The LGA's Local Governance Resource Center (LGRC) knowledge facility can also host a site for CBMS e-learning materials and tools.

5. Integration of CBMS data in the curriculum and courses of state colleges and universities. The data collection phase could be used, for instance, as a field exercise on data collection and the use of the interview method while the CBMS database could be used as material for data analysis and interpretation in research methodology and planning courses. Technical writing courses can use processed data to write socio-economic profiles of barangays as a technical document.

6. Placing of the CBMS within a wider framework of participatory public expenditure management (PPEM). The eventual reality of a successful CBMS training program would be a substantial number of local governments possessing data and information on the poverty situation of their communities and needs. It has been raised in various occasions during interviews and CBMS conferences that beyond data collection and developing a database, local governments must be capacitated to analyze the implications of the data and to use such data in informing local policy and other decisions.

This study suggests that the CBMS initiative be placed in the wider framework of participatory public expenditure management. In this framework, the generation of a database is a fundamental step toward deeper actions of the community. Community members at the barangay must be assisted on how to analyze the issues arising from the data and how to prioritize from among competing issues, needs and alternative solutions. Their skills and confidence must be built in terms of translating identified solutions to their needs into simple project proposals that could be the bases for realigning budget priorities at the barangay level or for advocating municipal or provincial government support through the municipal and provincial budgets. They should also be taught how to use the information they have generated to demand public accountability in the use of state resources or to benchmark local government performance.

Thus, aside from the module on preparing a development profile, the CBMS training program may be strengthened by including additional modules on: (a) problem identification and analysis; (b) preparation of project proposal briefs; (c) budget advocacy; (d) resource generation and mobilization; (e) public expenditure monitoring using CBMS information; and (f) even alternative budget formulation.

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Session 2
Local Level Planning and Budgeting



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Planning for Poverty Reduction at the Grassroots: Experience of LLPMS

*Ranjan Kumar Guha**

Introduction

Planning is often a neglected aspect of local level administration. The adverse effects of this neglect fall on the beneficiaries especially the poor, because a wrong selection of schemes, which are not suited to their needs or resources usually results from the lack of or poor planning. No excellence in implementation can compensate for a fault in planning.

Local people normally have better awareness of their own needs, preferences and information for developing integrated programs that avoid duplication and produce maximum impact with the minimum cost. But reflecting their opinions in the planning process is a difficult task as the public does not connote a harmonious entity but rather embodies conflicting interests. The reflection of the public opinion in the planning process can be viewed in the form of recommendatory or mandatory status, with the latter being maintained by involving public representatives in the process of plan approval through comments of a planning team (Prasad 1985).

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The activities of national government have expanded widely and it is really difficult for the national government to serve the people of a country centrally. In Bangladesh, there are large regional disparities in the achievement of the Millennium Development Goal (MDG) indicators. Hence, targeting intervention of central government resources and economic growth opportunities to the lagging divisions and districts will speed up the attainment of the MDGs. For this reason, decentralization becomes popular in most countries. One of the rationale of decentralization is to overcome the severe limitation of centrally controlled national planning by delegating the greater authority for development planning and management to those who work in the field and are closer to problems. Decentralization allows officials to disaggregate and tailor development plans and programs to the needs of heterogeneous regions or groups (Cheema 1983).

While Bangladesh has had an experience with decentralized planning through the *Upazila*¹ system where it was assumed that *Upazila* Plans are to be based on plans formulated at the Union² level and are prepared on the basis of needs of various communities in the Village within a Union, experience shows, however, that the *Union Parishad (UP)* chairman usually comes up with a project, that does not reflect the actual needs of the common people in the localities. Instead, the projects serve the interests of local elites. The planning process also suffers from strong control of the national government as the government tries to take hold of the process by issuing circulars or guidelines that do not match local demands. Lack of an adequate database at the local level is also seen, as a major hindrance to proper planning, and efforts call for a system of collecting information that would facilitate planning at the local level. The planning process needs to be supplemented with appropriate tools such as Participatory Rapid

¹Upazila is an administrative unit at sub district level where number of nation building departments is existed.

² Union is the lowest administrative structure as well as local government unit are divided into nine Wards.

Appraisal (PRA) in order to identify problems at the grassroots level and ensure people's participation in the planning process (CIRDAP 1992).

It is thus clear that planning should be initiated from below articulating the voice of the poor. The local government institutions at the grassroots level can play a vital role, as their role in plan formulation is obligatory. If the local government ensures the recommendatory role of the local people, the plan may therefore help reflect the needs of the disadvantaged. The capacity of the local government in plan formulation, however, requires increased autonomy. At the same time, the development of a database at the local level is also a prerequisite. A system is essential for formulating and plan as well as integrating plans at the national level that has the commitment of the national government to reflect local needs.

The experience of the LLPMS

The general objective of this paper is to highlight the necessity of planning for poverty reduction from the grassroots and to share the experience of poverty reduction plan prepared under the Local Level Poverty Monitoring System (LLPMS). The paper aims to explain the steps followed in preparing poverty reduction plan under LLPMS and share the lessons learned from such plan.

Both primary and secondary data were used in this study. Secondary materials included relevant books, journals, periodicals that are used for getting in-depth ideas about the past experiences. Primary data, meanwhile, were collected from the Muhammadpur (west) *Union Parishad of Daudkandi Upazila* by administering a checklist and conducting a focus group discussion (FGD) with the functionaries of the Union Prishad (UP). The experiences gained through involvement in the Project as project leader and observations of the author are also incorporated in this paper.

Findings

Planning under the Union Parishad

Regulatory basis for planning under the Union Parishad

According to the clause 51 of Local Government Ordinance (*Union Parishad 1983*), every *UP* has to prepare a five-year plan on the basis of the availability of resources soon after assuming the responsibility by the *UP* representatives. The planning process involves the organization of a meeting that ensures participation of the elites, school teachers, religious leaders, businessmen and professional representatives. Every *UP* is supposed to prepare a plan of action for every year under the framework of five-year plan and identify the projects to fulfill the objectives of the plan. To avoid duplication and overlap of the project, *UP* is recommended to prepare plans on the following areas: development, construction and repair of village road, culvert, bridge, sluices gate, sanitation, group organizing for undertaking income-generating activities, anti-dowry movement, campaign against early marriage, population control, Expanded Programme on Immunization, tree plantation, supplying furniture to educational institutes, and training for income-generating activities (GOB: 2005).

Existing scenario of plan and project preparation

Plan formulation at the Union level is the task of a corporate body (the *UP* Chairman and elected members). The local government institutions are dictated by the higher-level administration on plan formulation and implementation; hence, the common people have little voice in the planning process. The approach is top-down in nature. People's representatives show little interest in the process of project planning mainly due to lack of experience and expertise. Civil servants are the ones who play the major role in project design with the line department creating the database. This database serves as inputs of project planning. The people, especially the poor, participate only in project implementation by selling their labour (Khan 1988).

The situation is more or less same in recent years. It is observed that project planning is done at the Union level on a piecemeal basis. After getting the allocation letter from the central government, the functionaries of UP convene a meeting and thereafter identify the projects in this meeting. In some cases, the members of the UP consult with some elite persons and the members of Gram Sarkar³ before joining the meeting. The projects are finalized in this meeting and forwarded to the Upazila Office for approval. The Government of Bangladesh has recently introduced a system of providing a lumpsum amount to every Union Parishad, which is commonly called Block Grant. The amount is directly transferred to an account of the Union Parishad and maintained with the joint signatures of the chairman, secretary and a female member. In this system, the projects are finalized in a meeting of UP and later informed to the Upazila authority. The planning procedure under this system is flexible and the functionaries of UP enjoy freedom in project planning.

Prerequisites for planning at the grassroots level

In preparing local level plan, three factors are essential, namely: needs of the local area, thrusts of the national government and availability of the inputs (Khan 1988). The capacity of the local government is also a pertinent issue for local level plan. The issues related to this include the commitment of national government to decentralized planning, financial autonomy, framework for integration of multilevel planning, and creation of a database, among others.

Resource flow for development activities under Muhammadpur Union

There are several channels of resource flow in a *UP* but undertaking development projects according to the needs of local area depends

³ Gram Sarkar means village government. Jurisdictionally there is *Gram Sarkar* for every Ward in a UP. It is not formal unit of local government rather it is an auxiliary organisation of UP.

on two main sources: Grant under annual development programs through Upazila Parishad and Block Grant which is transferred directly to the UP.

There are several safety net programs (old age allowance, widow allowance, Vulnerable Group Development, Vulnerable Group Feeding, etc.) under a UP and the allowance is transferred to the beneficiary directly.

Table 1 shows that, on average, the Muhammadpur *Union Parishad* handled one million to 1.2 million taka in the year of 2004-2006, and 50 to 60 tons of food had been received under the Public Works program and safety net program. Own resources include holding tax, fees, leasing while the allocation of central government comes through different channels. The most popular way is allocation under the annual development program (ADP) based on population, size and backwardness of the Union. The most recent initiative is, as

Table 1: Resource flow in the Muhammadpur West Union Parishad

	2004-05 (Tk)	%	2005-06 (In Tk) (Up to April 2006)	%
Total Own Resources	55,700	4.63	-	
Block Grant	2,18,074	18.14	1,20,000	10.93
Allocation Under Annual Development Program	1,00,000	8.32	22,500	2.05
Old Age Allowance	4,03,920	33.61	3,38,400	30.83
Widow Allowance	2,31,660	19.27	1,68,480	15.35
Rural Maintenance Program	1,47,600	12.28	98,400	8.96
Land Transfer Fees	45,000	3.74	-	-
Special Allocation	-	-	2,00,000	18.22
Project Grant from Zila Parishad			1,50,000	13.66
	12,01,954	100.00	10,97,780	100.00

Source: Official Record of UP

mentioned, the Block Grant, where a certain amount is transferred to the UP directly.

Two thirds of the resources came under safety net programs (old age allowance, widow allowance and Rural maintenance program). The role of the UP is to select the beneficiaries and distribute services to them. Eighteen percent of the funds came under the Block Grant in 2004-05 and the UP is responsible in preparing the plan and projects under the Block Grant. Eight percent of funds was placed under the ADP in the same year. After getting approval from the Upazila office, the projects designed by the UP are implemented under the guidance of a Project Implementation Committee and the fund is disbursed from the Upazila level in favor of PIC's Chairman. The UP has the autonomy in preparing plans under the Block Grant scheme because the amount is handled by the UP directly. The government has also taken the decision to increase the amount of Block Grant gradually. For ensuring maximum utilization of the Block Grant, the capacity of the local government for plan formulation, project selection needs to be enhanced.

Nature of development programs under the Union Parishad

To the functionaries of UP, development programs mean development of infrastructure especially construction of roads, bridge and culverts. Their perception is reflected in the project selection as shown in Table 2.

During the period of 2004-06, importance was given to infrastructure development. Focus was also given to sanitation as more than one third and one-fourth of the resources were used for the distribution of water-sealed latrines in 2004-05 and 2005-06, respectively. Nine percent of the Block Grant was likewise used for tree plantation in 2004-05, and with plants to once again use a portion of resources for this sector in the current year.

Table 2: Nature of Projects in Muhammadpur Union

	2004-05			2005-06 (Up to April 2006)		
	Block Grant	ADP	Total	Block Grant	ADP	Total
Road Reconstruction	18.34	60.0	31.44	25	33.33	26.32
RCC pipe for ring culverts				25	33.33	26.32
Maintenance of UP Complex	18.34	0	12.58	25	0.00	21.05
Furniture Supply in school	18.34	0	12.58	-	-	-
Tree Plantation	9.17	0	6.29	-	-	-
Sanitation	35.80	40.0	37.12	25	33.33	26.32
	100	100.0	100.00	100	100.00	100.00

Source: Official Record of UP

Planning process under the LLPMS

For developing a system of local level planning at the Union level, an experiment was carried out under the Local Level Poverty Monitoring System (LLPMS) through a research project conducted by the Bangladesh Academy for Rural Development (BARD) with technical and financial support from IDRC-Canada through the CBMS International Network. Under LLPMS, information is generated on several sectors by involving local people and functionaries of the local government. An initiative was taken to incorporate information in plan formulation. The initiative was taken to see the practical utility of information generated through the process of LLPMS and to ensure effective use of information (summary of a plan is shown in Annex1). The following are the steps in finalizing the Plan.

Preparation of Ward Information Book (WIB)

A Ward information Book (WIB) is prepared for each Ward to preserve the information generated under the LLPMS. The WIB includes two parts. The first part contains aggregate information of several sectors

of the Villages under a Ward. In analyzing the status of each Ward, some Tables are incorporated as articulated in Box 1.

The second part of the Ward Information Book includes several formation of an individual household (HH) The nature of information of a household articulated at the WIB is furnished in Box 2.

Box 1. Information included in the First part of WIB

- 1.a *General information of each Ward* : Geographical location and resources of the village and Ward (number of villages, distance from the Upazila and district headquarter, number of ponds, mosques, graveyard, deep tube well, bridge, culvert, village shop, market, and schools etc.).
- 1.b. *Demographic Information*: Number of households, Number of population with sex disaggregated, average household size, religious status, distribution of household heads according to age, profession, educational qualification, and land ownership etc.
- 1.c. *Educational Status*: Primary and secondary enrollment rate, dropout rate, adult literacy rate.
- 1.d. *Health Status*: Coverage of using safe drinking water and using sanitary latrine.
- 1.e. *Poverty Situation* : Incidence of poverty, food security on the basis of purchasing power, housing condition.
- 1.f. *Assets and Liabilities* : ownership of land, cattle and poultry, involvement in organization, access to credit etc.

Source: WARD Information Book prepared under LLPMS

Box 2: Information included in the second part of WIB

HH code number, name, Age, Education Qualification and Profession of HH head, Status of HH (poor, very poor and non-poor), Number of member belongs to different age group along with sex disaggregated information. Number of children 6-10 age group and 11 to 15 years, number of children continuing and discontinued education in the respective age group, number of person having 7 to 15 years and 15 years and above, number of persons literate of the same age, number of persons passed secondary and above level, number of persons who got training, land holding size, HH having electricity facility and tube well, source of drinking water, nature of latrine, housing condition, number of persons involved in NGO or other development organsiation, number of person who got credit.

Source: WARD Information Book prepared under LLPMS

Capacity Building of the Functionaries of Union Parishad and Preparation of Ward Plan by Ensuring Participation of all Stakeholders

After the preparation of the WIB, a training program was organized for the members of UP and Gram Sarkar to orient them about the WIB. In preparing the Ward plan through the active participation of the members of the Gram Sarkers, the subject matter of the workshop was designed very carefully. Some pertinent issues related to the project activities, rural poverty scenario, functions of UP in poverty alleviation, linkage between malnutrition and poverty and role of village organizations. To get practical ideas about the planning process under a village organization, the participants were also exposed to the activities of a Comprehensive Village Development Society (CVDP), an experimental project of BARD where the beneficiaries are habituated with plan formulation and evaluation. Some personalities in the field of poverty alleviation who have demonstrated their capacity of working at the local level were also invited to motivate the people by sharing their experience. Once they were sensitized, the people were introduced to the WIB and given opportunity to analyze the WIB. After that, they were involved in identifying problems of respective Wards on development of infrastructure, education, health care facilities, law and order situation, women and the destitute, environment, crop production, livestock, fisheries, poultry and income-generating activities.

After identification of problems, the participants prioritized the problems on the basis of their needs and urgency, followed by the working out of solutions of each problem and division of responsibility. Afterwards, the participants were involved in preparing an action plan following a format (Annex 1) for the next year on the basis of their own resources and resources available from the Nation-Building Department (NBDs). The participants prepared and presented their Ward plan on the third day of the training course under the chairmanship of senior faculty members of the BARD. The Chairman

of the Union Parishad and the members of respective wards were also present during the presentation.

Sharing the plan with the local people

A Ward meeting is organized in every Ward to disseminate the information of each Ward and the plan of action prepared the following year. The functionaries of UP invited all sectors of the community. The field workers of nation-building departments, functionaries of UP, faculty members of BARD and officials posted at the UP level were present in the meeting. The representative of each Ward described the plan of action in front of the people and clarified some issues raised by the people. Feedbacks were likewise solicited. In that way, each Ward Plan got approval from the common people. The objective of the meeting was two-folds: one was to get approval from the common people and another was to develop awareness of the local people on various issues articulated in the Ward Plan Book. The people who joined the meeting were so motivated that they organized dramas on the adverse effects of large family size, early marriage, fate of uneducated children and problems in repaying weekly installments of credit. A group of people who are basically landless sung a song giving message to be united to get rid of poverty and to plant trees for environmental development. The participants were found to be highly encouraged to do something when they found that one village of a same Ward is lagging behind another. Information proved to be very effective in empowering rural people.

Consolidation of Ward Information Book

The Ward plans are consolidated by the functionaries of UP on the basis of availability of resources and priority. Prioritization was again done in a meeting by the functionaries of UP before the plan becomes a Union Plan⁵

Finalization of the Union Plan Book

A planning workshop is organized at the *Upazila level* ensuring

participation of the officials of service delivery agencies and development partners. The Chairman of the *Union Parishad* presented the Union Plan which incorporated some suggestions made by the line departments and got some commitment of support services from the respective departments.

Distribution of Responsibility

After finalization of plan, tasks were then distributed to different committees or persons for the implementation of the plan of action. To monitor the plan, a format is developed (Table 3) and UP functionaries are motivated to monitor the status of progress.

Results of Planning

The results of planning are neither so encouraging nor so frustrating, as noted as follows:

1. In consonance with the national priority, the UP was committed to a plan to distribute water-sealed latrines to the disadvantaged to ensure full sanitation of the UP.
2. To ensure arsenic-free and safe drinking water, the UP contacted the Public Health Engineering Department (DPHE) and to sanction the installation of a deep tube well. The

Table 3. Format for monitoring activities by the UP

Sl.No	Name of Activity	When It would be done							Who Will do
		Jun	Jul	Aug	Sep	Oct	Nov	Dec	
01	Drafting a letter for supplying arsenic free tube well and contact with (DPHE)								Chairman and Secretary

⁴ This is a partial Union Plan as data were collected at different periods of time. After completion of the WIB of five Wards, the Union Plan Book is prepared articulating the summary plan of Ward numbers 1 to 5.

- Chairman of the Union Parishad also requested respective NBDs to set up a primary school in Ward number 6.
3. As per plan, some self-propelling organizations were organized. The Union Parishad also organised a training course to facilitate people organizing with the help of NBDs. The villagers of five villages have been united and formed an organisation to fight against poverty. The members of the organisations have become familiar with thrift savings and have purchased shares to form capital. The organizations are also providing credit from their own fund. These organisations have a plan to do something for arsenic mitigation in this area by utilising the profit in the near future. Details of the activities of two organizations are shown in Table 4.

As per plan, a village road has also been constructed in a backward village by the UP.

Lessons Learned from Planning Exercise

Below are some of the lessons learned in the planning exercise:

1. The plan is very effective in changing the perception of development projects among the functionaries of UP. Shifting the

Table 4: Status of two village organizations dormed under LLPMS

Name of the Organization	Members	Capital (In taka)			Credit Activities (Current)	
		Saving	Share	Total	Number of Borrowers	Amount of Credit
Atipara Village Organization	250	1,85,000	23,800	2,08,800	75	3,11,000
Charakkhola Village Organization	245	2,20,500	24,500	2,45,000	55	1,45,000

Source: Field Survey, 2006

focus on the essence of selecting projects other than infrastructure development was found to be very effective.

2. The functionaries of UP showed their interest in plan formulation and were able to prepare plans by analyzing the information gathered by the field staff of NBDs. In most cases, they planned for awareness development as they lacked resources.

3. The service delivery agencies showed their interest to provide needs-based support service in the form of training and awareness development. The integration of Union Plan with the higher-level plan needs, however, to be evolved.

4. Monitoring planned action is not a regular phenomenon in the UP. Due to lack of funds, the functionaries of UP were found to be reluctant to take the responsibility. Conveyance allowance needs to be provided to pursue the plan of action since resources remain with the Upazila Office.

5. Introducing planning at the grassroots is a challenging task and it will take lot of time to institutionalize the system. The experience, however, shows that if the functionaries are motivated to formulate and implement small-scale plan, they might eventually be persuaded to implement comprehensive development planning.

Conclusion

The experience of plan formulation at the grassroots level is entirely new in Bangladesh. However, the experience of the LLPMS has added some values in conventional planning exercise. Earlier importance was laid on infrastructure development through the Union Plan. Through the LLPMS, however, an initiative has been taken to cover other relevant sectors of development on the basis of real information. The government is also trying to strengthen local government, and for that reason, an initiative has been taken to provide funds to UP directly. If the functionaries of UP are not capable enough, however, it would be difficult to harness the benefit of this initiative. Hence, there is a lot of potentials in this planning process at the grassroots level that still to be tapped. The perfection in planning will come

over the years through practice.

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Annex 1. Draft format for preparing WARD Plan book

1st part: Situation Analysis

- General Information of the Ward: Geographical location, number of villages, area, history of the Ward (if the Ward suffered any calamities or experienced any famous phenomena), and socio economic characteristics of the people
- Poverty situation
- Income poverty: incidence of poverty, poverty situation on the basis of land holdings
- Percentage of households suffering from food deficit
- Human poverty: illiteracy, dropout rate, enrollment rate, use of safe drinking water, sanitary latrine

2nd part: Problem Analysis of Different Sectors and prioritization of problems

- Infrastructure (road, canal, bridge, culvert).
- Agriculture: crop, livestock, poultry, Fisheries development in the area;
- Law and order, women's advancement, environment;
- Education (infrastructure, quality, enrolment, dropout etc);
- Health sector (infrastructure, quality, sanitation, safe drinking water etc);

3rd part : Planning for Regulatory Function (From _____ To _____)

Regulatory Activities

Events	Number	Who will be responsible	When this would be done	Comments
Organizing Meeting				Every two months
Inviting the experts in different field of operations in the meeting				
Organizing General Meeting				Every six months
Formation of Committee				
Organising Committees Meeting				

4th part: Planning for Development Activities (From _____ To _____)

A. For Reducing Human Poverty

A.1. Infrastructure Development (Roads, Bridge, Culvert and Water Management)

What will be done (Specification of area)	Why this would be done	Who will be responsible	When this will be done	Who will provide resources	Comments if any (Specific Area)
	Repairing Existing Infrastructure				
	Developing New Infrastructure				
	Water Management				

A.2. Education Development

What will be done	Why this would be done	Who will be responsible	When this will be done	Who will provide resources	Comments if any (Specific Area)
	For removing illiteracy				
	For ensuring quality education				
	Ensuring 100% enrollment in the primary school				
	Infrastructure development				

two months

six months

A.3. Health Development

What will be done	Why this would be done	Who will be responsible	When this will be done	Who will provide resources	Comments if any
	Supporting family planning programs				
	Ensuring safe drinking water				
	For ensuring safe delivery				
	For ensuring 100% coverage of the expanded coverage of immunization				

A.4. Recording Birth, Death, Marriage and Separation

What will be done	Why this would be done	Who will be responsible	When this will be done	Who will provide resources	Comments if any
	To update the Ward Information Book				

A.5. Law and Order

What will be done	Why this would be done	Who will be responsible	When this will be done	Who will provide resources	Comments if any
	Ensuring safe movement of girls/women				
	Reducing stealing				
	Removing activities of troublemakers				

A.6. Women's and destitute Development

What will be done	Why this would be done	Who will be responsible	When this will be done	Who will provide resources	Comments if any
	For women's Advancement				
	For destitute development				Distribution VGD/VGF/ Old age pension/ FWP etc

A.7. Tree Plantation and Protecting Environment

What will be done	Why this would be done	Who will be responsible	When this will be done	Who will provide resources	Comments if any
	Sanitation coverage				
	To avoid deforestation				
	Proper uses of common property areas				

B. For Reducing Income Poverty Income Generation

What will be done	Why this would be done	Who will be responsible	When this will be done	Who will provide resources	Comments if any
	To develop village institution				
	To improve crop sector for benefiting poor				
	To improve livestock sector for benefiting poor				
	To improve poultry sector for benefiting poor				
	To improve fisheries sector for benefiting poor				

Annex 2. Summary of a Plan Prepared by the Functionaries of Local Government

Introduction

Muhammadpur (west) Union is a union under Daudkandi Upazila of Comilla district. It was formed as a union in 1992. The Union is 48 kms and 12 kms from the district and the Upazila headquarters respectively. It is about 5.6 square kms. with 19 villages. Total population of the Union is around 22,000. Bangladesh Academy for Rural Development (BARD) surveyed the five wards of this Union for the purpose of a research work titled "Local Level Poverty Monitoring System (LLPMS)". The survey was participatory in nature and involved Gram Sarker representatives, local people and elected representatives of Union Parishad. Through that survey, the socioeconomic conditions and existing problems of the respective villages and Wards were identified. The representatives of Gram Sarkar were trained at the BARD in preparing the Ward Plan Book. And after the training program, they came up with a Ward plan for each Ward. After presenting the plan in front of local people at Ward meeting, the plan was finalized. Summary of the findings of five Wards is as follows:

The five wards have 1,957 households and 10,970 persons. On an average 59.64 percent of the people live below the poverty line and 60 percent of families are landless. The positive side of the villages is that the housing condition is quite good as 98 percent of houses are made of GI sheets and more than 50 percent of households have electricity facility in their houses.

Plan of Action

On the basis of data generated and guidelines provided under the project an action plan was done in two sectors: one for reducing human poverty and another for reducing income poverty. The Gram Sarkar also prepared a plan of action to perform their regulatory works,

i.e., organizing meetings. The highlights of their plan of action are as follows:

A. Reducing Human Poverty

To reduce human poverty, emphasis was given on the following issues:

i) Infrastructure development: The Gram Sarkar had identified many roads for reconstruction or construction in their plan. Finally, the Chairman of Union Parishad has committed himself to construct one road in Ward number 2 in this financial year from the allocation of Annual Development Program that would require Tk. .15 million.

ii) Educational development: The Gram Sarkar would motivate the parents of drop-out children to send their children to school and the Chairman of the Union Parishad would take steps to protect educational environment by stopping television watching at the tea stall during school time.

iii) Recording birth, death, and marriage, separation information: Recording birth and death, marriage and separation is an important responsibility of the Union Parishad. For proper record-keeping, Gram Sarker would help by keeping information on the basis of family code number used at the Ward Information Book. They would send this information bi-annually to the Union Parishad.

iv) Health development: For development of health, they considered the areas of family planning, sanitation, and safe drinking water. On average, 39 percent of families use unhygienic latrine, 85 percent of families drink arsenic-contaminated tube well water, and 48 percent of eligible couples are not using any type of contraceptives. To promote sanitation, the Union Parishad would supply some ring slabs to the most vulnerable households identified in the data book. They would also contact the public health engineering department to secure arsenic-free tube wells which e distributed in Ward number 5 on a priority basis. As regards family planning, although there are logistics and physical infrastructure in their Union, the main problem lies with the lack of awareness of the people. For that reason, a plan was prepared to invite the relevant personnel of the Union Health

Complex to their general meeting to help motivate the people.

v) Law and order situation improvement: Some problems relating to law and order situation were identified, i.e., stealing, gambling in their areas. The local people thereby committed themselves to the maintenance of law and order. The Gram Sarkar, along with influential persons, would take care of this issue.

vi) Women in development: Some of the problems related to women in development are: lack of women's education, superstition, and lack of employment opportunities for women, early marriage, dowry and violence against women. To get rid of these problems, special emphasis was given in the Ward plan book on social awareness. Gram Sarker can play the vital role in this regard. Employment opportunities for women can be created by imparting skills training and the Upazila level government officer of Women Affairs would be contacted by the Union Prishad.

vii) Tree plantation and environment development: There is a plan to develop social forestry beside the roads. Under this arrangement, the beneficiaries will get a portion of the benefits along with the Union Parishad.

B. Reducing Income Poverty

To reduce income poverty emphasis was placed on the following issues:

i) Organising village level institute: Under the guidance of the *Gram Sarkar* a village level institution would be developed in each village/Ward. The people of the project area appreciated the Comprehensive Village Development Society that has been developed by the BARD at the grassroots level. For attaining this goal, they have demanded training from the LLPMS.

ii) Development of agriculture: The ward plan book has outlined some plans for the development of crop, livestock, fish production and poultry rearing. The plans were related to organising some training programme in collaboration with the officials / extension agents of different nation building departments.

iii) Proper implementation of safety net programs: The Government of Bangladesh has been implementing some safety net programs, i.e Vulnerable Group Development Program, Vulnerable Group Feeding, Old Age Allowance, Food for Works Programme through the Union Parishad. In the future, the Ward Information Book would be consulted to select the vulnerable beneficiaries by the representative of the Union Parishad.

iv) Arranging income-generating activities: Females are getting micro credit from the non government organizations (NGOs) for undertaking income-generating activities. Some skills training from the nation-building departments would help invest this amount in profitable ventures. Hence, the representative of Union Parishad would take initiatives to arrange some training programs for women in collaboration with the nation-building departments.

Source: Working Paper 6: Summary of the Planning Workshop



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Evidence-Based Planning and Budgeting Using CBMS Data: Localizing Global Initiatives

*Aniceto Orbeta**

Introduction

This paper describes part of an ongoing study with the following general objectives: (a) to improve the empirical basis for local planning and budgeting; (b) to improve transparency and community participation in local planning and budgeting; and (c) to increase the returns of local government unit (LGU) investments on CBMS. The specific objectives are: (a) to develop/enhance the training modules on planning and budgeting using CBMS data; and (b) to pilot test the training modules in two LGUs. Orbeta (2006) provides initial ideas and proposals for achieving these objectives.

A couple of recent evaluations of local planning and budgeting processes in the country have identified the lack of appropriate data as the primary reason for weak planning and budgeting practice in the country. Serrano (2003), for instance, summarizes a review of several LGU plans and budgets as follows: (a) identification of development goals relied on an insufficient data base; (b) the plans do not include a situationer showing historical trends which might have indicated other less obvious but pressing concerns; (c) the plans, though comprehensive, are obviously a listing of all concerns with not much thought given to their validity as no substantial data were

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provided to back these up; (d) there are no annual targets set; (e) the plans are gender-blind; (f) the plans do not have a monitoring and evaluation method that would facilitate implementation and attainment of targets; and (g) global development partnerships are hardly visible. Except for the latter, all these findings point to a lack of data support to local development planning. Interestingly, a more recent review of provincial planning by Carino, Corpuz and Manasan (2004) pointed out the lack of economic and related data at the provincial and sub-provincial levels as major obstacles to effective local planning and recommended the strengthening of databases for planning.

This study explores additional ways of utilizing CBMS data more in local planning and budgeting. CBMS data are turning out to be the primary source of local planning and budgeting data for LGU-cooperators (Reyes et al, (nd))¹ because alternative sources of data are either generated too far in between or have sample sizes that do not allow disaggregation at the LGU level of interest. Census data, for instance, may be disaggregated at the LGU level but are too far in between (usually 10 years or 5 years, if budget allows) to be useful for local planning and budgeting which is as frequent as an annual or a three-year cycle corresponding to the local election cycle. National surveys, on the other hand, maybe much more frequent but they have sample sizes that are currently only representative at the regional levels.

The use of CBMS data in local planning and budgeting will improve returns on LGU investments² on CBMS data generation. It will also make local planning and budgeting much more transparent and participatory since the basis is a data set validated by the

¹ For LGU-cooperators, CBMS data had been used in the preparation of community socioeconomic profiles but seldom beyond this point. The presentation by Londonio about the Pasay Case is one such exception (Londonio, 2006).

² The CBMS process requires the LGUs to shoulder all costs except for the costs directly related to the technical assistance provided by the CBMS team.

community and presumably known to the community³. Finally and more importantly, it will make the local planning and budgeting process much more empirically based.

Subsequent sections of this paper will present illustrative estimations for localizing global initiatives. They include computation of the Human Development Index, Gender-related Development Index, Human Poverty Index, and MDG indicators for a municipality in Bulacan that has conducted the CBMS in 2005.

CBMS process and data: a brief description⁴

The CBMS process has the following features:

- LGU-based and promotes community participation
- Taps existing LGU personnel and community volunteers
- Has a core set of 14 basic needs indicators (please refer to Table 1)

The CBMS process includes the following steps:

- Cooperation agreement drawn specifying the rationale, activities and schedule, and outputs, responsibilities of parties
- Mobilization of resources including: human, financial, institutional
- Evaluation of data requirements and existing monitoring systems
- Customization of survey instruments
- Data collection
- Data processing
- Validation of survey results

³ As noted in Reyes et al. (nd), the CBMS process involves a community validation process where CBMS results are presented to the community for the verification of the accuracy of the findings. It has been noted that these sessions often also turn into participatory problem-and-solution identification sessions.

⁴ Draws heavily from Reyes et. al (2004).

Table 1. List of CBMS core indicators

BASIC NEEDS		CORE INDICATORS	
A.	Health	1	Proportion of children's deaths (0-5 years old)
		2	Proportion of women deaths due to pregnancy-related causes
B.	Nutrition	3	Proportion of children 0-5 years old who are malnourished
C.	Housing	4	Proportion of households living in makeshift housing
		5	Proportion of households who are squatters
D.	Water and Sanitation	6	Proportion of households with no access to potable water supply
		7	Proportion of households with no access to sanitary toilet facilities
E.	Basic Education	8	Proportion of children aged 6-12 years old who are not in elementary school
		9	Proportion of children aged 13-16 years old who are not in secondary school
F.	Income	10	Proportion of households with income below the poverty threshold
		11	Proportion of households with income below the food threshold
		12	Proportion of households that experienced food shortage
G.	Employment	13	Proportion of persons who are unemployed
H.	Peace and Order	14	Proportion of persons who were victims of crime

Source: Reyes et al. (2004)

- Database management
- Dissemination of findings and recommendations

CBMS provides two sets of information, namely, barangay-level and household-level information. Barangay-level information are

generated from barangay officials, primarily, the barangay captain and/or the barangay secretary. Complete enumeration is currently done for household level information. The summary of the information gathered for these two sets of information are as follows:

(a) Barangay Profile

- Physical and demographic characteristics
- Basic services and service institutions
- Programs and services
- Peace and order
- Spot map

(b) Household Information

- Household roster (age, sex, education, economic)
- Water and sanitation
- Housing characteristics
- Household assets
- Income (amount and sources)
- Food adequacy
- Crime

Localizing global initiatives

Localizing global initiative provides opportunity for LGUs to align their development efforts to the global activities. At present, donor agencies, in cooperation with LGUs, have ongoing efforts at localizing global initiatives. These efforts, however, are hampered by the lack of the required data. In this section, illustrative examples of how CBMS data can be processed to generate many of the indicators required by global initiatives are shown. Two are covered in this section, namely: (1) human development, and (2) millennium development goals. Another global initiative that will be dealt with in the future is gender-responsive planning and budgeting. This cannot be done as yet because the CBMS survey with modifications to deal with these issues more appropriately is still ongoing.

1. Human Development Index (HDI), Gender-responsive Development Index (GDI) and Human Poverty Index (HPI)

Human Development Index (HDI). The HDI is premised on the principle that human development cannot be measured by income alone. Income is only a means to an end. In addition, there is no automatic link between income growth and human development. Thus, HDI measures human development in three dimensions, namely, (a) long and healthy life, (b) knowledge, and (c) decent standard of living. A higher value for the HDI means higher level of human development.

Gender-related Development Index (GDI). Just as national averages can mask differences across sub-national areas, the HDI can mask differences in achievements of men and women. The GDI measures human development with adjustment for the differences in the achievement of men and women. Interpretation of the GDI is similar to the HDI.

Human Poverty Index (HPI). The HPI measures deprivation beyond income poverty. Like the HDI, it also measures deprivation in the same three dimensions. A lower value for the HPI means lower deprivation.

Table 2 provides a comparison of indicators for HDI, GDI and HPI from three different perspectives, namely, international, national and CBMS. The longevity indicator is the most challenging because it requires life expectancy calculations that call for the preparation of life tables. It is perhaps unreasonable to expect LGUs to prepare life tables because their population size may not be large enough to generate stable death rates required for the calculation. To partially substitute for this, the CBMS Indicator No. 3, the proportion of children' death (0-5 years old) converted into survival rates, is used. Again, this will have reliability problems for small populations like the barangay because deaths are rare events.

The results of the illustrative computations are given in Tables 3a-3e. Because of the differences in indicators used, comparability with the international and national results will not be possible. Within

Table 2. HDI/GDI/HPI indicators: international, national and CBMS indicators

Dimension	International Indicators ¹	National Indicators ²	CBMS Indicators ³
<i>Human Development Index (HDI)</i>			
A long and healthy life	Life expectancy at birth	Life expectancy at birth	(1) Proportion of children's death (0-5 years old) ⁴
Knowledge	Gross enrollment ratio (GER)	Basic (elementary and high school) enrollment ratio (HDI-1)	(8) Proportion of children aged 6-12 who are not in elementary school (9) Proportion of children aged 13-16 who are not in secondary school
	Adult literacy rate	High school graduate ratio (HDI-1) or Functional Literacy rate (HDI-2)	Adult literacy rate ⁵
A decent standard of living	GDP per capita (PPP US\$)	Per capita income adjusted using CPI and cost of living index (HDI-1) Per capita income converted to PPP US\$ (HDI-2)	Per capita income ⁴
<i>Gender-related Development Index (GDI)</i>			
A long and healthy life	Female life expectancy at birth	Female life expectancy at birth	Proportion of female malnourished children ⁴
	Male life expectancy at birth	Male life expectancy at birth	Proportion of male malnourished children ⁴
Knowledge	Female adult literacy rate	Female high school graduate ratio (HDI-1) or Female functional literacy rate (HDI-2)	Female adult literacy rate ⁴
	Male adult literacy rate	Male high school graduate ratio (HDI-1) or Male functional literacy rate (HDI-2)	Male adult literacy rate ⁴

Table 2. cont'd.

Dimension	International Indicators ¹	National Indicators ²	CBMS Indicators ³
	Female GER	Female basic enrollment ratio	Proportion of female children aged 6-12 not attending elementary and 13-16 not attending high school ⁴
	Male GER	Male basic enrollment ratio	Proportion of male children aged 6-12 not attending elementary and 13-16 not attending high school ⁴
A decent standard of living	Female estimated earned income	Female estimated earned income	Female estimated earned income ⁴
	Male estimated earned income	Male estimated earned income	Male estimated earned income ⁴
<i>Human Poverty Index (HPI-1)</i>			
A long and health life	Probability at birth of not surviving to age 40 (HPI-1)	Probability at birth of not surviving to age 40	(1) Proportion of children's death (0-5)
Knowledge	Adult literacy rate	Functional literacy rate	Adult literacy rate
A decent standard of living	Percentage of population without sustainable access to an improved water source	Population not using improved water sources	(6) Proportion of households with no access to potable water supply
	Percent of children underweight for age	Underweight children under five	(3) Proportion of children 0-5 who are malnourished

¹ Technical Note 1 Human Development Report 2004² Philippine Human Development Report 2005³ Number indicators refers to 14 core indicators of poverty in Reyes et al. (2002)⁴ This is converted into survival (100-Proportion of children's death (0-5))⁵ Can be generated from CBMS data

the areas where the estimates are consistently generated, e.g., municipality or province, one can use these data as benchmarks across administrative areas or across time when CBMS data are generated across years.

Comparing HDI and per capita income shows that barangay Santol has better human development provisioning than what income suggests while the opposite is indicated in barangay Wawa (**Table 3a**). Comparing HDI and GDI shows that there is not much disparity in human development achievement by gender.

Comparing income poverty and human poverty shows much more interesting results. Barangay Buro 2nd is better in provisioning for human development than what income suggests (**Table 3a**). To a lesser extent, this is also true for barangay Santol. Barangay Pulong Gubat, on the other hand, shows poorer provisioning than what income suggests; to a lesser extent, the same is true in barangay Wawa (poblacion).

2. Millennium Development Goals

Table 4 provides a listing of the MDG goals and national indicators as shown in the latest MDG report (June, 2005). It is also shown in the table that the CBMS core indicators cover almost all of the indicator requirements except for Goal 6 (Combat HIV/AIDS Malaria and Other Diseases). Perhaps for major diseases (e.g., tuberculosis), the LGU can opt to include in their data set additional questions on major diseases in the area. This can be used as the basis for local indicators for Goal 6. Another challenging indicator is for Goal 5. There is even no national indicator for maternal mortality because of estimation problems. The CBMS has indicator on women's death. Again, this suffers from reliability problems because these are rare events that are even difficult to estimate at the national level. Perhaps proximate indicators such as access to maternal and child health services and contraceptive prevalence rates can be used to substitute for these. Pasay City is a pioneering city using CBMS data to compute MDG indicators (Londonio, 2006).

The results of the illustrative computations are given in **Table 5**. For goals where indicators are not identical, comparability with the international and national results will not be possible. Within the areas where the indicators are identical, e.g., municipality or province, one can use these data as benchmarks across administrative areas or across time when CBMS data are generated across years.

Summary and next steps

This paper has shown that with CBMS data, it is possible to generate the indicators required by some global initiatives. This means that there is no longer a need to initiate separate data generation systems to localize these initiatives. Of course, in cases where the indicators are not identical with those used at the international and national levels, comparability will not be possible. However, within the geographic areas that are implementing the CBMS, comparison can be done. The same set of indicators can also be used by LGUs for planning and budgeting. LGU plans and budgets can thus now be more empirically based using globally accepted frameworks. Given a common data set, transparency and community participation in planning and budgeting will be enhanced.

The next step is to make the generation of these indicators automatic. This can be done by adding computerized data processing modules for these indicators in the modules of the CBMS.

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Table 3a. Illustrative HDI, GDI, HPI comparison, barangay level CBMS data – Balagtas, Bulacan, 2005

	HDI		GDI		Per capita Income		Per capita income rank minus HDI rank		HDI rank minus GDI rank		Poverty Incidence		Poverty Incidence		Income poverty rank minus HPI rank	
	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank
Burul	0.773	1	0.711	1	36,033	1	0	0	0	0	0.493	1	27.7	4	3	
Dalig	0.648	5	0.628	5	20,637	5	0	0	0	0	4.178	5	51.0	5	0	
Putong Gubat	0.738	4	0.691	4	31,868	4	0	0	0	0	1.126	4	22.7	1	-3	
Santol	0.750	2	0.697	2	32,923	3	1	1	0	0	0.595	2	25.5	3	1	
Wawa (Poblacion)	0.742	3	0.691	3	33,437	2	-1	-1	0	0	1.029	3	23.7	2	-1	

Table 3b. Illustrative HDI, GDI, HPI comparison, Barangay level CBMS Data – Balagtas, Bulacan, 2005

Area	HDI		GDI		Per capita Income		Per capita income rank minus HDI rank	HDI rank minus GDI rank	Poverty Incidence		Poverty Incidence		Income poverty rank minus HPI rank
	Value	Rank	Value	Rank	Value	Rank			Value	Rank	Value	Rank	
Burol 2nd													
Purok 1	0.732	16	0.643	21	31,337	16	0	-5	0.813	15	29.1	20	5
Purok 2	0.783	7	0.718	7	37,294	7	0	0	0.493	5	24.3	13	8
Purok 3	0.763	11	0.762	18	34,685	3	0	-7	0.533	7	26.9	16	9
Purok 4	0.880	3	0.762	2	49,212	6	0	0	0.438	4	25.6	14	10
Purok 5	0.792	6	0.721	6	38,018	6	0	0	0.612	10	30.6	22	12
Dalig													
Lone Purok	0.648	25	0.628	24	20,637	25	0	1	0.641	11	51.0	25	14
Putong Gubat													
Purok 1	0.757	12	0.702	10	33,663	12	0	2	4.178	25	28.0	19	-6
Purok 2	0.782	8	0.669	17	36,968	8	0	-9	1.126	19	13.4	2	-17
Purok 3	0.740	14	0.687	12	32,791	13	-1	2	2.212	23	18.1	7	-16
Purok 4	0.727	18	0.683	15	30,680	18	0	3	1.238	20	19.6	9	-11
Purok 5	0.733	15	0.634	23	31,678	15	0	-8	0.673	12	18.9	8	-4
Purok 6	0.685	24	0.641	22	25,889	24	0	2	0.611	9	31.0	23	14

Table 3b. cont'd.

	HDI		GDI		Per capita Income		Per capita income rank minus HDI rank	HDI rank minus GDI rank	Poverty Incidence		Poverty Incidence		Income poverty rank minus HPI rank
	Value	Rank	Value	Rank	Value	Rank			Value	Rank	Value	Rank	
Santol													
Purok 1	0.806	5	0.732	5	39,648	5	0	0	0.526	6	25.8	15	9
Purok 2	0.741	13	0.687	13	32,113	14	1	0	0.595	8	24.0	11	3
Purok 3	0.808	4	0.734	4	39,797	4	0	0	0.395	3	14.4	4	1
Purok 4	0.727	19	0.682	16	29,831	20	1	3	0.091	1	22.8	10	9
Purok 5	0.728	17	0.686	14	30,403	19	2	3	1.865	22	24.1	12	-10
Purok 6	0.694	22	0.626	25	26,089	23	1	-3	0.180	2	41.2	24	22
Wawa (Poblacion)													
Purok 1	0.777	9	0.713	8	.6,967	9	0	1	0.682	13	15.9	5	-8
Purok 2	0.726	20	0.689	11	31,254	17	-3	9	1.029	18	27.5	17	-1
Purok 3	0.926	2	0.745	3	55,280	2	0	-1	0.718	14	3.0	1	-13
Purok 4	0.981	1	0.787	1	91,868	1	0	0	1.285	21	13.8	3	-18
Purok 5	0.768	10	0.706	9	36,624	10	0	1	3.340	24	17.4	6	-18
Purok 6	0.709	21	0.667	19	28,836	21	0	2	0.913	16	27.8	18	2
Purok 7	0.689	23	0.650	20	28,303	22	-1	3	0.981	17	30.5	21	4

Source Compound using CBMS Data
 \a - positive means HDI rank is higher than per capita income rank; better human development provisioning than what per capita income suggests
 \b - positive means GDI rank is higher than HDI rank; better human development record after discounting for gender inequalities
 \c - positive means HPI rank is higher than income poverty rank; imply better provisioning that what income poverty suggests

Table 3c. Illustrative HDI Computations; CBMS Data – Balagtas, Bulacan, 2006

	HDI		Survival 05		Education		Per capita income		Survival 05		Education		Per capita income	
	Max (Best)	Min (Worst)	Indices		Values		Values		Enrollment Literacy		Values		Values	
Goalposts	0.981	0.648			100	0	100	0	100	0	100	0	61,868	20,637
Municipality	0.745				99.5		85.9		98.8		32,857			
Buro 2nd	0.773		0.995	0.945	9.8		86.0		99.0		36,033			
Purok 1	0.732		0.997	0.940	99.7		84.3		98.8		31,337			
Purok 2	0.783		1.000	0.944	100.0		85.7		98.7		37,294			
Purok 3	0.763		0.995	0.955	99.5		87.7		99.3		34,685			
Purok 4	0.880		1.000	0.947	100.0		86.9		98.6		49,212			
Purok 5	0.792		1.000	0.954	100.0		87.2		99.4		38,018			
Dalig	0.648		1.000	0.944	100.0		86.6		98.3		20,637			
Lone Purok	0.648		1.000	0.944	100.0		86.6		98.3		20,637			
Putong Gubat	0.738		0.997	0.944	99.7		85.4		98.9		31,868			
Purok 1	0.757		1.000	0.956	100.0		88.3		99.3		33,653			
Purok 2	0.782		1.000	0.949	100.0		86.9		98.9		36,968			
Purok 3	0.740		0.980	0.944	98.0		85.1		99.1		32,791			
Purok 4	0.727		1.000	0.938	100.0		85.1		98.2		30,680			
Purok 5	0.733		0.992	0.940	99.2		83.9		99.0		31,678			
Purok 6	0.685		1.000	0.928	100.0		81.6		98.4		25,889			

Table 3c. cont'd.

	HDI	Survival 05		Education		Per capita income	Survival 05	Education		Per capita income
		Survival 05	Education	Values				Survival 05	Education	
				Survival 05	Education					
Santol	0.750	0.999	0.953	0.298	99.9	86.7	99.7	32,923		
Purok 1	0.806	1.000	0.958	0.461	100.0	88.3	99.5	39,648		
Purok 2	0.741	1.000	0.945	0.278	100.0	84.0	99.8	32,113		
Purok 3	0.808	1.000	0.960	0.465	100.0	88.2	99.9	39,797		
Purok 4	0.727	1.000	0.957	0.223	100.0	88.1	99.5	29,831		
Purok 5	0.728	0.990	0.956	0.237	99.0	87.5	99.6	30,403		
Purok 6	0.694	1.000	0.950	0.132	100.0	85.9	99.6	26,089		
Mawa (Poblacion)	0.742	0.985	0.929	0.310	98.5	84.7	37.0	33,437		
Purok 1	0.777	1.000	0.935	0.396	100.0	84.7	97.8	36,967		
Purok 2	0.726	0.989	0.931	0.258	98.9	86.9	96.2	31,254		
Purok 3	0.926	1.000	0.939	0.840	100.0	85.4	98.2	55,280		
Purok 4	0.981	1.000	0.944	1.000	100.0	88.7	97.3	61,868		
Purok 5	0.768	0.985	0.931	0.388	98.5	85.1	97.2	36,624		
Purok 6	0.709	1.000	0.929	0.199	100.0	83.9	97.4	28,836		
Purok 7	0.689	0.960	0.920	0.186	96.0	83.1	96.5	28,303		

Memo: (Source: 2005 Philippine Human Development Report)

HDI 2003

Province

Benguet

Sulu

Max

Min

	Actual Values	Survival 05	Education	Per capita income	Survival 05	Education	Per capita income
Benguet	0.738	0.7517	0.751	0.7113	70.1	94.8	65.3
Sulu	0.301	0.4633	0.420	0.0193	52.8	83.8	21.1
Max		85	100	46837			
Min		25	0	7675			

* real 1997 values

** life expectancy at birth

*** high school graduate for 18 years and above

Table 3d. Illustrative GDI computations; CBMS data – Balagtas, Bulacan, 2006

	GDI	Survival 05		Per capita income		Survival 0-5		Education				Earned Income		Population Share	
		0.787 0.626	1.000 1.000	0.859 0.866	0.232 0.276	100 0	100 0	Enrollment		Literacy		Male Female	Male Female	Male Female	Male Female
								Male	Female	Male	Female				
Goalposts															
Max (Best)	0.787	1.000	0.859	0.232	100	100	100	100	100	100	100	87,520	87,520		
Min (Word)	0.626	0	0.866	0.276	0	0	0	0	0	0	0	16,000	16,000		
Municipality	0.696	0.995	0.859	0.232	99.6	99.5	58.5	61.8	98.8	98.7	98.7	34,848	30,871	0.499	0.501
Burol 2nd	0.711	0.998	0.860	0.276	99.8	99.8	58.2	61.6	98.9	99.1	99.1	38,453	33,657	0.495	0.505
Purok 1	0.643	0.997	0.843	0.089	99.3	100.0	53.6	56.6	98.9	98.8	98.8	43,201	19,632	0.497	0.503
Purok 2	0.718	1.000	0.857	0.297	100.0	100.0	64.2	62.9	98.4	99.0	99.0	36,543	38,543	0.499	0.501
Purok 3	0.669	0.994	0.877	0.134	100.0	98.9	62.9	66.1	99.2	99.5	99.5	21,590	47,288	0.490	0.510
Purok 4	0.762	1.000	0.869	0.417	100.0	100.0	64.2	62.9	98.8	98.4	98.4	60,616	39,701	0.471	0.529
Purok 5	0.721	1.000	0.872	0.292	100.0	100.0	61.5	64.2	99.3	99.6	99.6	33,093	43,155	0.510	0.490
Dalig	0.628	1.000	0.866	0.017	100.0	100.0	64.9	61.5	98.0	98.6	98.6	16,662	25,584	0.498	0.502
Lone Purok	0.628	1.000	0.866	0.017	100.0	100.0	64.9	61.5	98.0	98.6	98.6	16,662	24,584	0.498	0.502
Putong Gubat	0.691	0.997	0.854	0.221	99.3	100.0	55.3	61.5	99.3	98.5	98.5	31,202	32,535	0.500	0.500
Purok 1	0.702	1.000	0.883	0.223	100.0	100.0	67.7	64.9	100.0	98.6	98.6	28,025	39,798	0.486	0.514
Purok 2	0.669	1.000	0.867	0.140	100.0	100.0	51.9	74.4	100.0	97.5	97.5	51,639	21,733	0.509	0.491
Purok 3	0.687	0.981	0.850	0.231	96.3	100.0	59.4	54.2	99.1	99.1	99.1	34,840	30,685	0.507	0.493
Purok 4	0.683	1.000	0.852	0.196	100.0	100.0	52.7	66.0	98.2	98.2	98.2	27,483	33,748	0.490	0.510
Purok 5	0.634	0.993	0.840	0.069	98.6	100.0	48.8	59.0	99.2	98.9	98.9	18,712	44,765	0.502	0.498
Purok 6	0.641	1.000	0.816	0.105	100.0	100.0	46.3	50.0	99.0	97.9	97.9	30,381	20,956	0.523	0.477

Table 3d. cont'd

	GDI	Survival 05	Education	Per capita income	Survival 0-5		Education				Earned Income		Population Share	
					Male	Female	Enrollment		Literacy		Male	Female	Male	Female
							Male	Female	Male	Female				
Values														
Santol	0.697	0.999	0.867	0.225	100.0	99.7	60.0	61.6	99.6	99.7	36,640	29,174	0.502	0.498
Purok 1	0.732	1.000	0.883	0.312	100.0	100.0	66.8	65.3	99.6	99.4	45,608	34,131	0.481	0.519
Purok 2	0.687	1.000	0.840	0.219	100.0	100.0	52.4	52.7	99.6	100.0	34,637	29,474	0.511	0.489
Purok 3	0.734	1.000	0.883	0.320	100.0	100.0	60.7	69.5	99.7	100.0	35,153	44,362	0.496	0.504
Purok 4	0.682	1.000	0.881	0.165	100.0	100.0	66.7	64.1	99.6	99.4	35,413	24,609	0.483	0.517
Purok 5	0.686	0.984	0.875	0.200	100.0	96.9	64.7	61.6	99.6	99.7	29,329	31,510	0.508	0.492
Purok 6	0.626	1.000	0.859	0.017	100.0	100.0	55.8	61.9	99.7	99.4	34,674	16,608	0.525	0.475
Wawa (Poblacion)	0.691	0.985	0.847	0.841	98.8	98.3	57.5	62.6	97.3	96.8	35,467	31,405	0.500	0.500
Purok 1	0.713	1.000	0.847	0.291	100.0	100.0	56.3	60.4	97.6	98.1	38,553	35,364	0.502	0.498
Purok 2	0.689	0.989	0.870	0.209	97.9	100.0	65.1	71.9	97.1	95.3	29,173	33,784	0.497	0.503
Purok 3	0.745	1.000	0.852	0.384	100.0	100.0	64.3	54.5	98.2	98.1	33,784	77,045	0.503	0.497
Purok 4	0.787	1.000	0.888	0.473	100.0	100.0	76.7	67.6	97.1	97.4	87,520	39,027	0.471	0.529
Purok 5	0.706	0.987	0.851	0.280	97.5	100.0	55.1	67.0	98.1	96.3	39,987	33,181	0.506	0.494
Purok 6	0.667	1.000	0.840	0.160	100.0	100.0	53.5	60.8	97.3	97.4	33,080	24,684	0.495	0.505
Purok 7	0.650	0.957	0.831	0.161	97.9	93.6	54.4	58.3	96.7	06.2	91,377	25,157	0.505	0.494

Memo: (Source: 2005 Human Development Report)

GDI 2003

Province

Rizal 0.680

Sulu0.296

\a - arbitrarily set (lower than lower income) to ensure valid GDI values for all barangays

**Table 3e. Illustrative HPI Computations
CBMS Data – Balagtas, Bulacan, 2006**

	HPI	Survival 0-5	Education	Standard of living		
				Combined	Water	Nutrition
Municipality	0.813	0.5	1.2	2.3	2.5	2.1
Buroi 2nd	0.493	0.2	1.0	1.3	2.1	0.5
Purok 1	0.533	0.3	1.2	1.4	2.7	0.0
Purok 2	0.438	0.0	1.3	0.3	0.0	0.7
Purok 3	0.612	0.5	0.7	1.8	2.5	1.1
Purok 4	0.476	0.0	1.4	0.5	0.9	0.0
Purok 5	0.641	0.0	0.6	1.9	3.1	0.7
Dalig	4.178	0.0	1.7	12.5	19.3	5.7
Lone Purok	4.178	0.0	1.7	12.5	19.3	5.7
Putong Gubat	1.126	0.3	1.1	3.3	3.1	3.6
Purok 1	2.212	0.0	0.7	6.6	6.6	6.7
Purok 2	1.238	0.0	1.1	3.7	5.4	2.0
Purok 3	0.673	2.0	0.9	0.0	0.0	0.0
Purok 4	0.611	0.0	1.8	0.6	0.0	1.3
Purok 5	1.185	0.8	1.0	3.5	2.1	4.9
Purok 6	0.526	0.0	1.6	0.0	0.0	0.0
Santol	0.595	0.1	0.3	1.8	0.3	3.3
Purok 1	0.395	0.0	0.5	1.2	1.4	0.9
Purok 2	0.091	0.0	0.2	0.2	0.0	0.5
Purok 3	1.865	0.0	0.1	5.6	0.0	11.2
Purok 4	0.180	0.0	0.5	0.3	0.5	0.0
Purok 5	0.553	1.0	0.4	1.5	0.0	3.0
Purok 6	0.682	0.0	0.4	2.0	0.0	4.1
Wawa (Poblacion)	1.029	1.5	3.0	0.8	0.5	1.2
Purok 1	0.718	0.0	2.2	0.0	0.0	0.0
Purok 2	1.285	1.1	3.8	0.4	0.7	0.0
Purok 3	3.340	0.0	1.8	10.0	0.0	20.0
Purok 4	0.913	0.0	2.7	0.0	0.0	0.0
Purok 5	0.981	1.5	2.8	0.4	0.8	0.0
Purok 6	0.881	0.0	2.6	0.3	0.5	0.0
Purok 7	1.616	4.0	3.5	1.8	0.8	2.9

Memo: (Source: 2005 Philippine Human Development Report)

GDI 2003

Province

Batanes	5.9	17.3	7.32	0.3	0	0.5
Sulu 14.5	16.2	42.27	12.8	20.92	4.6	

*real 1997 values

** life expectancy at birth

\a – arbitrarily set (lower than lower income) to ensure valid GDI values for all barangays

Table 4. The Millennium Development Goals and Targets: National and CBMS Indicators

Goal/Targets ¹⁰	National Indicators ¹¹	CBMS Indicators ¹²
<p>Goal 1: Eradicate Extreme Poverty and Hunger</p> <p>Targets:</p> <ul style="list-style-type: none"> - (1) Reduce by 50% the number of people living in extreme poverty between 1990-2015 - (2) Reduce by 50% the number of population below the minimum level of dietary energy consumption and reduce by 50% the number of underweight children (under five years old) 	<ul style="list-style-type: none"> - Proportion of population below subsistence (food) threshold and poverty threshold - Proportion of families below subsistence (food) threshold and poverty threshold - Prevalence of malnutrition among 0-5 year-old (% underweight) based on international reference standards - Proportion of households with per capita intake below 100% dietary energy requirement 	<ul style="list-style-type: none"> (10) proportion of households with income below the poverty threshold (11) proportion of households with income below the food threshold (12) proportion of households that experienced food shortage (3) Proportion of children 0-5 years old who are malnourished
<p>Goal 2: Achieve Universal Primary Education</p> <p>Target:</p> <ul style="list-style-type: none"> - (3) Achieve universal access to primary education by 2015 	<ul style="list-style-type: none"> - Elementary participation rate - Elementary cohort survival rate 	<ul style="list-style-type: none"> (8) Proportion of children aged 6-12 years old who are not in elementary school
<p>Goal 3: Promote Gender Equality</p> <p>Target:</p> <ul style="list-style-type: none"> - (4) Eliminate gender disparity in primary and secondary education, preferably by 2005, and all levels of education not later than 2015 	<ul style="list-style-type: none"> - Ratio of girls to 100 boys in <ul style="list-style-type: none"> • elementary education and • secondary education 	<ul style="list-style-type: none"> - Ratio of girls to 100 boys in¹³ <ul style="list-style-type: none"> • elementary • secondary (these indicators can be generated from the CBMS dataset)
<p>Goal 4: Reduce Child Mortality</p> <p>Target:</p> <ul style="list-style-type: none"> - Infant rate (per 1,000 - (5) Reduce children under-five mortality rate by 67% by 2015 	<ul style="list-style-type: none"> - Under 5-mortality rate (per 1,000 children live births) 	<ul style="list-style-type: none"> (1) Proportion of children's death (0-5 years old)¹⁴
<p>Goal 5: Improved Women's Reproductive Health</p> <p>Targets:</p> <ul style="list-style-type: none"> - (6) Reduce maternal mortality rate by 75% by 2015 - (7) Increase access to reproductive health services to 60% by 2005, 80% by 2010 and 100% by 2015 	<ul style="list-style-type: none"> - Maternal mortality rate 	<ul style="list-style-type: none"> (2) Proportion of women deaths due to pregnancy-related causes¹⁵

¹⁰ Targets from Second Philippines MDG Report, June 2005¹¹ Indicators from Second Philippine MDG Report, June 2005¹² Number indicators refers to 14 core indicators of poverty in Reyes et al. (2002)¹³ These indicators can be generated from the CBMS dataset¹⁴ Slightly modified to be per 1000 rather than per 100.¹⁵ Slightly modified to be per 100,000

<p>Goal 6: Combat HIV/AIDs, Malaria and Other Diseases Targets:</p> <ul style="list-style-type: none"> - (8) Prevent the spread and halt HIV/AIDs by 2015 - (9) Reduce the incidence of malaria and other major diseases 	<ul style="list-style-type: none"> - Prevalence of men and women/couples practicing responsible parenthood - HIV prevalence - Malaria morbidity rate (per 100,000) 	
<p>Goal 7: Ensure environmental sustainability Targets:</p> <ul style="list-style-type: none"> - (10) Implement national strategies for sustainable development by 2005 and recover loss of environmental resources by 2015 - (11) Reduce by 50% the number of people with no access to safe drinking water or those who cannot afford it by 2015 - (12) Achieve a significant improvement in the lives of at least 1.3 million informal settler families 		<ul style="list-style-type: none"> (4) Proportion of households living in makeshift housing (5) Proportion of household who are squatters (6) Proportion of households with no access to potable water supply
<p>Goal 8: Develop global partnership for development Target:</p> <ul style="list-style-type: none"> - (13) Develop further an open, rule-based, predictable, non-discriminatory trading and financial system; include commitment to good governance, development and of poverty reduction- both nationally and internationally- - (14) Deal comprehensively with the debt problems of developing countries through national and international measures in order to make debt sustainable in the long-term - (15) Provide access to affordable essential drugs, in cooperation with pharmaceutical companies 		

Table 5. Illustrative MDG indicators calculation: CBMS data – Balagtas, Bulacan, 2005

CBMS Indicator No	Goal 1			Goal 2		Goal 3		Goal 4	Goal 5	Goal 7		
	Income (10)	Food Poor (11)	Food Shortage (12)	Prop. Mal-nourished (3)	Prop not in elem school (8)	Prop not in high school	Ratio of girls to 100 boys elementary high school	Death of children (0-5) per 1000/a (1)	Death due to delivery per 100000/a (2)	Prop of hh with make-shift housing (4)	Prop of hh who are squatters (5)	Prop of hh with no potable water (6)
Municipality												
Burul 2nd	26.7	13.	1.3	2.1	9.0	15.4	98	105	17	4.6	2.5	2.5
Purok 1	27.7	13.9	0.2	0.5	11.1	17.0	97	128	0	2.4	3.4	2.1
Purok 2	29.1	12.2	0.0	0.0	13.3	20.3	99	121	0	0.5	2.2	2.7
Purok 3	24.3	12.9	0.0	0.7	15.7	21.6	100	124	0	2.9	1.4	0.0
Purok 4	26.9	16.7	0.4	1.1	8.0	11.2	94	164	0	1.8	5.5	2.5
Purok 5	25.6	12.8	0.9	0.0	8.0	13.3	88	200	0	3.4	0.0	0.9
Purok 5	30.6	15.3	0.0	0.7	7.5	13.6	102	90	0	6.1	7.1	3.1
Dalig 51.0	32.8	3.7	5.7	7.4	16.0	93	85	0	5.1	2.0	19.3	
Lone Purok	51.0	32.8	3.7	5.7	7.4	16.0	93	85	0	5.1	2.0	19.3
Putong Gubat	22.7	10.1	5.2	3.6	7.6	19.5	106	107	0	14.7	2.1	3.1
Purok 1	28.0	13.3	7.0	6.7	4.5	13.6	104	89	0	10.3	0.7	6.6
Purok 2	13.4	5.4	2.7	2.0	7.0	0.0	130	136	0	25.9	0.0	5.4
Purok 3	18.1	4.8	3.6	0.0	7.1	16.7	70	82	0	13.3	2.4	0.0
Purok 4	19.6	9.8	7.1	1.3	7.0	24.4	136	121	0	25.0	3.6	0.0
Purok 5	18.9	8.9	4.7	7.9	4.7	26.6	113	104	0	10.5	4.2	2.1
Purok 6	31.0	13.2	3.9	0.0	18.4	30.0	87	133	0	12.4	2.3	0.0

Table 5. cont'd.

CBMS Indicator No	Goal 1			Goal 2		Goal 3		Goal 4	Goal 5	Goal 7		
	Income	Food Poor (11)	Food Shortage (12)	Prop. Mal-nourished (3)	Prop not in elem school (8)	Prop not in high school	Ratio of girls to 100 boys elementary high school	Death of children (0-5) per 1000\va (1)	Death due to delivery per 10000\va (2)	Prop of hh with make-shift housing (4)	Prop of hh who are squatters (5)	Prop of hh with no potable water (6)
	(10)	(11)	(12)	(3)	(8)	(9)						
Santol	25.5	12.4	0.0	3.3	6.6	12.8	92	1	0	1.7	0.5	0.3
Purok 1	25.8	12.0	0.0	0.9	5.5	7.6	111	0	0	1.9	0.0	1.4
Purok 2	24.0	11.1	0.0	0.5	10.4	20.2	99	0	0	3.4	1.1	0.0
Purok 3	14.4	5.9	0.0	11.2	1.3	9.6	88	0	0	0.0	1.1	0.0
Purok 4	22.8	10.7	0.0	0.0	2.4	9.1	85	0	0	3.9	0.0	0.5
Purok 5	24.1	10.1	0.0	3.0	5.0	10.0	79	10	0	0.5	0.0	0.0
Purok 6	41.2	23.9	0.0	4.1	11.5	17.0	88	0	0	0.4	0.0	0.0
Wawa (Poblacion)	23.7	9.6	0.2	1.2	11.3	14.0	103	15	85	2.3	5.2	0.5
Purok 1	15.9	9.8	0.0	0.0	17.0	13.3	108	0	0	3.7	3.7	0.0
Purok 2	27.5	8.0	0.0	0.0	3.1	7.1	98	11-	0	2.2	1.4	0.7
Purok 3	3.0	0.0	0.0	20.0	10.5	11.1	42	0	0	0.0	0.0	0.0
Purok 4	13.8	0.0	0.0	0.0	5.3	10.5	80	0	0	3.4	0.0	0.0
Purok 5	17.4	4.1	0.0	0.0	10.0	15.2	91	15	0	0.8	2.5	0.8
Purok 6	27.8	13.4	0.0	0.0	16.7	11.	135	0	0	2.6	9.3	0.5
Purok 7	30.5	12.6	0.8	2.9	9.7	20.8	103	40	300	2.0	77	0.8

\va – slight different from CBMS indicators; each of children 0-5 is expressed per 1,000; death due to delivery expressed per 100,000



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CBMS: Helping Achieve Marinduque's Vision of a Developed Island Province

*Marian Cunanan**

Introduction

The province of Marinduque was recently chosen as one of the pilot provinces under the "Strengthening the Local Government Capacity for Poverty Assessment, Plan Formulation and Monitoring" Project by the World Bank-Asia Europe Meeting (WB-ASEM) Technical Grant Assistance Program. Under this project, the province of Marinduque was given technical assistance in assessing its poverty situation and in formulating a poverty-focused plan. The technical assistance included the conduct of trainors training on Poverty Diagnosis using the 14 Core Local Poverty Indicators (CLPI), Data Collection (Household Profiling) Seminar, trainings on Data Encoding, Digitizing of Spot Maps and Data Processing using the Community-Based Monitoring System (CBMS) as a tool. The assistance package came from the Department of the Interior and Local Government-Bureau of Local Government Development (DILG-BLGD) headed by Director Manuel Q. Gotis and the CBMS Network Team headed by Dr. Celia Reyes. The project, meanwhile, is a joint undertaking of the Provincial Government of Marinduque and the LGUs of Boac, Buenavista, Gasan, Mogpog, Sta.Cruz and Torrijos with the 218 barangays and 46,484 households in Marinduque.

*CBMS Focal Person, Provincial Government of Marinduque

Prior to the implementation of the CBMS in Marinduque and the adoption of the 14 CLPIs, however, Governor Carmencita O. Reyes, an advocate of poverty eradication, had already initiated a data collection scheme for every municipality utilizing agencies like the Provincial Social Welfare and Development Office (PSWDO), Provincial Health Office (PHO), Provincial Nutrition Office (PNO), DILG, in close coordination with and assistance from the local counterpart agencies like the municipal social welfare and development office (MSWDO), municipal health office (MHO) through the barangay health workers (BHWs) and barangay nutrition scholars (BNSs), and municipal local government operations offices (MLGOOs). The objective was to come up with the listings of target beneficiaries like malnourished children, out-of-school youths, inventory of households with no sanitary toilet, inventory of waterworks systems and water sources provincewide, among others.

It took us one-and-half years of implementation (January 2005 to July 2006) before we finally came up with a **complete, validated and processed** poverty dataset of the province and the profile of the 206,808 population. Because the CBMS employs a census approach, it has aided us in determining and identifying the existing gaps in the statistical system by providing household level information and integrating the use of the data in local level programs for implementation. We now have disaggregated data from the provincial and municipal levels to barangay and puroks to households province-wide. With CBMS, we now have better information as to *who the poor are, where they are* and *why they are poor*. Targets are able to be identified; hence, projects, plans and programs will become more responsive to the needs of the people.

Poverty in Marinduque is thus now given a human face in terms of who suffer from a high prevalence of malnutrition, low school participation rate, high incidence of child death and infant death, high incidence of households living in makeshift housing, and high percentage of households being squatters. At the same time, we are able to determine the presence of out-of-school-youths (OSYs) and

which households have high unemployment rate, which areas have theft and robbery as the common crimes committed, and where the large number of households with no access to safe water and sanitary toilet are. Most of these population belong to the 28,699 households that represent 61.7 percent of the total household population who are living below the poverty threshold in Marinduque. Table 1 summarizes the magnitude and proportion of households as per the core local poverty indicator.

CBMS data have become very useful in the conduct of job fairs, organization of overseas Filipino workers (OFWs), conduct of Skills Enhancement Training by the Technical Education, Skills and Development Authority (TESDA), and identification of recipients for medical missions, sanitary toilets, waterworks projects, support data for housing projects by the Gawad Kalinga, educational assistance (scholarship) of Congressman Edmund O. Reyes, fish nets, fishing gear and other fishing paraphernalias from the BFAR, livelihood assistance projects and currently the Development Bank of the Philippines (DBP)'s Forest Project.

The Provincial KALAHI Convergence Group has recognized the CBMS as an official database of the province. Government agencies—both local and national based in the province—and NGOs are now using the poverty data in their formulation of plans and programs and identification of project beneficiaries. In particular, a Provincial Poverty Eradication Action Plan was formulated using the CBMS as database and the 14 CLPIs and the Millennium Development Goals as guide and indicator in drafting and formulating objectives, strategies and targets. Likewise, the six municipalities formulated their Local Poverty Eradication Action Plans using CBMS data which were duly adopted by their respective Sanggunian Bayan.

Meanwhile, the province is proposing to devise an easy and simple format to monitor the status of the living conditions of our project and program beneficiaries, without necessarily conducting another round of household profiling or doing a yearly data gathering.

This is to determine whether the project assistance provided has changed the beneficiaries' standard of living in some way.

Faced with tremendous problems as revealed from the CBMS survey, the province with its meager resources undoubtedly cannot meet the basic requirements of its constituents to live a decent life. Hence, there is a need to have a more focused poverty plan formulated by local leaders with full support and cooperation from an empowered citizenry. Assistance from generous donor and funding agencies is likewise very necessary to address the inability of the families in meeting their basic needs.

Guided by our Local Chief Executive's 3-pronged principle, *Entrepreneurship, Self-Reliance and Social Justice*, Marinduque seeks to be transformed into a developed island province, with an empowered citizenry living progressively, harmoniously and contentedly in a peaceful society and an ecologically balanced community.

Table 1. Summary of Core Local Poverty Indicator Per Millennium Development Goal

Indicators	Total	Magnitude	Proportion
Goal 1. Eradicate Extreme Poverty and Hunger			
1. Proportion of households with income less than the poverty threshold	46,484	28, 699	61.7
2. Proportion of households with income less than the food threshold	46,484	21,571	46.4
3. Proportion of households that eat less than three meals	46,484	1,882	4.1
4. Unemployment rate	67,753	8,525	12.6
5. Proportion of children 0-5 years old who are moderately and severely malnourished	30,119	2,236	7.4
6. Proportion of households with members victimized by crime	46,484	*325	0.2
Goal 2. Achieve universal primary education			
7. Elementary school participation rate (6-12 years old)	40,666	32,480	80.0
8. Secondary school participation rate (13-16 years old)	21,288	14,744	69.3
Goal 3. Promote gender equality (can be generated from indicators in Goal 2 since data are gender disaggregated)			
Goal 4. Reduce child mortality			
9. Proportion of children 0-5 years old who died	30,119	139	0.5
Goal 5. Improve maternal health			
10 Proportion of women who died due to pregnancy-related causes	4,288	3	0.1
Goal 6. Combat HIV/AIDS, malaria and other infectious diseases			
11. Proportion of households without access to safe water	46,484	6,703	14.4
12. Proportion of households without access to sanitary toilet	46,484	12,009	25.8
Goal 7. Ensure environmental sustainability			
13. Proportion of households that are squatters	46,484	1,068	2.3
14. Proportion of households living in makeshift housing	46,484	1,854	4.0



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Session 3
Strategies, Best Practices and
Lessons Learned in the
Implementation and Uses of CBMS



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Palawan's Human Development Report: A Success Story*

*Samuel Madamba II**

Introduction

Implemented by the provincial government of Palawan in March 1999, the community-based monitoring system (CBMS) has since become a critical part of the functions of the provincial government. At that time, we needed to have a systematic approach and framework for monitoring and evaluating the short and long term impact of our socioeconomic development initiatives. We immediately recognized the usefulness of the CBMS as a tool in the objective setting of policy directions in the province, formulation of the provincial development plans and programs as well as in the preparation of our annual budget. We also saw the need to sustain the CBMS operation in the province in order for us to better meet the demands for efficient and effective local governance.

In the process of implementing our development prerogatives, innovations have also been introduced and are now installed at the Palawan Provincial Planning and Development Office (PPDO). One of the identified innovations was the use of the Natural Resources Database for Palawan (NRDB-Palawan) which was developed in 2000 to primarily manage socioeconomic and natural resources data generated through the CBMS.

*Provincial Planning and Development Coordinator, Provincial Government of Palawan

The Human Development Report of Palawan

The publication of the *Human Development Report (HDR)* is another breakthrough that was made possible through the CBMS. The *HDR* published in 2002 provided a realistic picture of the state of the province and contained reliable information on the current living conditions and facilities provincewide. Using the CBMS core indicators, it featured a presentation of the survey results at the provincial and municipal levels with statistical analysis, appropriate interpretations and policy recommendations. The development sectors discussed in the *HDR*, among others, are population and household characteristics, health and nutrition, water and sanitation, income security and shelter, education, employment and livelihood, people's participation and community development, peace and order, and infrastructure and utilities.

The preparation of the *HDR*, as one of the final outputs of the entire CBMS process, consists of the following series of required activities:

1. CBMS orientation training – this activity is done at the municipal level to train barangay enumerators in the administration of the household profile questionnaire to be used in the survey operation. The techniques in the processing of data collected through the survey are likewise discussed in this training. The duration of the training usually runs for 3 days where each barangay is requested to send at least 2 participants to the training. The barangay chairmen and other key officials are required to join the first day to make them aware of the relevance of the CBMS in their respective area because its results will be utilized in the preparation of their barangay development plan.

2. Editing of questionnaires and tally sheets – this is done at the purok and sitio levels. The supervisors (lead enumerators) are required to check accomplished questionnaires daily to ensure the quality of data.

3. Data processing - CBMS processing consists of two types- manual and computerized processing. In the province, seven

municipalities used the computerized processing system while the remaining 16 are into manual processing. An average of 30 questionnaires can be manually processed in a day (8 hours of work).

4. Analyses of data – the key indicators of the CBMS are then analyzed after processing. These key indicators include malnutrition rate, households with sanitary toilet, households with access to safe water, households not in makeshift dwelling, households with electricity, households with sanitary waste disposal, children in elementary schools, children in secondary schools, employment rate, households with income below the poverty threshold, households with income below the food threshold, households with no victim of crime, households with no child death and households with no infant death. The analysis of data takes in the form of comparing municipal and zonal results with the prevailing provincial and national averages.

5. Validation of data – this is conducted at the municipal level with participants coming from the barangays (barangay officials and enumerators). This activity aims to present and critique initial results of the CBMS because data will be verified at the barangay level in case of discrepancies, after which changes will be reflected in the CBMS master table manned by the PPDO. A workshop is also done during this activity to verify the factors affecting the increasing and decreasing trends. Prioritization of felt needs is also included in this activity.

6. Report generation – upon completion of all the required tables to be included in the report, analysis of the data is done. It is important that the report contains a detailed discussion of the key indicators. The data which were gathered are then compared to the results of previous surveys conducted. Comparison with the provincial, zonal, regional and national averages is likewise done at this stage.

7. Presentation of findings - the report is discussed with relevant agencies, project implementors and decisionmakers. The findings of the survey and, more importantly, the identified problems/issues and their corresponding recommendations are given emphasis in the

report. The focus would be on those indicators (and the corresponding location/areas) which seem to be either the strongest or the weakest among the others. This can be facilitated by asking focused or guide questions. While brainstorming on the indicators, the group must reach a consensus once issues and identified needs are clarified.

8. Writing of the report - the writing of the final report is better done at the provincial level under the direction and/or supervision of the PPDO in order to ensure uniformity in form and content. Based on the CBMS results, the PPDO will decide on the vital areas of consideration, issues and recommendations to be included and discussed thereof.

9. Printing of the report - the CBMS International Network is the partner of the province in the documentation and subsequent printing of the Palawan *HDR*. The CBMS International Network is furnished a copy of the Palawan *HDR* including the uploading of the data in its website, as a token of appreciation for its assistance.

HDI: a means to measure human development

Human development is measured by the human development index (HDI) as it relates to the Palawan setting.

The computation of the HDI takes into account the minimum and maximum limits of the combined sectors as set by the human development network, as in the following:

- Life expectancy – 85 years is the maximum limit while 25 years is the minimum;
- Functional literacy, basic education and enrollment ratio – 100 percent is the maximum while 0 percent is the minimum
- Income per capita (i) – maximum limit is the highest income per capita in a given year while the minimum limit is the lowest income per capita in a given year;
- Income per capita (ii) - \$40,000 purchasing power parity is the maximum while the minimum is \$100 purchasing power parity.

The formula used in computing the index for each indicator is

as follows:

$$\text{index} = \frac{\text{actual x value} - \text{minimum x value}}{\text{maximum x value} - \text{minimum x value}}$$

then estimation of the human development index follows by getting the average of three indices, namely: (a) life expectancy index, (b) education index, and (c) relevant income index.

Ex: HDI = (1/3) (life expectancy + education index + income index ii)

Using this computation formula, the HDI level for Palawan for 2005 is estimated at 0.627. All municipalities in the province are within the medium category in terms of the HDI. Municipalities with high HDI are Cuyo with 0.664, El Nido with 0.661, Aborlan with 0.657, Narra with 0.658 and Dumarán with 0.672.

Human development indicators are also interrelated wherein the improvement in one area directly affects the other. As per consensus of the development planners in the province, it is essential to focus on human development indicators where interventions are most needed and in areas with the most pressing need for immediate attention.

The 2005 CBMS survey results show, in particular, the need for improved access to safe and sufficient water supply; better access to sanitary toilets, and expansion of power services. They also noted the low participation rate in secondary schooling which, as the analysis indicated, would require educating the parents and children on the importance of undergoing schooling. This is aside from ensuring the provision of the necessary facilities and teachers for secondary education. There is also a need for improved health care services especially with regard to providing the right information on maternal

and child health care. While we are slowly gaining ground in our fight against poverty, it is important to intensify and further enhance the responsiveness of government programs and projects to reduce poverty incidence to the barest minimum possible. To further improve the employment rate, various government agencies should pool their efforts to concentrate on more training and livelihood assistance that are vital in increasing opportunities, particularly to the unemployed. In short, the processed data from the CBMS survey results are incorporated in the *HDR*.

Basically, we consider human development or well-being as a yardstick of economic development in Palawan. For this purpose, the HDI is a very useful tool to measure the progress of human development in Palawan. The overall achievements in three basic dimensions of human development such as life expectancy, knowledge, and decent standards of living reflect the effectiveness of development initiatives and interventions on the well-being and prosperity of families. Simply stated, all development efforts must translate into living better lives today and in the future for every Palaweño. Hence, development initiatives and interventions must center on human development. Household families must be able to enjoy and have the choice to a healthy and longer life on earth, access to knowledge in its different expressions, have the material resources for a decent standard of living, and freely participate in community life and collective affairs.

HDR and CBMS in tandem

Experience tells us that the *HDR* is essential in identifying milestones or development targets that have to be achieved in every step of the way to attain the province's goal and vision. The *HDR* provides us with a reliable information mechanism that has been and is helpful in assessing the impact of development efforts as it affects household families and the economy. It is also helpful in determining the efficacy of the human well-being of Palaweño families to changes or shifts in development interventions.

The *HDR* also represents a milestone in the field of research, in particular, in the aspect of data dissemination. We can say that data dissemination is achieved through the publication of the *HDR*. Now it can be said that the *HDR* has been one of the success factors in making the CBMS of the provincial government relevant to the needs of various data users in the province. The wide range of users and uses shows the benefits from combining the major information requirement in just one document – the *HDR*.

We have also utilized data from the CBMS and the *HDR* as basis in monitoring the status of the Millennium Development Goals (MDGs) in the province. The *HDR* has also been helpful in determining the strengths and weaknesses of municipalities and development zones. This has therefore facilitated the objective prioritization of projects and selection of project sites in the province as specific points of intervention.

In effect, the *HDR* serves as a roadmap of the province toward human and economic progress. It guides us in addressing deficiencies in minimum basic needs and disparities in income distribution, and in providing opportunities for families to have full access to basic services, among others.

The data culled from the CBMS and as presented in the *HDR* provide us with an appreciation of where we are now, the targets to be met, what needs to be done and the strategies and policies to be adopted in order to attain and/or approximate our vision for Palawan, that is, *a province where people, culture, religion and economy are in harmony with the environment and natural resources and are living in peaceful, orderly and prosperous communities.*

In closing, allow me to say that as far as the Palawan experience is concerned, the human development index represents the real essence and measure of happiness. For happiness does not always translate to having higher income or wealth but rather to enjoying the contentment of life and the environment.

Thank you and good day!



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CBMS as an Instrument for Achieving a City's Vision: The Case of Pasay

*Merlita Lagmay**

Profile

Pasay City is one of the seventeen LGUs comprising the National Capital Region (NCR) or Metro Manila. It has an area of approximately 1800 hectares and a projected population of more or less 295,000 for 2006. Pasay's population density is high due to the fact that out of the 1800 hectare-city area, only around 700 hectares are devoted to residential use while the rest are for utility purposes like the airport and the roads and highways. The reclamation area, meanwhile, which consists of more or less 400 hectares, is devoted to development. Pasay may be small in terms of area and population, yet it has a very large number of barangays. There are 201 barangays, all of which are the active members of the Pasay City Development Council.

In 2001, the Council formulated the city's development plan with the following vision: "A scenic premier city thriving with business and economic opportunities, guided by dynamic and efficient local leadership and home to self-reliant, healthy and morally upright people."

With the city's people as a basic component of the city's vision, the city government of Pasay recognized the need to have a more

*City Planning and Development Coordinator, Pasay City Government

realistic set of data of its constituents. Thus, in late 2004, the city pilot tested the implementation of the community-based monitoring system (CBMS) in one of its barangays, Barangay 179. A citywide implementation of the system followed from March to December 2005.

In last year's CBMS National Conference, the city of Pasay had the opportunity to present the strategies used in conducting the CBMS survey in Pasay. At that time last year, we were more than 50 percent finished with the survey.

Today, it is therefore my honor and privilege to report that with GOD's help and through the concerted efforts of the different city government offices, faith-based organizations, barangays and the CBMS Network Coordinating Team, we have completed the survey and we were able to release its initial results to the Pasay City Development Council on March 26, 2006. The survey covered all the 201 barangays with 65,117 households who willingly participated in the exercise. The city government spent approximately PhP2.5 million for this undertaking.

Challenges and strategies

In the course of our CBMS implementation, several issues cropped up like various barangay boundary disputes, obsolete house numbering and the presence of several small alleys that have no official name or identification.

To finish the program, we therefore had to resolve them in a manner that was as amicable as possible. At the same time, we had to be resourceful too. For instance, since the procurement of computers for the encoding and processing of data was not included in the financial allocation for CBMS implementation, we borrowed computer units from other offices. For data processing, we did not use the conventional method but instead, we used a statistical software. One of our staff had undergone training for this and so he trained the other planning staff on this in order to facilitate the data processing.

Now that the survey is finished and the data analyzed, the database is in our office and is now ready for whoever needs to use the data. Some people had said that finally, it is over but for us, CBMS implementers, we all know that the work has just begun. The results have to be translated into plans that have to be funded and implemented as soon as possible.

More challenging opportunities are set before us. As I have openly advocated before and I will say it again, it is not enough that we should know the extent of poverty in our area, to know who these poor are and why they are poor. It is not enough to say, "Nakakaawa naman sila". Instead, we must act *now*, not tomorrow nor next year. In Pasay, we did this by doing our FBI-Ex or the Fact-Based Intervention Exchange.

The FBI-Ex to address problems

The Fact-Based Intervention Exchange (FBI-Ex) is a program that is meant to address the problems identified by the CBMS through immediate intervention by the city's line agencies and other solution providers.

Poverty, as we all know, cannot be eradicated with just simple quickie programs. You can appease hunger by direct feeding but that does not solve the problem of the subsistence poor. We should not only give them fish for food but should rather teach them how to fish, as the saying goes. Since the barangays are the ones that have direct contact or access to the community, we deemed it proper to empower the barangays so that working with them in combating poverty would be easier. To achieve this, we are now training all the barangay officials in the preparation of their barangay development plans using the MDG/CBMS-based approach. Hopefully, we will be able to finish this before Christmas 2006.

As we go along with the training, we promised the barangay officials that we will help them in sourcing possible donors. At present, we have an existing Area Development Council composed of all the developers and property owners as well as all the other

stakeholders in the Reclamation Area of Pasay. This Council is chaired by yours truly and co-chaired by an SP member. Although this Council was created basically for development purposes in that particular area, we will try to convince them to include the Pasay indigents as beneficiaries of their respective corporate social responsibility plans. So far, we have had positive responses from this sector and the challenge of expanding the development in the bay area to the riverside or slum area of the city may not just be a dream any more.

More developments in Pasay are also in the offing. If and when this current initiative in the Reclamation Area succeeds, we will then also do the same in the Villamor area.

There are a lot of problems in our city at present. Some quarters call this "political dynamics". As many of you know, we have recently undergone some changes in the political administration which brought in a lot of changes within the city government. The good thing with our CBMS program, though, is that it has transcended the political issues and boundaries. In our 2007 budget, for example, PhP10 million is being allocated specifically for poverty alleviation programs in response to the pressing needs identified by the CBMS. We are also currently using CBMS-related programs to forge partnerships among the different stakeholders of the city.

Thank you.

Harnessing FBO Participation and Localizing the Millennium Development Goals Using CBMS

*Rolando Londonio**

Introduction

In Pasay City, the community-based monitoring system (CBMS) has proven its worth and usefulness in many ways.

First and foremost, through the CBMS survey results, the extent of poverty in the community has been diagnosed. Who the poor are, where they are and why they are poor had been determined. The CBMS was also able to identify the major problems, concerns and threats which the city should focus on.

Other uses of CBMS

Aside from this, however, the CBMS proved to be useful in other areas.

CBMS hints on FBOs as good partners

CBMS showed that 92 percent of Pasayenos (284,924) are active church goers. As such, churches or faith-based organizations (FBOs) (Catholic, Protestants, etc) must have the synergistic potentials to help in the city development and progress. The FBOs as a force: (a) have strength and credibility, and grounded in the communities; (b) are righteousness carrier (“Righteousness Exalts a Nation”); (c) offer

*City Cooperative Officer, Pasay City Government.

Sunday services and mid-week prayer meetings; (d) have dawn prayers and intercession watches; (e) offer weekly bible study groups and cell groups; and (g) represent critical mass for effective and efficient service delivery.

Working with FBOs ensures high efficiency in service delivery, particularly in realizing the city vision and achieving the Millennium Development Goals (MDGs).

In 2004-2005, FBOs were tapped as enumerators in Pasay City's CBMS survey. Completing the CBMS in 2005, Pasay became the only city in Metro Manila that has a complete household data set available down to the barangay/village level. Within that year, Pasay, in partnership with the FBOs, localized the MDGs based on the CBMS results.

CBMS identifies households-at-risk

Through CBMS, the families or households-at-risk were identified against the various concerns and social threats. Empowering these families must therefore be the solution. Hence, Pasay advocates that strong families can be a major force in combating poverty.

CBMS realizes family-based MDG localization

Translating the global statements into simple statements that can be understood by low income families was the *first strategic action taken* to localize the attainment of the MDGs as seen in Table 1.

The Family MDG Pledge of Commitment was designed to serve as a guide for each household to achieve the MDGs at their level. At the back of the pledge sheet is the list of solution providers whom they can contact to avail of basic services.

The Pledge of Commitment was recited during the Bayanihan People's Congress at the Cuneta Astrodome led by the city mayor. The congregational Pledge of Commitment was replicated during the Barangay General Assembly with more than 10,000 families committing themselves to achieve the Family MDGs.

Table 1. Translation of MDG statements into family MDG statements

Global MDG	Family MDG
1. Eradicate extreme poverty and hunger	My family has a job plus savings
2. Achieve universal primary education.	All my children are going to school.
3. Promote gender equality and empower women	My family practices equal rights and opportunities for men and women.
4. Reduce infant mortality	All my children are healthy.
5. Improve maternal health	In my family, a healthy pregnant mother is a must.
6. Combat HIV/AIDS, malaria and other infectious diseases	We avoid HIV/AIDS and infectious diseases because they kill.
7. Ensure environmental sustainability	My family takes care of our home and environment.
8. Develop global partnership	My family belongs to an organization in the community.

The Family MDG operates under 4 core values, namely, (a) the family that prays together stays together, acknowledging God as the success factor in any endeavor and highlighting “No God, No Success”; (b) whatever gets measured, gets done, emphasizing that we cannot manage what we did not measure; and (c) strength of family, power of community, meaning that a family should join an organization to survive; and (d) the poor can save, producing evidences that even the poor can save.

Pasay popularized the slogan “Strong families make a strong city and a strong nation.”

CBMS helps reduce the unemployment rate

The CBMS survey yielded a 19.8 percent unemployment rate in the city or 21,760 unemployed residents. The City’s Public Employment Service Office (PESO) thus conducted a massive job facilitation operation and held job fairs in partnership with the business community

in Pasay. It also facilitated the legislation of City Ordinance 3522 s-2005 requiring 60 percent of the total workforce of any given company allocated to Pasay residents. It likewise institutionalized the Technical Education and Skills Development Council (TESDC) which catalyses the matching of the ill-equipped job seekers and the demand-oriented training providers. All of these initiatives led to the hiring of 6,380 people within 9 months, thereupon reducing the unemployment rate to 14 percent.

CBMS helps Pasay achieve recognition despite crisis

This year, 2006, at the height of our political crisis, the partnership effort of harnessing FBO participation and localizing the MDGs using the CBMS and highlighting the families as the advocates, promoters and achievers of the MDGs, reaped a national award given by the United Nations Development Programme (UNDP) and the Galing Pook Foundation. This was the Special Citation on Local Capacity Innovation for the Millennium Development Goals. Pasay City is one of the 10 most outstanding LGUs that was given this citation award.

Crises, storms, natural calamities are inevitable. We cannot prevent them from happening but we can mitigate their effects. Storms and crises test a family and measure the city's resiliency. When disaster strikes, a city that is unprepared and without a disaster plan absorbs the greatest impact that can end in maximum damage. Pasay, as of the moment, has a caretaker mayor, a caretaker vice mayor and caretaker legislators. But they are also very supportive of the development programs initiated by the FBO-City Government partnership.

The Bible says, "The people perish because of lack of vision". Same is true with governance. The community dies when it has no vision. On the other hand, if it has a development plan, it can quickly bounce back after a calamity strikes. Vision-led communities are able to withstand the damages caused by a crisis.

CBMS helps produce a CBMS-guided Barangay Development Plan

The City, through the Planning and Cooperative Offices, conducted a participative approach writeshop on the “Best practices-Driven CBMS/MDG-based Village/Barangay Development Plan,” a training for the village officials to formulate their village vision and development plan that addresses the CBMS results and the major problems identified in their villages. The training highlights the intervention solutions on major problems, threats and concerns identified by the CBMS. They are packaged into a franchise-type of business plan where the processes, operational procedures and financial systems are held in place, ready for implementation by the barangays.

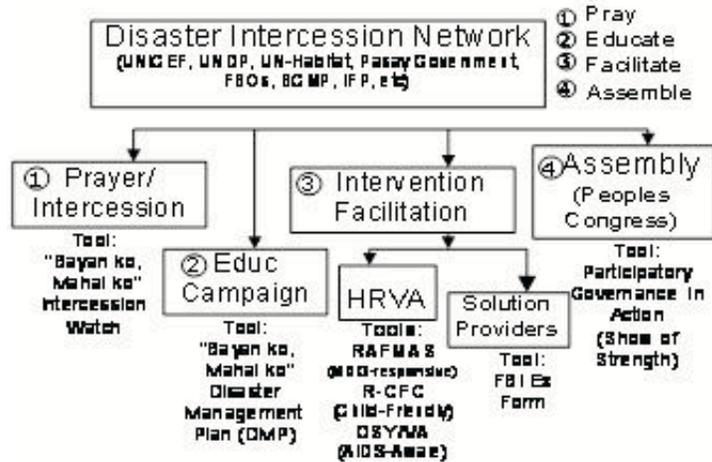
CBMS leads to the formulation of cost-effective best Practices-driven BDP

Under the Plan, a Satellite Barangay Employment Service Operation (SBESO) was introduced to address unemployment. Meanwhile, the alarming CBMS report on unschooled children (6-16 years old) is being addressed through the out-of-school-youth (OSY) scholarship grants and Alternative Learning System cum Livelihood/Skills Program. The OFW Bayanihan cum Groceria project and AIDS-free Youth Programs are also presented. On the other hand, after passing through a consultative process, ownership of the plan is established. Budget is appropriated and a focal person per project is assigned. The stakeholders affix their signatures and the city planning convenes the focal persons for regular coaching and monitoring.

CBMS upholds FBO-city government partnership

Determined to practice people empowerment and ensure transferability and sustainability as well as high efficiency in service delivery by reaching the most number of beneficiaries in a short period of time, the city tapped the FBOs to facilitate the formation of the Disaster Intercession Network (DIN) as shown in Figure 1.

Figure 1. Disaster intercession network



Its main objective is to “Mitigate the Effects of External Threats to the Millennium Development Goals (MDGs) in Pasay City” (MEET the MDGs in Pasay). It ensures that disaster management and hazard-based, risk and vulnerability assessment (HRVA) are mainstreamed into the city development planning technologies and processes. It not only focuses on physical calamities (typhoons, earthquakes, fire, flooding, terrorism, pollution, etc) but more importantly, on social threats like child abuse, political crisis, gambling, graft and corruption, unschooled children, unemployment, AIDS and other health problems. As always, the children are the most vulnerable group to these threats. Using the CBMS results and the MDG watch as basis, DIN came up with the 4-pronged strategies- Pray, Educate, Facilitate and Assemble (PEFA).

CBMS concurs faith-based disaster management plan

Riding on the existing church structures and activities, DIN designed the “My City, I Love” (“Bayan ko, Mahal Ko”) disaster intercession bulletin. This is a scripture-based prayer bulletin where CBMS results

are posted and prayer points are included. The DIN Bulletin is published monthly and used by the FBOs in their weekly prayer meetings and dawn intercession watches.

A hotel in Pasay, inspired by the proliferation of prayer mountains in South Korea, built prayer cells in the hotel encouraging people to pray and intercede round the clock in the form of a 24-hour prayer chain, utilizing the DIN Prayer Bulletin. The Pasay City government, during its Monday flag raising ceremony, uses the DIN prayer bulletin through the assigned minister.

The FBOs advocate that since disaster or calamity is generally accepted as an "Act of God", the concerned authorities should include Faith in God through prayer and intercession in the prevention and mitigation phases of the disaster management program. They believe that disaster can be prevented or mitigated by intercession, humility and repentance, faith in God and corporate prayer.

CBMS prescribes "Education Vaccine"

FBOs firmly believe that education and information are the best tools to mitigate the effects of external threats. *This is the second strategic action.* The only known cure for HIV-AIDS is "Education Vaccine". As people become informed and educated about its causes and preventions, more lives will be saved.

The Network of FBOs committed to get their parishioners and church members informed of the hazards/threats by publishing the "My City, I Love" ("Bayan Ko, Mahal Ko") Disaster Management Plan as an information, education and communication (IEC) material. The religious leaders can use them as reference for their sermons, preachings on Sunday services/masses and during Bible studies and mid-week fellowships. This IEC material informs the public about the disaster cycle (hazard/threat, signs and warnings) and the accompanying preparations / protections, appropriate response and rehabilitation for an individual, family and community. This tool is disseminated to educate and inform the 92 percent active churchgoers in Pasay.

CBMS endorses rapid assessment before intervention

The *third strategic action* is to facilitate intervention. High efficiency of service delivery is achieved when the right target group or the people-at-risk or the vulnerable groups are given the priority for intervention.

DIN, in partnership with the city government, designs the appropriate HRVA tools to identify the vulnerable or high-risk families among the FBO parishioners. Inspired by the CBMS household survey questionnaire, DIN developed the Rapid Family MDG Assessment (RAFMAS) to know who among their member-families are MDG-responsive. Appropriate interventions are then applied at various levels.

DIN also developed the Rapid Child-Friendly Organization Assessment (R-CFROAS), to know if the FBO or church or any organization is child-friendly or not.

These tools are conducted for 15 to 30 minutes and can immediately get the member-families/parishioners aware of the MDGs and the child's rights and protection. These exercises immediately transform the FBOs into Solution Providers as sources and conduits of resources for their member-families.

These assessment tools make Pasay proactive in dealing with problems and threats. Proactive families and households assess themselves and are the responsible claimholders partnering with the duty bearers—the government and business community—in taking mutual action for growth and development.

CBMS influences policymaking

Finally, to initiate reforms, the DIN's *fourth strategic action* is to assemble their parishioners/members once a year in a People's Congress. The Congress is a participatory governance in action which is a show of force that affirm the participation of the FBOs in seeking the welfare of the city and keeps the city safe, healthy, progressive and morally upright. FBOs believe that Righteousness Exalts a Nation.

Pasay's CBMS, family-based MDG localization and FBOs' Participation demonstrate that the potential effect of pooled resources is greater than individual thrust. Pasay calls it Bayanihan.

It is the synergy that will surely translate the MDGs from aspirations to action.

CBMS prompts synergy and ensures resiliency

In closing, small ordinary birds fly away for safety when storm comes. But eagles stay. They love storms. Eagles get along the wind current and turbulence. They glide and then soar high above the sky. This is likened to the city of Pasay. The destiny of our city does not depend on the impact of a crisis but on the God-loving and eagle-hearted public servants, businessmen and concerned citizens of Pasay, joining hands together even during a storm or political crisis and soaring high together like an eagle, making Pasay a Gateway of Trade, Tourism and Technology of the Country. Maraming Salamat Po.



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Pulong Yantok's Rewarding Encounter with CBMS

*Eduardo Gregorio**

Introduction: rationale of CBMS

Pulong Yantok is a barangay located northwest of the town of Angat in the province of Bulacan. It has land area of 580 hectares classified as agro-industrial residential land. Farming, livestock raising and work as an employees are the primary sources of income of people in our barangay. There are 17 commercial poultry and piggery farms operating in Pulong Yantok.

Based on the results of the CBMS survey implemented in the last quarter of 2004, we have 2,937 in terms of population and 694 households. Eighty-five percent of the labor force are employed but still, poverty incidence is quite high (49%), indicating that many of those who are employed are not regular workers and their income is not sufficient to provide their household needs. Additionally, more than 29 percent have income below the food threshold. The good news though is that only 0.2 percent experienced food shortage.

In terms of education, out of 786 children aged 6-16 years old in our barangay, 25 percent are not attending school. On the other hand, out of 538 children aged 6-12 years old, 21 percent are not attending elementary school while out of 248 children aged 13-16

*Barangay Captain (Village Chief), Barangay Pulong Yantok, Municipality of Angat, Bulacan

years old, 34 percent are not attending high school. Based on our analysis, the biggest factors why these children are not studying are poverty and lack of finances for school supplies, uniforms and transportation fare.

These are some of the reasons why the barangay government of Pulong Yantok really wants to solve the problem of poverty.

CBMS visit

It is against this backdrop that the community-based monitoring system (CBMS) proved to be a very rewarding response. Actually, even before CBMS came to our barangay, we already had plans for projects that we hoped will uplift the welfare situation of our poor constituents. These plans were included in our Barangay Development Program (2002-2008) that was endorsed by our Sangguniang Barangay in the first part of our term of office.

In preparing for the projects, we used our knowledge and understanding of the problems facing our barangay and the opportunities that we can use to solve these. But we relied only on "common sense" and "gut-feel" since we did not have reliable data that we could use for planning.

When the CBMS came to us, it greatly helped us in that the findings of its survey validated whether the directions of our programs were correct or not. We also used the CBMS data to determine the appropriate priority of projects and weigh what the most important and most beneficial is to the most number of the people in our barangay. Because of this, we were able to have confidence that what we are doing is correct and we became more effective in implementing our programs. We now have a concrete basis and are no longer just "guessing."

We thus became more effective in approaching and lobbying for aid from different agencies because we could tell them our accurate situation. We do not tell them that we are poor; instead we tell them that 49 percent of our people are poor. We do not tell them that many of our children are not attending school but that 25 percent are not

attending school. In other words, by using the data from the CBMS survey, it is easier to look for help. In the process, many more are being helped. It became easier for us to pinpoint what programs need to be prioritized.

Duties of the Barangay and the CBMS indicators

During the first part of my term, one of my priorities was to give an identity to our barangay. One of these was the creation of a logomark that will symbolize the primary responsibilities of the barangay government. We have designed the logo that includes our four primary responsibilities: education, livelihood, health, and peace and order.

Meanwhile, the CBMS indicators had the following elements: health and nutrition, education, water and sanitation, income and livelihood, peace and order, and shelter.

Comparing the two sets, we can see that there is a difference between what we have prioritized and what the CBMS is monitoring. And this is housing. Does this mean that the work the barangay will do is lacking because of the non-inclusion of housing? Absolutely not! This is because housing program is one project that needs big amount. Building one housing structure with the most basic materials would cost more than P50,000. However, we are always looking for ways to help our less fortunate constituents. One such way was our collaboration with the Gawad Kalinga.

In our collaboration with the Gawad Kalinga (GK) of the Couples for Christ, we are able to address the housing problem little by little. The concept of GK is to solicit funds and use these to build houses for the poor and eventually create a model village.

Aside from giving houses, GK also establishes the standard of living of those living in GK housing sites so that they will be good and productive members of the society. That is why the slogan of the GK is "Bagong Bahay, Bagong Buhay, Bagong Bayan" (New House, New Life, New Country).

In 2003, we were fortunate that one of our poor areas became a GK site. It made me more aggressive to look for additional GK villages

in our barangay. As of this date, we have our second GK village, the Capitol Village II, with fund support from Governor Josie dela Cruz and managed by GK.

Actual programs vs. CBMS indicators

As mentioned earlier, we already have a Barangay Comprehensive Development Plan even before the CBMS survey. And through the CBMS survey, we were able to have overall matching of CBMS indicators with the primary work that we have placed in our logo.

We also have other projects not covered by CBMS but covered by our other programs in the barangay. One of these is the Barangay Public Cemetery which is exclusive for barangay residents. This is currently being built with May 2007 as the targeted completion date. This is one of the income-generating activities of our barangay.

What are some of the important projects that we have implemented and are currently implementing based on the CBMS indicators.

Health and nutrition

To be more effective in providing basic services to each and every one of our constituents, in the first part of my term, we subdivided our barangay into puroks. Each purok is being managed by one barangay councilor with one volunteer health worker and a mother leader.

Some of the projects being implemented under the health and nutrition are the following:

- Active services – from 8:00 am up to 5:00 pm, there is an on-duty midwife and mother leader at the health center.
- Immunization – regular immunization to every pregnant woman and to children 0-7 years old. In this way, we will decrease, if not eradicate, the incidence of maternal and child mortality that were shown in the CBMS survey.
- Free medicines – distribution of medicines worth P2,500 every month that came from the business sector in the barangay.

- Active pharmacy in the barangay – from the program of the Department of Health, effective medicines are available at very low prices.
- Feeding of malnourished children – this was the answer to the problem identified in the CBMS showing a high incidence of malnourished children in the barangay. Health workers are distributing free milk to those identified as malnourished. The supply of milk came from the Municipal Health Center and the business sector.
- Fighting against dengue – initially we used fogging machine. Nowadays, however, the barangay established the “Sangguniang Barangay ng Power Sprayer” for an even lower and cost-efficient fight against mosquitoes.
- Dumpsite/garbage site – the barangay allotted a 400-square meter lot for the “Sangguniang Barangay” garbage waste disposal site or Materials Recovery Facility (MRF).
- Multi-purpose covered court – this is one place where the youth can engage in physical fitness activity. The court has already been paved and is currently being used. Funds for the roof construction are still being solicited.

Water and sanitation

This CBMS indicator is also included as one of the health programs of the barangay. In May 2006, a public hearing was held whose discussions led to the drilling for source of water under the supervision of the Angat Water District. The project costs P10 million.

We then began to coordinate with the office of the President in relation to President Gloria Macapagal Arroyo's program on water. Even if it was already very late, we were endorsed by the National Anti-Poverty Commission (NAPC) and the Local Water Utility Administration (LWUA). Per the letter of request, we received aid from the provincial and municipal governments and the Angat Water District.

Because of our perseverance, the Angat Water District was

granted a loan of P10 million from which Barangay Pulong Yantok will benefit. The project is ongoing and we expect that by January 2007, the water system will already be installed. Because of this, we will save 90 percent of the initial expense needed to have safe and potable water.

At the same time, regular clearing is being done by barangay health worker every Friday from 3:00-5:00 in the afternoon.

Education

One initiatives that we are proud of is the solicitation of one hectare of land from private organizations and individuals who have certain interests in our barangay.

The donated lot was used for the construction of three projects, namely, Barangay Public High School, Youth and Sports Development Center/covered court, and Public cemetery.

The high school was built on half of the one-hectare land donated. Today, this building has 161 students in the first and second year. These students need not think of transportation fare anymore since they only have to walk to and from school. Because of this, they were able to save P418,600 during the whole school year on transportation fare alone.

The school was built with the assistance of the provincial and municipal governments, private individuals and funds of the barangay.

We have also established education for the barangay personnel. In our flag-raising ceremony every Monday, we have 15 minutes dedicated to talks on values formation given by priests and pastors. This gives a continuing inspiration to the barangay officials to serve the members of the barangay well.

Also, once every month, in our flag-raising ceremony, we invite and feature guests from the provincial and municipal governments and department heads, among others.

We also established a library, albeit just a small one in our barangay. New sets of encyclopedia and used books donated by other

people can now be used by the students in the barangay.

We also have a computer system courtesy of a well-off resident of the barangay. This is one example of our strategy in asking for aid from private individuals. Today, we already have two computers in the barangay. We are already connected to the internet and linked with the provincial government and those who have direct access to different offices and employment services.

We also have a cable-connected television set which enables us to watch all the programs of the provincial and municipal governments. The success of our barangay was in fact featured in the program of Bulakan, "Taas Noo Bulakenyo" aired on Channel 52 every Saturday 3-4 pm at Dream Cable TV.

Income and employment

We believe that income and employment have the biggest factor in fighting poverty. It has a big effect over other CBMS indicators such as education, health and nutrition and others. As such, we have implemented a number of programs aimed at addressing poverty.

Papaya livelihood program

Planting of hybrid "Sinta" Papaya is one project of the barangay from the 20 percent development fund of the barangay. More than 60 residents in the 7 purroks were beneficiaries of the project.

Small farm reservoir and small water impounding/dam

A water reservoir that will collect rainfed water has been constructed which can be used during the dry season, especially when there is an El Niño. This can also be used as fishpen with fingerlings from the Department of Agriculture. There was no expense in building reservoir because the company dug it will use the soil as fillings in other places.

Coconut tree planting project

This project, which will be implemented in collaboration with the 17 commercial poultry and piggery farms that are operating in the

barangay, will be done for a greener environment that will help in containing the pollution in the surroundings of the commercial farms. The coconut tree seedlings will be funded by the commercial farms and will be given for free to farmers. These trees will produce in fruits 7-10 years and will be an additional income for farmers. This will be one major industry in the barangay since there are many people who will benefit from it

Barangay cooperative

One of the projects of the barangay is called "Ang Barangay at Kooperatiba (ABAKOO) Multipurpose Cooperative." This cooperative serves as the store of the barangay for rice from the National Food Authority (NFA) and other items wherein the products are sold at a low price. The cooperative has 106 founding members composed of 11 members of the barangay government.

The cooperative is also the center of livelihood programs. To give more services, the barangay government and the cooperative are planning to build a four-storey multi-purpose building. The first floor will be the store of the cooperative while the second floor will be the day care center. The third and fourth floors will serve as the place for the different organizations in the barangay. The barangay allotted 120 square meters for the construction of the building.

Tiangge

The concept of "tiangge" is not only as a place where our barangay constituents can buy their basic needs, foregoing expenses for transportation fare. This type of store will also provide employment to other people.

Farm-to-market road

The opening up of a new barangay road will certainly ease the transport of goods from the farms outside of the barangays. This will also provide prosperity to other people.

Peace and order

When the barangay was subdivided into 7 puroks, each purok was assigned one barangay councilor, 3 barangay policemen and 3 members of the peace of justice. The barangay was also able to purchase 3 vehicles for services.

We take pride in the results of the CBMS survey in 2004 which showed that there was no serious crime that happened in the barangay. In the last 4 years, from August 2002 to August 2006, we have recorded 1,067 conflicts in the barangay blotter. All the cases were resolved through an out-of-court settlement, except for the two cases wherein they were given certifications to file action in court.

Housing

As noted earlier, we have 2 model GK villages that are worth Php5 million. This was our response on the importance of housing as indicated in the CBMS indicators. These villages also respond to the need of access to sanitation. They also have a Multi-Purpose Hall, Sibol school for pre-school children, and motorized deep well.

Strategies, best practices and lessons learned

The experiences gained from the CBMS exercise taught us a lot of lessons. Among them are:

- Before the implementation of CBMS surveys, an information campaign through radio, newspapers or television must be conducted.
- Qualified researchers/enumerators should be utilized.
- Mother leaders or volunteers in the barangay should have enough qualifications in gathering important data for CBMS.
- The CBMS also confirms that the content of our Comprehensive Barangay Development Plan is correct and gave us a concrete basis for the prioritization of projects.
- If there will be subsequent rounds of CBMS surveys, we can use the baseline data gathered to track the progress of implementation of our projects. We will know how effective

every project is and if we need to still push through, change or stop the project altogether. In this way, we will correctly and appropriately use the barangay funds.

Inform each CBMS-covered barangay of CBMS findings

The objective is to help every barangay to assess its welfare conditions based on the CBMS indicators as compared to other barangays. Do they have the highest rate of poverty? Do they have the smallest incidence of out-of-school youths? Etc.

Let each barangay learn from each other

This is one area that we are not sure if included in the original objective of the CBMS. However, the CBMS is in a position to provide additional services to the barangay.

Every CBMS-covered barangay has projects that can be placed in every CBMS indicator. Every barangay has its own understanding and solution to every problem.

If the project put in place in one CBMS indicator in all the covered barangays will be gathered together and distributed in all, this will help other barangays. Similar projects can also be undertaken by other barangays or they can pick up elements that are appropriate in their barangay.

Our suggestion is for the CBMS Network to gather together all the key lessons and experiences of the project and share them with other barangays. Of course, standard format of reporting and description of every project still needs to be developed for easier understanding of the information.

Reward barangays with marked improvement in given CBMS indicators

This suggestion will be an additional responsibility for the CBMS Network. The intension is to motivate barangays to do their best to implement solutions to the weak areas identified through the CBMS

indicators. Follow-up surveys will also show if they are successful in looking for these solutions.

It is better if there is financial reward that can be given to the most improved barangays, for example, in generating additional income. This financial reward can be used in expanding their successful programs or in implementing other projects.

The most improved barangays can be role model for others, resulting in more barangays that will strive to improve their programs.

Conclusion

My suggestion of giving reward to the most improved barangays and give opportunities to the various barangays to learn from each other is based on my experience as a barangay chairman.

In 2004, our barangay was fortunate to have been awarded by the provincial government Bulacan with the "Gawad Galing Barangay" award on good governance. We were chosen from out of 569 barangays in the province. We were happy and joyous but more importantly, every member of the barangay government had a burning passion in surpassing what we have accomplished.

This attitude of learning from rendering service may have been the factor that led to my having received the Gawad-Galing Barangay award as most distinguished barangay chairman in the whole of the province for the year 2006. This award was based on the programs that we have implemented. Our investments were only more than Php1 million but the return was Php26 million. The recognition inspired me to continuously look for ways to improve our services.

And I believe that with the help of CBMS, we can do so much more for the barangay. And indeed, many more needs to be done.



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Day 3
***Theme: Improving Local Governance
and Program Targeting
Through CBMS***



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Keynote Speaker

A Challenge to Fight Poverty Through Joint Community Efforts

*Austere Panadero**

Introduction

The theme of this conference, “Improving Governance and Scaling up Poverty Reduction through CBMS” implies that there is a need to bring in more resources from both the government and private sectors and assist local government units (LGUs) on the proper targeting of poverty reduction efforts. This could be in terms of the correct identification of beneficiaries, anti-poverty instruments or delivery mechanisms. There is also the need to improve governance at all levels by mobilizing civil society to actively participate in the monitoring and evaluation of poverty reduction efforts. This conference is a perfect venue for us to pursue issues, share recent developments and replicate successes in the implementation and use of the community-based monitoring system (CBMS) for anti-poverty planning, program targeting and impact monitoring. I hope that this conference will further strengthen our commitment and cooperation in poverty reduction.

Local governance and poverty alleviation

A very significant political development in the country was the passage

*Assistant Secretary, Department of the Interior and Local Government. The speech was delivered by Assistant Secretary Encarnacion Blanco.

of Republic Act (RA) 8425 or the Local Government Code (LGC) that devolved resources and responsibilities to local governments in pursuing development. The LGC devolved the primary responsibility to LGUs for the provision of social services. It also devolved to the LGUs the responsibility to deliver basic services and public goods such as the promotion of health, infrastructure for education, ecological balance and economic prosperity, all of which were previously under the domain of national government agencies.

RA 8425 mandates LGUs to implement anti-poverty programs and grants them the frontline role in the fight against poverty. LGUs are given more autonomy to craft and pursue their own development. This recognizes the fact that LGUs have a comparative advantage over national government agencies since they are closer to the intended beneficiaries. This proximity allows the LGUs a clearer understanding of what their constituents need. Hence, a more focused targeting of interventions is established.

LGUs also have more knowledge about the gaps in development in their areas and the resources that can be tapped to address these gaps. However, given the primary concern on poverty, there is a need to guide LGUs to sift through the different tasks of analyzing data, responding to data gaps, identifying solutions, and mobilizing resources for poverty reduction. The starting point in plugging the data gaps is to have an informed analysis of the poverty situation in the area and the resources for poverty reduction that should, but may not, reach the intended beneficiaries.

In view of this, the DILG issued a policy for the adoption of core local poverty indicators for planning. The guidelines assist LGUs in assessing and understanding poverty and its dimensions, starting at the barangay level up to the municipal/city and provincial levels. In turn, this is used as basis in formulating the local poverty reduction action plans and in implementing such plans and programs to reduce poverty.

As part of our commitment to localize the Millennium Development Goals (MDGs), the core local poverty indicators have

now become 13 plus one to include maternal mortality. Another policy was issued by the department directing the LGUs to conduct a local monitoring system to oversee and diagnose the major extent of poverty using their core indicators to determine the appropriate interventions and focused targeting.

We are very fortunate to have the CBMS Network as partner in this endeavor. The Network continues to help us scale up our poverty reduction efforts. We have adopted the CBMS in our data collection system to ensure that household data are collected, processed and analyzed to help LGUs formulate their localized poverty reduction action programs.

The data gathered from the CBMS also help build the capacities of LGUs and communities in addressing the needs of their respective localities by maximizing the use of their existing resources. Said data also enrich the LGUs' databases and facilitate resource allocation, targeting and impact monitoring of social services development programs.

CBMS is currently being implemented in 19 provinces, 10 of which are being done province-wide, 161 municipal-wide and 13 city-wide covering 4,438 barangays. It is expected that the barangay coverage will soon reach 10,372.

Our challenge

The challenge before us is to end poverty. But the government cannot do it alone. We therefore continue to appeal to all sectors—the NGOs, the private and business sector and other institutions—to support LGU initiatives on poverty eradication. LGU capabilities have to be strengthened to enable them to effectively deliver the basic services. While eradicating poverty remains a national problem, the process of decentralization extends responsibilities to LGUs to implement policies and programs. We therefore have to work together to see to it that the LGUs will be able to reduce poverty in their respective jurisdiction.

Poverty has many dimensions and many faces and may mean many things to many people. What is important is to know that poverty is a condition that must be eliminated through joint community efforts. The important thing is that everyone does his part, however small. We have an opportunity to end poverty in our time. The best thing is to grab that opportunity.

As a parting note, let me give you some quotes from a speech of the late US President John F. Kennedy "Let no one be discouraged by the belief that there is nothing one man can do against the enormous array of the world's events. You will have the greatness to bend history itself and each of us can work to change a small portion of the events."

"Do more than belong, participate; Do more than care, help; Do more than believe, practice; Do more than dream, work."

Thank you and good day!

Session 1
***Application of CBMS for
Regional Development Planning
and Governance:
The Case of Eastern Visayas***



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Enhancing Local Capacities Through Community Collaboration Using CBMS

*Oscar Francisco**

In Eastern Visayas, we formed a Technical Working Group (TWG) for the implementation of the community-based monitoring system (CBMS). We would, however, prefer to call it upfront community-of-practice where there would be a continuing interchange among the three organizations involved because the knowledge that is a distinct resource of the organizations should be shared. The assumption is that when the three synergize, positive outcome is usually the result.

My problem, though, is that a lot of NGOs and civil government do not have what we call the learning culture although after 15 years of decentralization, a lot of NGOs, LGUs and some government bureaucrats have benefited from the community-driven development approach.

This is not to say that there are no existing capacities at the local level. I believe that local government units and staff are as good as the central government.

What is just needed to be able to fully tap and develop their capacities are the following:

(a) Get incentives right and enhance capacities

CBMS cannot be promoted by memorandum circulars. The first step

*Managing Trustee, Institute for Democratic Participation and Governance

is to provide the right incentives to local government units by emphasizing the benefits that they can gain from the implementation of the CBMS. One good example is that if you do CBMS, more projects will come in at the locality of the local government units. Side by side with emphasizing the kind of incentives that be derived is to enhance capacities at the local level. But this should not be the generic type of capability-building programs. The programs should be specific, on-site and built on the knowledge of the local government units and staff. Provide very specific, targeted and task-specific technical inputs and you can move CBMS forward.

(b) Encourage cost-sharing schemes

When we started CBMS in Eastern Visayas, we wanted a cost-sharing formula. The Institute for Democratic Participation and Governance (IDPG) and other NGOs took care of providing funds for training workshops. We took care of reproducing the CBMS forms whose cost per household is very inexpensive at P40.00 per household. Local government units provided the training for enumerators and the personnel for enumeration, processing and data management while national government agencies (NGAs) provided the technical inputs to access to resources and have a continuing CBMS capability-building program.

(c) Take a few risks and be creative

Taking on risks should be supported by an enabling framework for improving local governance. The problem is that sometimes, there is no match between NGAs and LGUs. NGAs should not actually be implementing programs anymore but here they are, requiring local counterparts from the LGUs. What we recommend is to reverse the situation and this formula. Mobilize national counterparts for local initiatives and priorities. There are two specific tactics and my commitment to Eastern Visayas is to move the CBMS forward in the next year.

In Eastern Visayas, KALAHY-CIDSS will be scaled up, from 10 municipalities to 30 municipalities. And in the mid-term review, the proposal of the World Bank is "to adopt the use of the CBMS to facilitate the integration of community development plans into the municipal development plans for the local poverty reduction action plans." With 30 municipalities wherein we used the funds from the KALAHY-CIDSS program, I think we will go a long way in scaling up CBMS in Eastern Visayas.

I am involved in the program called Agrarian Reform Entrepreneurship Development Program wherein the Department of Agrarian Reform is trying to shift the Comprehensive Agrarian Reform Program (CARP) from simply land distribution to program beneficiary development and is requiring their development facilitators to integrate CBMS into the profiling of the barangays. In Eastern Visayas, we have Leyte, Southern Leyte and Northern Samar as pilot areas. We have already started it in Panoan Island and many of the LGUs are happy that this program has an enterprise development program in building up the local economy.

In my capacity as member of the committee, I will try to integrate the CBMS in order to sharpen the poverty reduction objectives of the agrarian reform.

(d) Improve governance

I had earlier voiced my concern that when we had the 15th year anniversary of the Local Government Code in October, there were no big celebrations on the issues local governments face and on how we can address issues that do not require legislation and those that do. Perhaps what we ought to do is to provide an enabling environment for local government units for them to be able to fulfill their mandates. Thus, NGA programs should be in line with the priorities of the local government units.

Finally, when we talk about resources, we have congressmen who make insertions in the budget. These insertions, however, usually do not jibe with the priorities of the local government units. In this

regard, therefore, we should utilize the CBMS to avoid political patronage that have existed in the country for a very long time and instead allocate resources on the basis of priority needs of the communities.

CBMS Gains in Eastern Visayas

*William Palar**

Introduction

On behalf of the implementors of the community-based monitoring system (CBMS) in Eastern Visayas, it is my privilege to share with you today our region's experiences in implementing the CBMS. Before anything else, though, let me take this opportunity to extend our appreciation to the government agencies, nongovernment organizations (NGOs) and local government units (LGUs) in Region 8 for sharing our vision for peaceful, orderly and progressive communities and for vigorously working with us in ensuring that a significant planning tool – the poverty maps – will be made available to LGUs.

Strategically located, Eastern Visayas links Luzon to Mindanao through the San Juanico Bridge, the longest bridge in Southeast Asia. The region is composed of 6 provinces, 4 cities, 139 municipalities and 4,390 barangays where the poverty incidence is high at 43 percent.

Poverty reduction remains one of the biggest challenges faced by our regions today vis-à-vis our country's commitment to attain the Millennium Development Goals (MDGs) by 2015. To successfully fight poverty and achieve the MDGs, the importance of knowing the nature and extent of poverty cannot be overstated.

*Regional Director, Department of the Interior and Local Government, Region VIII

Recognizing the need to make our LGUs responsive to alleviating poverty, government agencies, NGOs and LGUs in Region 8 worked closely to implement the CBMS. Our concerted efforts paid off as we were able to gain headway in our region-wide CBMS implementation.

Status and gains of the CBMS implementation

What have we achieved so far?

Ninety-five out of 143 municipalities and cities in Eastern Visayas or 64 percent are now implementing the CBMS while 29 municipalities have already signified their plan to implement the same next year.

Concerned LGU personnel in these 95 municipalities and cities have already undergone the necessary capability-building activities. Of the LGUs now implementing CBMS, 24 or 17 percent have come up with poverty maps which they are now using in the identification of the priority needs of their respective constituents and in LGU program implementation. A significant number of the remaining LGUs are now in the process of finishing their poverty maps within the year.

Several local development initiatives can now be cited as a result of the availability of the poverty maps and the establishment of databases through the CBMS.

In Cabucgayan, Biliran, for instance, a CBMS pilot municipality, two income-generating projects are now ongoing—the Natural Resources Protection and the Plant a Corn Now, Pay Later Projects.

Other noteworthy outcomes of the CBMS implementation are the inclusion in the local development plans of concerns that respond to poor results as shown in the poverty maps; granting of INFRES projects to the LGUs of Basey, Samar and Tolosa, Leyte; fast-tracking of the release of the PhP50,000 grant from the Philippine Charity Sweepstakes Office (PCSO) for the purchase of medicines for indigent constituents of Basey, Samar; and improvement of the delivery of basic services in the 16 CBMS pilot municipalities.

Among the strategies adopted to fast-track CBMS implementation in Eastern Visayas by the stakeholders are:

1. the organization of the CBMS Regional Technical Working Group (RTWG);
2. convergence of resources among stakeholders;
3. conduct of conferences and sharing sessions;
4. organization and training of CBMS trainers; and
5. designation of program managers for CBMS in the DILG regional, provincial and municipal offices.

With a common objective, the Department of the Interior and Local Government (DILG) Region 8, the National Statistical Coordination Board (NSCB) Region 8 and the Institute of Democratic and Participatory Governance (IDPG) spearheaded the organization of the Eastern Visayas CBMS Technical Working Group composed of the representatives of the 3 aforementioned organizations, Department of Social Welfare and Development (DSWD), National Anti-Poverty Commission (NAPC), the Vice-Governor of Leyte, and the Regional Development Council Vice Chairperson.

The formation of the group ensures a coordinated effort in the region-wide implementation of CBMS-related activities and at the same time guarantees the presence of fully committed people who are bent in carrying out the implementation of the CBMS.

The RTWG networks with national government agencies (NGAs) and NGOs at the national level and negotiates with funding agencies for the financial requirements of CBMS concerns. During capability-building activities, the RTWG serves as the training management group.

In their respective capacities, RTWG members advocate for the CBMS implementation. The IDPG, in fact, regularly comes out with a newsletter to update all stakeholders and others concerned with CBMS-related activities on the status of the CBMS implementation in the region.

In all the undertakings, the financial requirement is most often the waterloo in the implementation. We are fortunate in Region 8 that we have NGOs, NGAs and LGUs which heartily shared their

resources in the form of funds, personnel and equipment thereby facilitating the region-wide implementation of the CBMS.

Our people in the region are grateful to the following NGOs – the IDPG, PLAN Philippines and Helvetas Philippines. Resources for the CBMS implementation also came from the LGUs, from the barangay to the municipal to the provincial level, and from the DILG, NSCB and DSWD.

The CBMS implementors in Region 8 always make it a point to take advantage of CBMS fora, conferences and meetings as venues for sharing of experiences, insights and lessons learned by the 16 CBMS pilot municipalities. In most instances, the municipal mayors themselves share their LGUs' experiences and how CBMS implementation has improved their service delivery and program implementation.

These fora resulted in the generation of interest and commitment among our provincial governors. Biliran Governor Rogelio Espina and Eastern Samar Governor Ben Evardone have appreciated the importance of CBMS in one of these activities and have included among their priorities the implementation of CBMS in all municipalities in their respective areas of responsibility.

To localize the conduct of CBMS capability-building activities, members of the Local Poverty Reduction Action Teams, organized in the provinces and municipalities through DILG Memorandum Circular Number 9003-92, and provincial and municipal DILG officers were trained as CBMS trainers to cater to the training needs of their respective provinces and municipalities.

This ensures a far less expensive capability building activity customized to local situations.

DILG Region 8 management also put premium on the importance of the CBMS implementation to complement the national government's poverty reduction initiatives vis-à-vis the attainment of the MDGs. The DILG serves as the lead agency in the CBMS implementation in the region, complementing its role as lead agency in the MDG localization.

To ensure that CBMS point persons are in place in all DILG sub-regional offices, regional management designated CBMS Program Managers at the DILG regional, provincial and municipal offices.

Primarily, the function of the program managers is to coordinate the conduct of CBMS activities, advocate for its implementation among local officials, network with other stakeholders, monitor CBMS implementation and serve as training managers at their respective levels.

We have ongoing initiatives to maintain our momentum. We will also continue our advocacy for CBMS in order to have a 100 percent implementation among our LGUs. We will also continue our advocacy for the integration of CBMS data in local level planning and program implementation.

The inspiring outcome of CBMS in Cabugcayan, Biliran will be documented so as to encourage other LGUs in the region to implement the CBMS.

Conclusion

What we have achieved so far is just the tip of the iceberg, so to speak. We still have a long way to go as far as the CBMS is concerned. But what is encouraging is that our initial steps, limited as they still are, have brought forth outcomes that have the potential in significantly contributing to our region's development.

With synergy, the total of the parts is greater than the whole. We have proven this with the NGA-NGO-LGU partnerships and cooperation on the CBMS implementation.

We are looking forward to the next gathering where Region 8's CBMS implementors can share with you on how we were able to maintain our momentum and made a difference in the lives of the people in Eastern Visayas.

Thank you!



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Use of CBMS Information for Integrated Provincial Development Initiatives

*Ben Evardone**

Introduction

Based on the 2000 Census on Population and Housing as shown in Table 1, the Province of Eastern Samar registered the highest poverty incidence in Eastern Visayas at 47.3 percent compared to 37.8 percent for the regional incidence and 28.4 percent for the entire country.

Three years later, the National Statistical Coordination Board (NSCB) poverty data for 2003 indicated a significant improvement in the performance of the province, thereby warranting our graduation from the notorious "Club 20" or the Top 20 Poorest Provinces in the country. Despite the decline in poverty incidence, however, poverty alleviation efforts still need to be strengthened and sustained in our province. We acknowledge that there is a need for proper targeting of our poverty reduction initiatives which involves knowing who the poor are, where they are located, what their needs are and how best to address them.

While the Provincial Government of Eastern Samar has been implementing various poverty alleviation programs over the years, the targeting of our beneficiaries, unfortunately, has not been based on reliable information. We had to make do with secondary data.

*Governor, Province of Eastern Samar. The presentation was delivered by Ms. Ma. Nita Cablao, CBMS Focal Person in Eastern Samar Province.

Table 1. Poverty incidence of families in Eastern Visayas, 2000

Provinces	Level	Rank
Southern Leyte	28.5%	1
Biliran	34.8%	2
Leyte	36.1%	3
Samar	40.7%	4.5
Northern Samar	40.7%	4.5
Eastern Samar	47.3%	6

Source: Family Income and Expenditures Survey

With the coming of the community-based monitoring system (CBMS) in our midst, we are now optimistic that we will have a more reliable source of information and be able to know who and where the poor are and, in the process, facilitate the efficient allocation of our resources.

Backgrounder: CBMS Implementation in Eastern Samar

The province-wide implementation of the CBMS started with a Consultative Conference on Institutionalizing Poverty Alleviation held on June 28-29, 2005. This event aimed to come up with a doable plan to institutionalize poverty alleviation efforts in the province and draw commitment from the Local Chief Executives (LCEs) to provide counterpart funds for the implementation of the CBMS. During the same event, a Provincial Poverty Alleviation Council was formed.

A month later, on July 29, 2005, a second consultative conference was again organized. This time, the event involved spelling out the activities and resources needed for the province-wide implementation of the CBMS. The Provincial Government committed to allocate P500,000 primarily for the procurement of computer sets to be distributed to the 16 out of the 23 municipalities in the province

which compose the second batch of LGUs to implement the CBMS after a pilot-testing phase conducted in early 2005¹.

A Memorandum of Agreement between the CBMS Network Coordinating Team and the Province and the 16 municipalities was soon formalized. Thereafter, municipal-level activities followed which included the orientation on the CBMS and advocacy for the allocation of funds for the conduct of the census, among others. The conduct of the CBMS Enumerators Training signaled the start of the CBMS implementation at the local level.

Updates

On our database-building activities, we are proud to announce that out of the 23 municipalities, five municipalities were able to finish encoding all of the accomplished household profile questionnaires and digitizing the barangay spotmaps. Meanwhile, the remaining municipalities are still in the encoding, map digitizing and consolidation process. Table 2 shows the various stages of implementation in the different localities.

On the other hand, at least 3 municipalities in the province (San Julian, Can-Avid and Mercedes) were able to access funding from the CBMS-UNDP Development Grant Program to finance some of their priority projects which were identified using CBMS data.

Meanwhile, the Provincial Government has increased its allocation for the CBMS implementation, from P500,000 for the current year to P3 million pesos for 2007 as per the approved 2007 Annual Investment Plan. This move demonstrates anew the Provincial Government's firm commitment and resolve to come up with a consolidated provincial CBMS database which will be used to sustain its achievement in poverty reduction.

¹ CBMS was first introduced and pilot-tested in 7 municipalities in the province through the initiative of the Institute for Democratic Participation in Governance (IDPG), an NGO doing participatory local governance work in Eastern Visayas.

Table 2. Status of CBMS Implementation by Municipality (as of October 31, 2006)

Municipality	No. of Brgys.	Encoded		Digitized	
		Total	Percent	Total	Percent
Arteche	20	20	100.00	15	75.00
Balangiga	13	13	100.00	13	100.00
Balangkayan	15	15	100.00	14	93.33
Borongan	61	20	32.79	2	3.28
Can-avid	28	27	96.43	22	78.57
Dolores	46	7	15.22	1	2.17
General McArthur	30	30	100.00	19	63.33
Giporlos	18	13	72.22	1	5.56
Guiuan	60	43	71.67	13	21.67

Upcoming activities

The municipalities will soon start data validation activities at the barangay-level. This will be done after each barangay is fully encoded, digitized, processed and mapped. We will also be requesting the technical assistance of the CBMS Network Coordinating Team in formulating barangay socio-economic profiles and development plans. This will be done to demonstrate to all development stakeholders the link between the CBMS results and the planning and budgeting activities at the local level.

Uses of CBMS

Information generated by the CBMS has a lot of potential uses for local policymaking and implementation. In Eastern Samar, CBMS information will be used in at least three major areas, namely:

1. Development analysis and planning – upon completion of the Provincial CBMS database (with technical support from the CBMS Network), the Provincial Government will use CBMS as a planning tool such as in the formulation of the Provincial Development Plan,

Provincial Poverty Reduction Plan, Provincial Development Investment Program and the Provincial Physical Framework Plan.

2. Integration of CBMS with other provincial databases, i.e. Provincial Geographic Information System (GIS)

3. Resource allocation - funding support to barangays coming from the province will be based on CBMS data.

Provincial Anti-Poverty Summit

After we have consolidated all the municipal CBMS databases, we hope to be able to conduct an anti-poverty summit. The summit is envisioned to improve and converge our strategic priorities and interventions toward reducing poverty and improving the quality of life of *Estehanons*. Specifically, the anti-poverty summit will involve the following activities:

- Presentation of the provincial development priorities based on CBMS data to stakeholders
- Resource mobilization- draw internal and external resources for poverty alleviation projects
- Building of linkages with networks and poverty councils
- Forging of partnerships with the private sector, POs, NGOs, academe, etc.

We will therefore primarily use CBMS information as our tool-guide in our “fight against poverty”. We also need to develop mechanisms for people participation where people’s organizations (POs) and nongovernment organizations (NGOs) are formally integrated in various dimensions of local governance.

Indeed, there is still much to be done, foremost of which is a more focused targeting of our poverty alleviation efforts with full support and cooperation of all stakeholders. However, we are confident that with the CBMS, we are on the right track.



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The CBMS Experience of San Julian, Eastern Samar

*George Erroba**

The National Health Insurance Program (NHIP) is envisioned to provide universal health insurance coverage to the entire Filipino population. To realize this vision, the Philippine Health Insurance Corporation has partnered with the local government units (LGUs) to implement a Sponsored Program which aims to provide Medicare privileges to indigent families. Under this scheme, the LGU and the National Government through PhilHealth share the annual premium payment of P1,200 per indigent household to get enrolled.

When I assumed office as mayor of the Municipality of San Julian in 2001, I realized that our problem was oversupply rather than the lack of Philhealth cards. There was a glut of Philhealth cards but there were no takers. During turn-over ceremonies, there were hardly people claiming their cards since they felt there was no need for it. As a result, municipal resources were wasted. This scenario soon changed when we conducted CBMS. Today, armed with CBMS data, we now give Philhealth cards only to those indigent households who have expressed their willingness to be enrolled under the program.

In other words, in addition to being indigents, they have to come to us and apply in order to avail of health insurance. To facilitate this, we launched an information campaign: those who are considered

*Mayor, Municipality of San Julian, Eastern Samar

indigents based on the CBMS should go to the office of the Social Welfare and Development if they are interested to avail of the Philhealth cards.

This is just an example of how CBMS has revolutionized our local governance.

As a backgrounder, we implemented CBMS in order to be able to:

1. gather first-hand information for diagnosing the extent of poverty in our municipality, determine barangay-specific or even household-specific causes of poverty;
2. design effective and efficient programs to eradicate poverty among the constituents;
3. identify eligible beneficiaries; assess impact of policies and programs, and
4. strengthen mechanisms for the convergence of poverty alleviation efforts at the barangay level

Upon learning the results of the CBMS survey, we aligned all our development programs projects and activities in order to be responsive to needs of our constituents as presented in Table 1.

Recognizing the untapped potential of CBMS in poverty reduction in Eastern Visayas, I advocated for the adoption of CBMS at the provincial and regional level by sharing the learning experience of San Julian CBMS implementation. Our personnel who have been trained on the CBMS training modules have likewise been tapped as resource persons in other LGUs.

On the other hand, we look forward to utilizing our CBMS data in the preparation of barangay and municipal socio-economic profile, in updating our Municipal Development Investment Plan, in resource mobilization, in preparation of project proposals and feasibility studies, and in localizing the Millennium Development Goals (MDGS).

Table 1. Highlights of CBMS survey findings and LGU's interventions

INDICATOR	ISSUES/CONCERNS	INTERVENTIONS	REMARKS
<p>A. HEALTH & NUTRITION</p>	<p>1. 218 children 0-5 years old or 12.14% of 1796 are malnourished.</p> <ul style="list-style-type: none"> • 175 or 9.74% are moderately malnourished. • 43 or 2.39% are severely malnourished. <p>• TOP BARANGAYS:</p> <ol style="list-style-type: none"> 1. Bunacan – 32 (4.1%) 2. Putong – 36 (25.9%) 3. Libas – 36 (20.1%) <p>2. 499 or 22.18% out of 2250 couples are practicing family planning.</p> <p>3. Of the total 1151 households with children 0-5 years old, 1.74% or 20 of them have received supplemental feeding program.</p> <p>4. 1332 or 46.74% of the total number of households are beneficiaries of health assistance programs.</p> <ul style="list-style-type: none"> • 877 or 30.77% are beneficiaries of PhilHealth. 	<ol style="list-style-type: none"> 1. Integrated Health Services Program <ol style="list-style-type: none"> 1.1 Maternal Health care 1.2 Child Health care <ul style="list-style-type: none"> • EPI • GP 1.3 General Medical Services 1.4 Mothers Classes 1.5 Family Planning Program 2. Supplemental Feeding Program at Barangay Casoroy. 3. Deworming Program <ul style="list-style-type: none"> • School-aged • Below 6 yrs. Old 4. Operation Timbang 5. Sentrong Sigla Plus and PHILHEALTH Accreditation 6. Health Insurance Program/PHILHEALTH Tree for a Healthy Life Program 7. Procurement of drugs and medicines 8. Barangay Health Facilities Improvement Program <ol style="list-style-type: none"> 8.1 Construction of MHC at Poblacion 8.2 Construction of BHS at Brgy. Nena 8.3 Provision of medical equipment, furniture & apparatuses at MHC & BHS at Nena 	<p>Regular program of DOH/LGUMHS</p> <p>Accredited on December 2005</p> <p>Increased membership by 2007 (2097 as of today)</p> <p>LGU Yearly budget allocation is not enough to cater the need of the community/need additional funding</p> <p>PCSO assistance LOGOFIND</p> <p>LGU funded -do-</p> <p>LGU funded</p> <p>LGU Funded</p>

INDICATOR	ISSUES/CONCERNS	INTERVENTIONS	REMARKS
<p>B. WATER & SANITATION</p>	<p>1. 469 or 16.46% households without access to safe water</p> <ul style="list-style-type: none"> • TOP BARANGAYS <ol style="list-style-type: none"> 1. Lunang 2. Pagbabangnan 3. San Isidro 4. San Miguel 5. Casoroy 6. Barangay 5 – 92.05% 7. Barangay 4 – 72.84% 2. 2066 or 72.49% households without sanitary toilets <ul style="list-style-type: none"> • TOP BARANGAYS <ol style="list-style-type: none"> 1. Bunacan – 85.5% 2. Putong – 45.4% 3. San Isidro – 45.2% 	<p>8.4 Construction of BHS at San Isidro</p> <p>8.5 Construction/Repair of BHS</p> <ul style="list-style-type: none"> • Putong, Casoroy, Pagbabangnan, Campidhan, San Miguel <p>8.6. Establishment of 8 Botikang Barangay</p>	<p>Regular activity of the RSILGU funded LGU/Province</p> <p>LGU Fund</p> <p>LGU & GTZ funded/80 families availed of the project</p>
<p>C. INCOME</p>	<p>1. 1800 OR 63.16% households with income below poverty threshold</p> <p>TOP BARANGAYS:</p> <ul style="list-style-type: none"> • Bunacan – 91.9% • San Isidro – 83.8% • San Miguel – 80.86% 	<p>1. Potable Water Supply Source Disinfection</p> <p>2. Improvement/repair of all level I Water System</p> <p>3. Operationalize Level II Brgy. No. 1 to 4</p> <p>4. Level III Water System for the 6 Baranays under Poblacion</p> <p>5. Construction of 80 sanitary toilets</p>	<p>1. Summer Jobs for Poor and Deserving Students</p> <p>2. Improvement of Public Market</p> <p>3. Establishment of Flea Market</p> <p>4. Conduct of Agro fair</p>

INDICATOR	ISSUES/CONCERNS	INTERVENTIONS	REMARKS
	<ul style="list-style-type: none"> • Campidhan – 72.6% • Putong – 72.4% <p>2. 1466 or 51.44% of the total number of households with income below food threshold</p> <p>TOP BARANGAYS:</p> <ul style="list-style-type: none"> • Bunacan – 87.1% • San Isidro – 77.2% • San Miguel – 69% • Campidhan – 59.4% • Putong – 58.3% <p>3. 749 or 26.28% households experience food shortage</p> <p>TOP BARANGAYS:</p> <ul style="list-style-type: none"> • Bunacan – 80.6% • Pagbabangnan – 49.3% • Barangay 1 – 45.07% • San Isidro – 39% • Lunang – 36.1% <p>4. 838 or 17.55% are unemployed</p>	<ol style="list-style-type: none"> 5. Insuring Production of farm products through farm cooperators scheme. 6. Establishing a marketing arm of LGU 7. Jobs Fair (Local & Abroad) 	
<p>D. BASIC EDUCATION & LITERACY</p>	<ol style="list-style-type: none"> 1. 524 OR 21.48% are not attending elementary school 2. 438 or 37.15% are not attending high school 3. 831 children aged 3-5 years old are not in Day Care 	<ol style="list-style-type: none"> 1. Conduct of Education Summit. 2. Creation of Education Council. (Scholarship, assistance) 3. Establishment of 12 Day Care Centers to 12 barangays <ul style="list-style-type: none"> • Construction of buildings • Provision of Personal services 	<p>LGU Fund</p> <p>Target of Zero Literacy by 2010</p> <p>LGU & Barangay Fund</p> <p>LGU Fund tie-up with DepEd</p>

INDICATOR	ISSUES/CONCERNS	INTERVENTIONS	REMARKS
	<p>4. 934 are not literate TOP BARANGAYS: Bunacan Layog San Miguel Putong (Caruyagon & Palo 1)</p>	<p>4. Literacy Program through: • Basic Literacy • Functional Literacy Non-Formal Education</p>	
<p>E. OTHER LGU SPECIFIC INDICATORS: Environmental Management</p>	<p>1. No household or barangay is practicing waste management</p>	<p>1. Comprehensive Solid Waste Management program • Procurement of lot for controlled dump site • Establishment of Controlled Dump site & MRF • Procurement of garbage truck & pay loader • Adoption of CMSWM Ordinance • Formulation of MSWM Plan</p>	<p>LGU procured almost 2 has. Lot LGU Fund LGU Fund Ongoing Ongoing</p>
<p>OTHER LGU SPECIFIC INDICATORS: Livelihood</p>	<p>1. 1701 or 59.68% are farming households 2. 929 or 32.6% households are engaged in fishing 3. 1151 or 40.39% households are engaged in poultry or livestock raising 4. 25 or 0.88% of the total households availed livelihood training programs</p>	<p>1. Provision of assorted vegetable seeds (Organize farmer 5HH cooperators per barangay) 2. Pest monitoring on various crops and procurement of pesticides and disease control 3. HYV Rice Seed Production 4. Soft loan for hybrid rice 5. Rehab. of San Isidro San Miguel FMR & 1 span bridge (Organize 2 Coops under DAR)</p>	<p>LGU funded LGU funded LGU/DA LGU/DA LGU/DAR-ADB funded/ on going</p>

INDICATOR	ISSUES/CONCERNS	INTERVENTIONS	REMARKS
		6. Bantay Dagat Program 7. Establishment of Mariculture Project (Bangus Production) 8. Organize fisherfolk (Crab Fattening) 9. Organize Fisherfolk 10. Animal & poultry disease surveillance & control program 11. Swine dispersal 12. Native chicken dispersal	LGU Funded LGU Funded LGU/Province LGU/DSWD LGU Funded LGU Funded LGU Funded



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Implementing the CBMS: The Sta. Fe Experience

*Godofredo Roca**

Background

As classified by the Department of Finance, the municipality of Sta. Fe is a fifth class municipality with a total land area of 8,190 hectares and a population of 15, 729. These are based on the CBMS survey results conducted in Sta. Fe. There are 3,136 households in 20 barangays, with the main source of income coming from agriculture, specifically palay farming.

Due to its strategic location, there were several opportunities that were offered to us in Sta Fe to submit feasibility studies and project proposals for possible financial assistance. Unfortunately, because we lacked baseline data to support such proposals, we were not able to respond positively to such opportunities.

Then came the invitation of Mr. Oscar Francisco, through the Institute for Democratic Participation in Governance (IDPG), to attend a training on the community-based monitoring system (CBMS) survey, encoding and digitizing on the basis of our having been chosen as one of the municipalities to implement the CBMS in the Province of Leyte. From there, the dream of the municipality to establish its own data bank became a reality.

*CBMS Focal Person, Municipality of Sta. Fe, Leyte

At first, I was not convinced to try CBMS since it might be the same as previous innovations of the government to establish a data bank in every municipality. However, when we started simulating the data, digitizing maps and coming up with the result of the indicators, I really began to appreciate a lot about the project.

What the CBMS results showed

The following were identified in the CBMS results in the Province of Leyte:

1. Households experiencing food shortage, below the poverty level, and with malnourished children,
2. Literacy rate
3. Households' income per capita
4. Households with no toilet
5. Households living in makeshift houses
6. Households that lack potable water
7. Households that lack livelihood opportunities

Uses of the CBMS results

Finally, the municipality was able to use the CBMS results in the following manner:

1. As basis for the formulation of the Executive–Legislative Agenda (ELA) of the municipality for C.Y. 2006 - 2007 specifically on its Plans and Programs. The identified problems were given priority in the budget.
2. The identified problems were the basis for the formulation of the Annual Investment Plan (AIP) of the municipality for two calendar years.
3. The data were used as baseline data in the feasibility studies submitted to the Department of Agriculture in order for the municipality to avail of the INFRES project, specifically in its infrastructure and livelihood components. The feasibility studies were approved last September.
4. The data were used in the formulation of the project proposals

submitted to different government and non-government organizations (NGOs) for possible funding of proposed projects of the municipality.

5. From the digitized maps, it became easy to spot the households with malnourished children and with no toilets, among others. Our social workers and other municipal workers were able to easily determine the location of these households and give the necessary attention.



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Session 2
***Use of CBMS for Program Design
and Project Implementation***
(UNDP and PEF Development Grant Awardees)



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CBMS-UNDP Development Grant Awardee

Plant Corn Now-Pay Later Project

*Arnellto Garing**

Introduction

Let me start by addressing an often-repeated question: “where is Biliran Province?”

In response, let me give you this profile. Our province is located in the eastern part of the Visayas region. It is part of Region VIII and specifically located in the northern part of Leyte and western part of Samar. It is connected to the main island of Leyte through Biliran Bridge. Biliran used to be a sub-province of Leyte and only became a regular province on May 11, 1992.

Biliran Province has 8 municipalities, namely, Biliran, Naval (the capital town which is 35 kms away from Cabucgayan), Almeria, Kawayan, the island municipality of Maripipi, Culaba, Caibiran, and Cabucgayan.

The municipality of Cabucgayan is a 5th class municipality composed of 13 barangays. It has a population of 19,687, a total income of PhP20,689,906.00, and a total land area of 4,871 hectares.

CBMS results

Cabucgayan was one of the very first local government units (LGUs) to have implemented the community-based monitoring system

*Mayor, Municipality of Cabucgayan, Biliran

(CBMS) in Eastern Visayas. It was one of the pilot sites of the CBMS work initiated by the Institute for Democratic Participation in Governance (IDPG), a nongovernment organization (NGO) doing participatory local governance work in Eastern Visayas.

The census of the total 3, 717 households in the municipality was conducted in 2005 and generated a comprehensive picture of the welfare situation of my constituents as shown in Table 1.

The results, particularly the indicator on poverty incidence, galvanized us into action to explore how we can best address this problem. The municipality only has an annual income of P22 million and it was obvious that we need external assistance to be able to alleviate the plight of our people.

Armed with the CBMS data, we then decided to submit a number of project proposals for possible funding under the CBMS Development Grant Program. The crafting of our project proposals was facilitated by the CBMS — from identification of development problems to the design and formulation of poverty interventions as well as identification of eligible beneficiaries.

In 2006, the CBMS Network Coordinating Team informed us that our project proposal on “Plant Corn Now-Pay Later Program” was chosen by the screening committee of the CBMS Development Grant Program as one of the grantees and that we will be receiving a total of P200,000 to implement the project.

Plant Corn Now-Pay Later Project

The Plant Corn Now-Pay Later Project aims to establish techno-demo farms in 10 barangays that will serve as a showcase of proper and timely application of farm inputs as well as demonstrate the use of quality seeds. It is envisioned that the project will boost the adoption of improved technologies and ensure food security and sustainability.

The target beneficiaries of the program are the active members of the Cabucgayan Corn Farmers Association (CACOFA) as well as farmers who have existing corn areas and who are willing to avail of the program.

Table 1. Summary of CBMS core indicators, Cabucgayán, Biliran 2005

Basic Needs	Core Indicators	Total	Proportion
Health	Proportion of child deaths aged 0-5 years old	19	0.7
Nutrition	Proportion of women deaths due to pregnancy-related causes	3	0.8
	Proportion of malnourished children aged 0-5 years old	213	8.1
Shelter	Proportion of households living in makeshift housing	60	1.6
	Proportion of households who are squatters	41	1.1
Water and Sanitation	Proportion of households without access to safe water supply	447	12.0
	Proportion of households without access to sanitary toilet facilities	1,416	38.1
Basic Education	Proportion of children 6-12 years old not attending elementary school	821	23.0
	Proportion of children 13-16 years old not attending high school	811	45.3
Income	Proportion of households with income below the poverty threshold	2,326	62.6
	Proportion of households with income below the subsistence threshold	1,772	47.7
	Proportion of households who experienced food shortage	254	6.8
Employment	Proportion of persons who are unemployed	812	12.8
Peace and Order	Proportion of persons who were victims of crime	16	0.1

To date, the project has already accomplished the following milestones:

- Signing of Memorandum of Agreement with farmer recipients.
- Meeting with corn farmers/ briefing on the mechanics of the plant now pay later scheme of corn production.

- Land preparation.
- Distribution of farm inputs and planting
- Regular monthly meeting (every 1st Friday of the month)
- Submission of receipts and liquidation reports.
- Plant propagation, care, maintenance, harvest and marketing.
- Field monitoring, conduct of farmers field class/school, farm visit and rendering of technical assistance to farmers.
- Monthly submission of monitoring and evaluation report every end of the month.
- Collection of payments, either in cash or in kind.
- Assessment of the performance of the first Plant Corn Now, Pay Later Program

As in any project, we have also encountered a number of problems, including delays in the implementation due to drought. We also encountered delays in the procurement of fertilizer due to the stringent requirements of the Bids and Award Committee (BAC). Meanwhile, we also observed that the volume of harvested corn was less than what we expected brought about by corn borer infestation and astray animals. The project was likewise affected by the high cost of farm inputs such as fertilizers. To offset the high cost of labor, we adopted a Bayanihan system during planting, harvesting, dehusking, shelling, drying, milling and marketing and other activities in every barangay.

Project innovations

We also introduced several innovations in the implementation of the project which include the following:

- Loan repayment @ P10.00/kilo of dried corn with 12 percent moisture content. Corn kernel is accepted as payment which will be milled by the LGU and sold as corn grit at P21.00 – P23.00 per kilo.

- LGU prioritizes interested corn farmers as the next-in-line beneficiaries of cow / carabao dispersal as a strategy of encouraging farmers to join the program. At present, a total of 17 heads (10 cows and 7 carabaos) have already been distributed to corn farmers
- Crop rotation of mongo and peanut during off season to improve soil texture due to nitrogen fixing bacteria present in these plants.
- Savings mobilization and capital build-up during meetings are observed.
- Farmers reporting during regular meetings are observed.
- Field visitation and monitoring with farmers has been conducted for them to observe and give comment/suggestion on the other farmers' activities.

Thus far, the project has produced the following benefits to our farmer-beneficiaries: employment generation, additional food supply and income, people empowerment, additional livelihood opportunities for our farmer-beneficiaries through the animal dispersal program, non-formal education through meetings/trainings, farm and home visitation, corn mill income, and savings through savings mobilization activity.

Ways forward

We have also partnered with NGOs and people's organizations (POs) operating in our municipality so that they too can avail of grant funds available under the CBMS-PEF Development Grant Program. The Municipal Government's role here was to disseminate information about the grant program as well as to provide access to CBMS information which they can use in developing their project proposals. This initiative was met with enthusiastic support from civil society organizations in the municipality and as a result, we were able to get funding assistance from the Peace and Equity Foundation (PEF) for the following projects:

1. **Title of Project:** Mudcrab Production in Mangrove
Proponent: NARAVIL MFA (Naga, Rawis, VillaCorro, Looc Mangrove Fisherfolk Association)
2. **Title of Project:** Marketing of Livestock Feeds
Proponent: Balaquid ARC (Balaquid Agrarian Reform Communities)
3. **Title of Project:** Bangus Fish Cage Production
Proponent: CAGUPA (Cabucgayan Guso Producers Association)
4. **Title of Project:** Fertilizer and Palay Trading
Proponent: Looc ARC (Looc Agrarian Reform Communities)
5. **Title of Project:** Micro Financing
Proponent: Libertad ARC (Libertad Agrarian Reform Communities)

Meanwhile, we have also submitted the following proposals under the CBMS-UNDP Development Grant Program, with the Municipal Government as the main proponent: Banana Production Rehabilitation under Coconut and Bangus Production in Fish Cage.

CBMS-UNDP Development Grant Awardee

The Seaweeds Farming Project in Palawan

*David Aurello**

Background

The municipality of Dumarán is located in the northern portion of Palawan. Its total land area is 55,328.18 hectares. It is composed of 16 barangays, with 9 barangays located in the mainland Palawan and the other 7 barangays being island barangays. Based on the results of the 2005 CBMS survey, the population of Dumarán is 16,920 and is growing at the rate of 2.47 percent. Farming and fishing are the major economic activities in Dumarán while livestock and poultry-raising also abound in the area.

Identified project areas for CBMS-UNDP grant assistance were Sitios Aguinaldo and Ilang-ilang in Barangay Capayas and Sitio Mangingisda in Barangay Sta. Teresita. Poverty incidence is relatively high in the project areas despite the prevalence of high employment. Sitios Aguinaldo and Ilang-ilang recorded 32.97 percent and 45 percent poverty incidence in 2005, respectively. The poverty incidence of Sitio Mangingisda in Sta. Teresita reached 31.65 percent for the period. The average household income of the three sitios was PhP1,783.50 in 2005.

Our process of selecting our beneficiaries for the project has been facilitated by the results of the CBMS. We have analyzed the

*Mayor, Municipality of Dumarán, Palawan

household data carefully for the said sitios and target those households with low income as beneficiaries for the project. Twenty-five recipients each for the two barangays were beneficiaries of the project.

Seaweeds farming as major livelihood means

Seaweeds (eucheuma) farming is a major livelihood commodity in the country. It is a major source of livelihood in southern Philippines and serves as an alternative livelihood in the areas. The Philippines is a major supplier of eucheuma seaweeds and refined carragenan in the world market. Eucheuma is a major component of basic commodities such as cosmetics, pharmaceuticals, feed supplements and other valuable uses. This industry is a consistent dollar earner in the country being a major supplier in the world market.

In 2002, the Philippines exported about 145,582.71 metric tons of eucheuma valued at \$138 million. In 2003, the world demand for eucheuma reached 155,000 metric tons while the country's supply accounted for only 127,693.22 metric tons.

The intervention project in Dumarán

The project assisted by the CBMS-UNDP program is seaweeds (eucheuma) farming and marketing. This project will provide additional livelihood for households with low income in the coastal barangays of Sta. Teresita and Capayas. The primary beneficiaries of this project are 25 households for Capayas and 25 households for Sta. Teresita. The implementor of the project is the local government unit of Dumarán. The project primarily involves the provision of farm inputs and materials required for seaweeds production and is operated through individual farming scheme.

Objectives of the project

The general objectives of the project are:

- to expand the seaweeds industry in the municipality of Dumarán;

- to enhance farmers' capability in the efficient seaweeds farming technology; and
- to effect sustainable livelihood for seaweeds farmers.

The immediate objectives of the project are:

- to provide assistance for the expansion of seaweeds production;
- to increase the incomes of the fisherfolks/seaweeds growers; and
- to protect the coastal areas / minimize illegal fishing activities.

Project strategies

The project implementation was carried out by the Municipal Planning and Development Office (MPDO) and the office of the Municipal Agriculturist as a strategy. The MPDO undertakes the organizational strengthening, project management supervision, monitoring and marketing linkage while for the project operation, the office of the Municipal Agriculturist conducts seminars on seaweeds farming technology and other extension services on seaweeds production including harvesting and handling.

For each member of the association, individual production operation was implemented. Every member acquires planting materials such as seaweeds stocks, nylon rope and bionic straw as loan. The cropping cycle of seaweeds production will be conducted every three months. The maximum cropping cycle is four.

Prior to project implementation, a memorandum of agreement (MOA) was executed by the LGU for its beneficiaries. Embodied in the moa are, among others, a 5 percent interest on soft loans to the LGU, 2 percent interest for the association and monitoring and technical extension services provided by the LGU to the beneficiaries. Loan repayment scheme was payable on a quarterly basis with a three-month grace period. Repayment shall be payable within one year.

Coastal protection is another strategy of the project. The LGU and the beneficiaries conducted patrolling or monitoring of the coastal areas to avoid destruction of the production sites. This shall likewise ensure sustainability of the project.

Project activities

Among the major project activities are:

- MOA signing and orientation- this has been conducted by the LGU prior to project implementation. The orientation was conducted for the beneficiaries for them to understand the respective obligations and role in the project.
- Seminars and trainings – these were undertaken by the LGU through the MPDO and the office of the municipal agriculturist for the preparatory activities required by the project.
- Disbursements of funds- signatories for the release of funds are the municipal mayors, the MPDC and the municipal treasurer. This is done to ensure the efficient use of the project funds.
- Procurement and distribution of planting materials- to be undertaken by the member beneficiaries in preparation for the plantation.
- Plantation / production and care-taking- these are the major responsibilities of the beneficiaries.
- Patrolling – this is a primary responsibility of the association and the LGU.
- Monitoring- this shall be undertaken by the LGU through the MPDO to ensure organizational stability and development.
- Technical and extension services- these shall be carried out by the office of the municipal agriculturist which provided farming technology assistance.
- Harvesting and drying- these are the activities of the beneficiaries.

- Marketing and selling- these are primary responsibilities of the beneficiaries. The LGU shall assist in the promotion and establishment of linkages for easier product distribution.

Accomplishments of the project

From March to September 2006, three cropping cycles of seaweeds have been completed; however, production for the first cropping was destroyed by a typhoon. Harvests have been favorable for the months of June to July and from August to September. For every kilo of planting stocks, they have produced five kilos of seaweeds. With the use of a regular weight of 400 grams per hill, less labor have been used. There are 5 to 6 production cycles in a year and harvesting comes after 45 to 60 days after planting. Majority of the recipients have expanded their plantation from 200 kilograms of planting stocks to 400 kilograms. At present, the high price of dried seaweeds has resulted in the increase in income of the beneficiaries.

Workplan for the next three months

The implementation schedule will remain as proposed. This includes regular/continuous project monitoring, provision of technology, market linkage and organizational strengthening. We are proposing that all seaweeds associations should organize themselves into cooperatives. Repayment of the soft loan will start in October 2006 and until full payment of each loan. This program will be replicated in some potential areas of the municipality with qualified recipients.

Project financial status

Table 1 shows the breakdown of expenditures of the PEP-CBMS grant amounting to PhP200,000.00.

Impact of the project

The impact of the project can be seen in the following:

1. Poverty alleviation- marginalized fishermen are singled out as the primary stakeholder in the project and will be the main

Table 1. Expenses of the seaweed project, Municipality of Dumarán

Activities	Expenses	
1. technology training and seminar		4,000.00
2. transportation cost of materials		18,500.00
3. materials (nylon, rope, straw)		97,980.50
4. planting materials (seaweeds)	92,000.00	48,000.00
5. empty sacks (100 pcs.)		1,000.00
total	189,980.50	70,500.00
unexpended amount		10,019.50

characters of the production goal. The project is relatively small scale but was able to provide additional income for the beneficiaries.

2. Environmental impact – the project serves to protect the coastal eco-system. The seaweed farmers protect their farms to assure the quality and sustain good production.

Production

Total production for the first cropping for Sta. Teresita was recorded at 1,908.35 kilograms with the selling price at PhP25.00 per kilo, total income reached PhP47,708.75. For the second cropping, income was recorded at PhP115,535.94 while income for the third cropping was PhP126,355.04. Selling price was PhP26.00 per kilo for the second cropping and PhP28.00 for the third cropping. Total income for the three cropping seasons reached PhP289,599.73 subtracting the cost of planting materials of PhP70,000.00, the net income realized was PhP219,599.73.

For Capayas, aggregate production for the first, second and third cropping was recorded at 9,388.69, broken down into 1,671.69 kilos, 3,887.00 kilos and 3,830.00 kilos, respectively. With the selling price of PhP25.00 per kilo for the first cropping, PhP26 per kilo for the second cropping and PhP28 per kilo for the third cropping, total income realized was PhP250,094.35. Subtracting the cost of planting

materials amounting to PhP70,000.00, net income realized was PhP180,094.25.

We applied a 7 percent interest for the project which is disaggregated as follows: 5 percent for the LGU and 2 percent for the association. Each of the 50 beneficiaries for Sta. Teresita and Capayas shall pay a monthly amortization of PhP1,734.29 for the months of March, September and December, 2006. Total realizable payment from all the recipients is PhP260,144.00.



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CBMS-UNDP Development Grant Awardee

A Water System Project in Barangay Canipo in Palawan

*Sofronio Macmac**

Background

The Municipality of Magsaysay occupies the north and northeast portion of the Cuyo island in Palawan. It is 170 nautical miles from the city of Puerto Princesa, with a total land area of 4,662 hectares. It is composed of 8 mainland and 3 island barangays. In 2005, the municipality had a population of 11,069 and a total number of 2,214 households. Fishing and farming are the main sources of income in the locality.

Barangay Canipo, which is one of the largest barangays of the Municipality of Magsaysay, is the recipient of the level 1 water project. CBMS data in 2005 reflected zero accessibility of households to potable water. Shallow wells located near the coastal area are the only sources of water supply for 200 households of the community.

Low access to safe water is still a major concern in the Province of Palawan, particularly in the Municipality of Magsaysay. In the 2005 survey of the CBMS, only 3.81 percent of the households in the municipality were shown to have access to safe water and zero households specifically in Barangay Canipo. Both percentages are very far behind when compared to the national standard of 79.40

*Sanggunian Bayan Member (Municipal Councilor), Municipality of Magsaysay, Palawan

percent.

In response to this, the CBMS-UNDP Development Grant Program granted the funds for the construction of a level 1 water system in the barangay. The local government unit of Canipo will take the responsibility in the project implementation. The barangay chairman will serve as the chairman of the committee on water that will be organized before the start of the well construction. The construction area will be established in a location where the project is feasible and accessible to the majority of the households.

The project primarily aims to provide an improved water source to household beneficiaries and increase the water access of households in the barangay from zero to 100 percent. It also aims to help the labor force be more productive by giving them more time to devote to their respective sources of livelihood rather than to spend it on merely collecting water from considerable distances.

Project strategies

To implement the project, the following strategies will be adopted:

- The office of the Municipal Planning and Development Office (MPDO) and the local government unit of Barangay Canipo will be partners in implementing the project. The MPDO will assist in the technical aspect of the well construction and in the regular monitoring of the project progress while the barangay will be responsible for the day-to-day operations of the project.
- Prior to the start of construction, a committee on water will be organized in the barangay to be chaired by the barangay chairman and with the barangay council as members. The committee will be tasked to man the operation during project implementation.
- Project location identification will be agreed upon by the committee with proper consultation with the household members of the barangay. In the absence of a hydro-

geologist, a local water diviner will be hired to help point the right project location.

Project activities

- **Committee organization-** the committee on water was formally organized with the barangay chairman as chairman and the barangay council as members. Assignment of individual tasks was done right after the committee was formed. The chairman is in charge of the overall operation of the project; one team is responsible for all activities prior to the construction of the well; and another team is designated to be in charge during the construction proper.
- **Call for general assembly-** before the start of the project operation, the chairman called for a general assembly, with the presence of the Municipal Planning and Development Coordinator (MPDC), to inform the community about the funded project. Consultations and agreements were made regarding how the project will operate and where the location of the well construction will be.
- **Disbursement of funds-** the barangay chairman, barangay treasurer, municipal accountant and municipal mayor will be the signatories in the release of funds.
- **Well construction-** manpower will be sourced out from the barangay. Bayanihan system will be employed as the labor counterpart of the recipient households although they will also be paid minimally.
- **Monitoring-** it is the responsibility of the MPDC, with assistance from the committee on water, to monitor and document all the activities during the entire operation of the project.

Accomplishments of the project

So far, the status of the project is as follows:

- the construction of the well started in March and was completed in June 2006. The barangay decided to construct it in Purok 1 where majority of the households are located. The project site, however, has hard geological formation and so it took three months to reach the targeted 15 meter-ground water level. The presence of boulders led to the hiring of more workers which used up most of the project fund.
- By July 2006, the well was already functional and 103 out of 200 households are now sourcing their water supply from the newly constructed well.

Project cost

The completion of the well construction required a total amount of PhP 207,908.00, with the following breakdown of expenditures:

- Labor – PhP 146,678.00
- Materials – PhP 59,041.50
- Other expenses – PhP 2,188.50

Project impact

The presence of the newly constructed well had the following impacts on the welfare condition of the household beneficiaries:

1. Health condition- Barangay Canipo was one of the barangays in the municipality of Magsaysay identified in the CBMS survey to have a high incidence of diarrheal cases. The presence of potable water supply was thus able to prevent the prevalence of diarrhea and other water –borne diseases in the place. In effect, there were lesser instances of infant mortality.

2. Poverty alleviation- one of the major goals of the project was for the residents to be spared from the long hours of collecting water from far areas and to spend more time on more productive activities. Since the inception of the project, women have become more engaged in backyard livelihood like vegetable gardening and small-scale hog raising which all add to the family income.

Lessons learned/observations/recommendations

What have we learned from our experience with the project?

- Community involvement strengthens the sense of ownership among project beneficiaries.
- It is very important to seek the consensus of the beneficiaries with regards to project design particularly with the proposed project site, to ensure maximum impact for the beneficiaries.
- Collection of monthly water tariff should be implemented for the sustainability of the project.



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CBMS-PEF Development Grant Awardee

Machine Decortication of Formosa Pineapple Leaves Project

*Mario Espeso**

Introduction

The Labo Progressive Multi-Purpose Cooperative (LPMPC) in the municipality of Labo, Camarines Norte manifests the dynamism of an organization, one that continues to expand and grow and is attuned to the demands of times.

The entity started as an association of 15 market vendors on September 11, 1987 with Php5,000.00 as capital. The vendors are stallholders and farmers who sell their produce during market days in Labo. It was converted into a cooperative in 1990 and registered by the Cooperative Development Authority in April 1991.

Today, the cooperative has 1,773 members, majority of whom belong to the farming sector. Its paid-up capital rose to Php5,486,371.26 and has an accumulated assets of Php26,020,736.42, to date. The cooperative's operation extended to 11 other municipalities of Camarines Norte.

From the initial services of credit and savings, the cooperative diversified into different agri-business ventures such as groceries and agricultural supplies, cassava processing and marketing, corn marketing, transport services and now, integrated pineapple leaves processing and marketing.

*General Manager, Labo Progressive Multi-Purpose Cooperative

Moreover, the cooperative has extended agricultural loans to farmer members to finance their individual livestock and crop production projects. It also serves as a market of their produce.

Because of well-informed members and educated cooperative leaders as well as active linkages to different government agencies and NGOs, the cooperative continued to grow and succeed in its operation. It never experienced any single loss in its 19 years of operation and has been an instrument in the improvement of the lives of its members and the community.

What the cooperative has done and what it has achieved for the betterment of its members and the community had all paid off. In recognition of its exemplary contributions, the cooperative had received awards and recognitions, among them are four years as Most Outstanding Agriculture Community Based Cooperative (2003 – 2006)- Provincial Level; Gawad Pitak-Regional and National Finalist (2004); Gawad-Saka Regional Winner and National Finalist (2005-2006); and now 2006 National Finalist in the Most Outstanding Cooperative-LGU Partnership Award Municipal Level.

Background of the project

The abundance of Formosa Pineapple in Camarines Norte encouraged the Labo Progressive Multi-Purpose Cooperative (LPMPC) to venture into integrated pineapple leaves processing to contribute to the economic, social, cultural and political developments of the community.

At present, Camarines Norte enjoys the distinction of being the fourth largest producer of pineapple in the country and has gained prominence for its Formosa or Queen Pineapple. As of 2006, the total area planted to pineapple in Camarines Norte was 2, 400 hectares. The potential area available for pineapple plantation is way above the present area being utilized.

The LPMPC uses fresh Formosa Pineapple leaves as raw materials in the production of several products. The leaves which were

previously considered as farm wastes but are now being productively used will provide an additional income to pineapple growers.

It was the Department of Trade and Industry-Camarines Norte Provincial Office (DTI-CNPO) which introduced the machine decortication of Formosa Pineapple Leaves to the cooperative in the early part of 2005. It brought one decorticating machine from the Fiber Industry Development Authority (FIDA) and started training cooperative member pineapple growers.

The lack of enough decorticating machines did not stop the cooperative from pursuing its objectives. With the help of the local government unit of Labo, the cooperative was later introduced to the Community-Based Monitoring System (CBMS) Network which facilitated the funding of the Machine Decortication of Formosa Pineapples Leaves Project through the Peace and Equity Foundation (PEF) Development Grants Program.

Status of the project

The total project cost is PhP248,120.00 with approved amount of PhP150,000.00 given by the PEF and the cooperative equity of PhP99,320.00. The total amount was used to buy four units of decorticating machines and to provide institutional and development support.

In the first three months of implementation of the project, 60 pineapple workers and their families were trained. The workers came from six barangays in the Municipality of Labo, namely, Barangay Calabasa, Barangay Mabilo 1 and 2, Barangay Bautista, Barangay Iberica and Barangay Pangpang. The tools used in designing, targeting beneficiaries and impact monitoring of development programs were based on CBMS information. In designing the project, the proponent focused on the main objectives of providing alternative sources of income to small pineapple workers through cooperativism and of alleviating poverty and building a community spirit. The data collected from the economic profiles of the different target barangays served as instruments in knowing the conditions and needs of the

constituents. In targeting barangay beneficiaries and recipients of the programs, the proponent utilized poverty indicators such as the economic level of the barangay, access to basic services and availability of raw materials and manpower. Monitoring of development impact is conducted through the sector approach analysis and through comparison between the previous and present economic levels of the recipient. In three months, the production of pineapple fiber reached 700 kilos amounting to PhP95,878.00, based on the PhP120.00 per kilo purchase price by the LPMPC.

To date, the program has been extended to three barangays, namely, Barangay Lugui, Barangay San Antonio, and Barangay Malasugui. It was also replicated in two municipalities, namely, Basud and San Vicente. The cooperative conducted the skills training of decorticators and purchased the pineapple fibers they produced. Total production as of October 31, 2006 was 2,226.80 kilos equivalent to PhP275,220.76. Total sales to date amounted to PhP340,648.75 and an income of PhP87,449.99. Although production is still lower than the target, the program nonetheless provided additional income for the families. Aside from the sixty workers who are directly benefited by the project, another 20 to 30 pineapple plantation owners indirectly benefited from the project by serving as supplier of pineapple leaves.

Other government agencies that support the program are:

- a. Department of Labor and Employment (DOLE), which provided one unit of decorticating machine worth PhP50,000.00.
- b. Provincial Government of Camarines Norte, which provided two units of decorticating machine and training funds.
- c. Fiber Industry Development Authority, which provided two units of decorticating machine, including training assistance.
- d. Department of Trade and Industry-Cottage Industry Technology Center (DTI-CITC), which provided 12 units of Handloom Machine and one set of handmade paper making equipments and machine.

- e. Department of Trade and Industry – CNPO, which provided training assistance on machine decortication of Formosa Pineapple leaves, handloom weaving of piña cloth and handmade paper making.
- f. Local Government Unit of Labo, which provided financial assistance for the conduct of various trainings on handloom weaving and handmade paper making.
- g. Philippine Textile Research Institute (PTRI), which provided trainings on handloom weaving.
- h. Land Bank of the Philippines (LBP), which provided financial assistance for the conduct of various trainings on handloom weaving.

At present, the cooperative has nine units of decorticating machines with six units deployed in the different areas. The other three units are directly managed by the cooperative for purposes of both production and training of potential workers.

Project by-products

The cooperative also developed other by-products of the Formosa Pineapple Leaves. Through the assistance of the DTI-CNPO and LGU-Labo, it was able to solicit 12 units of handloom machine and one set of handmade paper making machine. And established a center for the processing of the by-products. The center was established beside the cooperative office.

Among the by-products are:

a) Handwoven piña cloth

The project was started last March 2006. Twelve female weavers were selected utilizing information from the CBMS. They consist mostly of the wives and children of the workers in machine decorticators. They undertook six months of training in basic to advanced skills in handloom weaving and designing of piña cloth. To date, the cooperative is now in commercial production of quality

piña cloth suitable to make barong, gown, shawls, table mats, abanico and wallet. The weavers earn as much as PhP240.00 per day.

Another 40 families in six barangays were directly benefited by this project. They consist mostly of mothers and children. They were paid PhP6.50 per gram of knotting piña fibers that are used to weave piña cloth. The children used their idle time in knotting fibers. Some 72 jail inmates of the Labo District Jail and Provincial Jail were also commissioned by the cooperative in the knotting of piña fiber. They were also paid PhP6.50 per gram of knotted fiber that they produced. Gawad Kalinga beneficiaries in the municipality of Basud and Labo also undertook training in manual handscrapping and knotting of fiber. They are now in the production of knotted fiber. The cooperative is planning to expand the production of piña cloth. This means more employment generation in the coming days. One weaver needs at least 30 suppliers of knotted fibers to sustain production of piña cloth.

Handmade paper and novelties

This project started at the same time with handloom weaving of piña cloth. The cooperative hired five out-of-school youths and trained them on how to make quality handmade paper in cartolina size or wall paper size. Raw materials used are machine decorticated fiber, processed into pulp and molded into paper of different sizes. Many students in different schools and universities made a study visit of the center to acquire knowledge in the process of making handmade paper. At present, the cooperative is producing handmade paper of various colors and design. Novelties such as paper pouch, picture frames of different sizes, tissue and bon-bon boxes, jewelry and chocolates boxes, and scrap book, among others, are also being produced. There is a local market for these products from print shops, computer shops and catering services. Nonetheless, there is a need to link our products with a bigger market.

Problems and constraints

Amid the progress experienced by the project, there are nonetheless a number of problems and constraints being faced.

Among them are:

1. Lack of commercially available extraction machines that are safe and secured to operate.
2. Peculiar properties of Formosa Pineapple fiber which only direct drying to sunlight can whiten the fiber.
3. Lack of mechanical dryer suited to dry pineapple fiber during long periods of rainy season in the locality.
4. Pineapple workers attitudes toward farming.
5. Delayed payments by buyers of piña fibers.
6. Lack of support from other local executives in other municipalities.

With regard to the handscraped piña fiber, the problems faced are:

1. Sluggish demand for piña cloth
2. Very limited market because it is a high-priced fabric
3. Production is limited because of the very tedious process of making the fiber
4. Inconsistent quality of handwoven fabrics and uneven embroidery
5. Lack of skilled embroiderers and sewers of piña cloth in the locality, including designers. Also, lack of embroiders machine.
6. Lack of handloom machine to accommodate many interested potential weavers.
7. Scarcity of source of silk yarn and supplies of knotted fiber.
8. Cutthroat competition sometimes resorted to by embroiders which adversely affects the industry.

For handmade paper, the problems are:

1. Lack of proper technology to produce quality handmade paper.
2. Lack of sustained demand for handmade paper locally.
3. Very limited market because it is a high-end product.

Prospects/developments

What are the prospects for these products?

For decorticated piña fiber:

1. The results of experiments conducted by the PTRI show that decorticated pineapple fiber is a suitable material for textile production and can be woven into popular fabrics. Pineapple fiber blended with polyester (at 20%/80% blend) passed the technical considerations from its pilot commercial final run and is now ready for commercialization.

2. RA 9242 will eventually require commercial production of tropical fabrics. This implies that production of decorticated piña fibers must be commercialized in order to sustain the requirements of the market.

3. Estimated number of government employees for the production is 1.445 Million. Fiber requirement is seven million meters equivalent to 423 meters of piña fibers at 20 percent blend of natural fibers.

4. With the present production capacity of only six kilos of decorticated fiber per machine per day, it is apparent that current requirements could not be met. There is a need, therefore, to boost commercial production of the fiber.

5. Some local and foreign companies have also shown interest in the piña fiber for handicrafts, handmade paper and walled paper which they are also applying into textile.

For handscraped piña:

1. Piña Seda, particularly dyed textile, was introduced in the market in 2000 and is becoming more attractive to buyers because of its comparable quality and less expensive price. The new blend, however, has dampened demand for pure piña cloth.

2. Other piña cloth products such as shawls, table mats, abanicos and wallets are becoming more attractive to local and foreign buyers because of their ethnic quality.



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CBMS-PEF Development Grant Awardee

Establishment of Patchouli and Ipil-ipil Plantation

*Ramil Bernardino**

Introduction

Barangay Canapawan is one of the 52 barangays in Labo, Camarines Norte. The barangay which is classified as a rural barangay is composed of 6 puroks. The major sources of livelihood are coconut and agriculture-based farming. The land area of the barangay is 2,101 hectares, of which 17 percent is plain and 83 percent is hilly and the type of soil is 100 percent clay loam. More than 70 percent of the total land area is devoted to agriculture.

The barangay is 36 kilometers away from Poblacion Labo or 90 minutes ride by jeep. Population density is 80 persons per square kilometers. Based on the results of the 2006 CBMS survey, there are 376 households with 1,939 inhabitants. Twenty-eight households were not surveyed.

The livelihood project is located in Purok 4, Barangay Canapawan, Labo, Camarines Norte, Region V-Bicol. Labo, one of the 12 towns in Camarines Norte, occupies almost one-fourth of the total land area of the province.

Profile of KMMBK

Ang Kooperatiba ng Maliliit ng Magniniyog sa Barangay Kanapawan

*Plantation Supervisor of Patchouli/Ipil-ipil Plantation

(KMMBK) was formed on May 1, 1991 through the Philippine Coconut Authority (PCA) because of the government's program on cooperative establishment in the barangays of Labo. The cooperative was registered with the Cooperative Development Authority (CDA) on September 30, 1991 with CDA Registry Number NG-888. There are 54 members, all of whom are farmers. The KMMBK, which is one of the accredited cooperatives in Labo, Camarines Norte, is one of the six cooperatives that formed the Tao-Kalikasan Foundation of the Philippines Inc. (TKFPI).

Vision of KMMBK

The vision of the cooperative is to strengthen the unity in objectives and works toward the progress of the association and assist in achieving the government's livelihood program to attain an energetic life, health and peace in the communities.

Mission of KMMBK

The cooperative's mission is to build a strong project that will aid in providing additional income for its members, pinpoint the various technologies and provide services to the communities. It is also mandated to:

- find and know all the plants that have potentials and of great value and multiply them to process and make other income-generating products from them; and
- stay faithful to the interest of the majority, be active in all the activities, clean and produce quality products.

Other projects implemented by KMMBK

From 1992 up to the present, the KMMBK has had a Reforestation Project, Rattan Production and Agro-Forestry Project with a total of 50 hectares through the aid of the Bicol Upland Reforestation Development Foundation (BURDF) and the Department of Environment and Natural Resources (DENR).

We also have a project on the extraction of Citronella Oil, production of virgin coconut oil and plantation of patchouli and ipil-ipil.

In these undertakings, the following agencies have been extending their assistance to the KMMBK

- CDA- Cooperative Development Authority
- DENR- Department of Environment and Natural Resources
- PCA- Philippine Coconut Authority
- FIDA – Fiber Industry and Development Authority
- DOST- Department of Science and Technology
- DTI – Department of Trade and Industry
- TESDA - Technical Education and Skills Development Authority
- LGU- Labo, Camarines Norte
- BURDFI -Bicol Upland Reforestation Development Foundation Inc.
- TKFPI- Tao Kalikasan Foundation of the Philippines, Inc.
- PFEC- Philippines Federation on Environmental Concerns
- CBMS-PEF - Community-Based Monitoring System / Peace and Equity Foundation

Profile of the project

Through the CBMS-Peace and Equity Foundation (PEF), the cooperative established an agriculture-type of project, the patchouli / ipil-ipil plantation. The project, which was based in Purok 4 of Barangay Canapawan, targets 43 farmers as beneficiaries. It started in March 2006 and ended in August 2006. Land area covered by the project is two hectares with 42,000 patchouli and 300 ipil-ipil seedlings planted.

Start of patchouli and ipil-ipil plantation

In 1998, there was a community discussion on the planting of citronella wherein the guest speaker was Gener Andaya of University of the Philippines, Los Baños, Laguna. The citronella is one plant wherein

oil can be extracted and thus can be a source of income of people in the barangay. The cooperative started planting through the initiative of Mr. G. Villaspin Sr., president of the KMMBK.

In 1999, the KMMBK coordinated with the CDA for the training on the livelihood potentials of citronella. The DOST loaned to LGU-Labo two extractor machines costing PhP70,000.00 each and to Barangay Canapawan one extractor costing PhP60,000.00. Production of oil started at 17 kilos and then went up to 50-70 kilos every month. The Philippine for Federation Environmental Concern (PFEC), an NGO, assisted us in marketing it to the DAILA Herbal Center in Taguig City.

In 2003, Mr. Villaspin, Sr. read in a book from DOST about oil that can be extracted from patchouli which has a higher value compared to citronella oil. There are, however, few people in the barangay who had planted patchouli whose semen extract is usually used by older people in taking a bath and in hair coloring. This is very fragrant and has a long lasting smell.

In 2003, it happened that the LGU of Labo started to implement the CBMS in 52 barangays.

Then in 2005, the CBMS Network Coordinating Team together with the Peace and Equity Foundation (PEF) had a call for proposals for livelihood project based on the results of the CBMS. To assist project proponents, the Municipal Planning and Development Office-Labo conducted a seminar in preparing project proposal formats that was provided by the CBMS Team. MMBK is one of the 18 NGOs and people's organizations that attended a briefing. KMMBK's proposal was one of those eventually approved by the CBMS-PEF Grant Program.

Highlight of project activities

KMMBK chose a 2-hectare lot that is suitable for planting patchouli. It is a slope area with a creek in the middle, which was developed to be used for watering plants using rubberized hose. Down under the

plantation, we also developed a dam that will supply water to the processing plant which is about 250 meters away. The processing plant is about 35 meters from the Maharlika Highway.

The project started on March 6, 2006 through the "Nursery Operation." After 5 days, construction of the dam started. From March to April, we bought office supplies, farm tools and other materials that will be used. Land preparation was made in the last week of March while the plantation of patchouli and ipil-ipil was done in May 2006.

In June-July 2006, watering, mulching, weeding and spraying were done while in the second week of August, we started harvesting samples of patchouli. On the third week, we were already extracting oil from patchouli. We expect that in June 2008, we will harvest ipil-ipil to be used as fuel wood for the extraction of patchouli leaves.

Intended results of the project

The oil that will be extracted from patchouli and ipil-ipil will be used for perfume and medicine. The ipil-ipil will shade the patchouli and will be used for other purposes such as charcoal, fuel and feeds for swine. The patchouli extract oil has a ready market in Metro Manila through United Laboratories, Inc.



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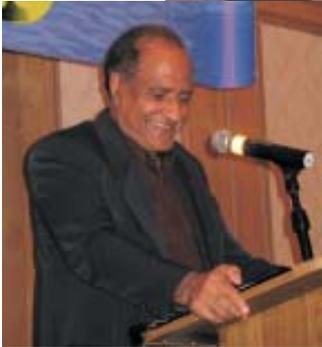
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Snapshots of the Meeting

















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