

# **Reducing Poverty and Vulnerabilities Amidst Global Shocks**



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Edited by

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## **Reducing Poverty and Vulnerabilities Amidst Global Shocks**

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# Table of Contents

PREFACE .....ix

INTRODUCTION ..... 1

## PART 1 MEETING THE 2015 CHALLENGE

Status Report on the Millennium Development Goals  
Using CBMS Data: Province of Agusan del Norte ..... 11  
*Erlpe John M. Amante*

CBMS as a Tool in Fast-Tracking the Achievement  
of the Millennium Development Goals in Agusan Del Sur ..... 23  
*Adolph Edward G. Plaza*

Status Report on the Millennium Development Goals  
Using CBMS Data: Province of Biliran ..... 37  
*Danilo L. Bonifacio*

Status Report on the Millennium Development Goals  
Using CBMS Data: Province of Camarines Norte ..... 49  
*Madonna A. Abular*

Status Report on the Millennium Development Goals  
Using CBMS Data: Province of Eastern Samar ..... 59  
*Henry M. Afable, Samson C. Nervez, Grace A. Ty,  
Christine T. Bagas and Jeffrey Bernardo A. Anasarias*

Meeting the Challenge of the Millennium Development  
Goals on Health from the Perspective of Local Governance ..... 73  
*Carmencita O. Reyes*

Status Report on the Millennium Development Goals  
Using CBMS Data: Province of Romblon ..... 83  
*Eduardo C. Firmalo*

Status Report on the Millennium Development Goals  
Using CBMS Data: Province of Sarangani ..... 99  
*Steve Chiongbian Solon and Rene Paraba*

Status Report on the Millennium Development Goals  
Using CBMS Data: Province of Siquijor ..... 109  
*Gladys F. Estrellada*

**PART 2**  
**CLIMATE CHANGE VULNERABILITY MAPPING**  
**AND HOUSEHOLD ADAPTATION STRATEGIES**

<b>Climate Change Vulnerability Mapping for Southeast Asia .....</b>	<b>123</b>
<i>Arief Anshory Yusuf and Herminia A. Francisco</i>	

<b>Institutional Dynamics of Climate Change Adaptation at the Local Level .....</b>	<b>157</b>
<i>Linda M. Peñalba and Dulce D. Elazegui</i>	

<b>The Use of CBMS in Disaster Risk Reduction and Climate Change Adaptation Planning and Management .....</b>	<b>181</b>
<i>Sol F. Matugas and Arturo Cruje</i>	

**PART 3**  
**NATIONAL POVERTY REDUCTION AGENDA**

<b>4Ps and the National Poverty Reduction Agenda .....</b>	<b>191</b>
<i>Florita R. Villar</i>	

<b>CBMS-Identified Poor and the 4Ps Beneficiaries: The Case of Northern Samar .....</b>	<b>201</b>
<i>Augusto Rodriguez</i>	

**PART 4**  
**DEVELOPING PARTNERSHIPS FOR DEVELOPMENT**

<b>Developing Partnerships Through the Diaspora for National Development .....</b>	<b>209</b>
<i>Imelda Nicolas</i>	

<b>CBMS and the Angelo King Foundation: Moving Communities Forward to Development .....</b>	<b>213</b>
<i>Archimedes King</i>	

**PART 5**  
**FINDING PATHWAYS OUT OF POVERTY THROUGH CBMS**

<b>Improving Local Governance Through CBMS .....</b>	<b>219</b>
<i>Jesse M. Robredo</i>	

<b>Albay Health Strategy: Toward a Safe and Shared Development .....</b>	<b>225</b>
<i>Jose Ma. Clemente S. Salceda</i>	

<b>Roadmap to Poverty Alleviation Using the CBMS Approach: The Experience of Batangas .....</b>	<b>229</b>
<i>Meynard Melo</i>	
<b>CBMS San Nicolas: To Serve the Least Among the San Nicoleños .....</b>	<b>237</b>
<i>Alfredo P. Valdez</i>	
<b>CBMS: The Way to Albay Kadunong Award 2009 and 2010 .....</b>	<b>241</b>
<i>Agnes Dycoco</i>	
<b>CBMS: The Foundation of Comprehensive Development Plan and Program Targeting .....</b>	<b>247</b>
<i>Lucio Gonzales</i>	
<b>The CBMS Experience of Luna, Apayao .....</b>	<b>251</b>
<i>Betty C. Verzola</i>	
<b>Uses of CBMS for Local Planning and Program Targeting in Rosario, Batangas .....</b>	<b>255</b>
<i>Josephine Altura</i>	
<b>The CBMS Experience of Carmona, Cavite .....</b>	<b>261</b>
<i>Mildred M. Purificacion</i>	
<b>LMP: Taking Up the Cudgels in Promoting the Implementation of CBMS Nationwide .....</b>	<b>265</b>
<i>Strike Revilla</i>	



# Preface

This volume is a compilation of papers and transcripts of presentations delivered during the 7th Community-Based Monitoring System (CBMS) Philippines National Conference held at the Sofitel Philippine Plaza on February 7-9, 2011. The event was organized by the PEP-CBMS Network Coordinating Team of the Angelo King Institute for Economic and Business Studies of the De La Salle University-Manila in collaboration with the Department of the Interior and Local Government (DILG), the National Anti-Poverty Commission (NAPC), and the National Economic and Development Authority (NEDA).

The three-day Conference was attended by over 700 CBMS stakeholders—the biggest attendance as yet of local chief executives, development practitioners, policymakers, academicians, and researchers from all over the Philippines.

Under the theme “Reducing Poverty and Vulnerabilities Amidst Global Shocks,” the Conference featured keynote presentations and panel discussions that revolved around the following subthemes: (i) Meeting the 2015 Challenge, (ii) Climate Change Vulnerability Mapping and Household Adaptation Strategies, (iii) National Poverty Reduction Agenda, (iv) Developing Partnerships for Development, and (v) Finding Pathways Out of Poverty Through CBMS.

Once again, the Conference showcased the rich, fruitful, and meaningful experiences of local government units all over the country—where they used CBMS for planning, program formulation, policy impact assessment, and poverty monitoring, among others. The insightful presentations of the resource persons were most often followed by spirited discussions that were stimulated further by comments and responses of the participants.

We take this opportunity to convey our sincerest thanks and appreciation to the authors for allowing us to feature their papers and transcripts of presentations in this volume, as well as to our growing list of partners who continually provide us with the inspiration to continue pursuing and advocating the CBMS cause through their first-hand accounts of how they have been able to find pathways out of poverty through CBMS.

**The PEP-CBMS Network Coordinating Team**



# Introduction

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The Philippines, like many other countries, suffered the impact of rising food and fuel prices and the global financial and economic crisis in recent years. It was not also spared from natural disasters, which were further exacerbated by climate change. These environment changes and economic shocks pose a serious threat to the country's progress toward the Millennium Development Goals (MDGs).

The papers presented during the 7<sup>th</sup> Community-Based Monitoring System (CBMS) Philippines National Conference, held in Manila on February 7-9, 2011, were gathered and put together against this backdrop. Readers will find that the papers in this volume provide a rich and local-level context to these developments through the following subthemes: (i) Meeting the 2015 Challenge, (ii) Climate Change Vulnerability Mapping and Household Adaptation Strategies, (iii) National Poverty Reduction Agenda, (iv) Developing Partnerships for Development, and (v) Finding Pathways Out of Poverty Through CBMS.

## MEETING THE 2015 CHALLENGE

The CBMS-based status reports on the MDGs in the provinces of Agusan del Norte, Agusan del Sur, Biliran, Camarines Norte, Eastern Samar, Marinduque, Romblon, Sarangani and Siquijor<sup>1</sup> provide their respective status of the MDG targets, pinpoint concrete steps that can contribute significantly to their attainment, and identify financing requirements in order to close the remaining gaps.

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<sup>1</sup> The Philippine government and the United Nations–Philippines Country Office formally launched the provincial status reports on the MDGs, together with the 2010 national progress report, during the “Stakeholders Step-Up Campaign on the MDGs” on September 8, 2010 at the Dusit Thani Hotel in Makati City. Copies of these reports are also available online through the websites of the United Nations Development Programme (UNDP), the National Economic and Development Authority (NEDA), and the Poverty and Economic Policy (PEP) Research Network.

With less than four years to go before 2015, when the eight goals should have been achieved, the reports highlighted disparities between their status and the 2015 national targets. The reports put the spotlight on areas that pose great challenge, such as eradication of extreme poverty and hunger, improvement in maternal health, and achievement of universal primary education (Table 1).

The status reports also heightened the awareness that the attainment of the MDGs ultimately depends on the provision of basic services, which are functions devolved to the local government units (LGUs). Local chief executives of these provinces have in fact identified priority policies and programs to respond to the gaps and have committed funding for some of these programs.

The preparation of provincial MDG reports was considered significant not only because this was the first time that these provinces took stock of their achievements on the MDGs but also because they formulated their reports using data that they themselves have collected through the CBMS methodology.

There is also an increasing recognition that CBMS is well positioned to track the progress toward the MDGs at the local level. For one, a number of indicators being monitored in the CBMS are included in the indicators for monitoring progress toward the MDGs (Table 2). Moreover, CBMS is intended to be done on a regular basis and can therefore be used for updating MDG indicators and for facilitating the preparation of regular MDG reports. The CBMS can also be used by the national and local governments as basis for costing and identifying appropriate interventions needed to achieve the MDGs, as well as for resource allocation. Finally, given the large spatial disparities, the CBMS can help identify where focus has to be given to achieve the targets.



**Table 1. Status of the Nine Provinces vis-à-vis  
National Targets on Selected Indicators**

Goals and Targets	National Target 2015 a/	Status of Provinces								
		Agusan del Norte (2007 CBMS Census)	Agusan del Sur (2005 CBMS Census)	Biliran (2005-2006 CBMS Census)	Camarines Norte (2006 CBMS Census)	Eastern Samar (2005-2006 CBMS Census)	Marinduque (2005 CBMS Census)	Romblon (2007 CBMS Census)	Sarangani (2007 CBMS Census)	Siquijor (2006 CBMS Census)
Goal 1: Eradicate extreme poverty and hunger										
Proportion of population living below the poverty threshold	22.7	62.0	69.4	70.4	65.9	69.5	68.3	68	69.5	58.8
Proportion of population living below the food threshold	12.15	48.7	54.6	53.4	48.6	59.4	56	55.7	55.8	43.3
Goal 2: Achieve universal primary education										
Proportion of children aged 6-12 enrolled in elementary education	100	78.2	73.2	76.6	79.5	76.6	90.1	77.1	67.8	80.0
Goal 3: Promote gender equality and empower women										
Ratio of girls to boys in primary education	1.0	0.9	0.9	1.0	0.9	0.9	0.9	0.9	1.0	0.9
Ratio of girls to boys in secondary education	1.0	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.2	1.0
Ratio of girls to boys in tertiary education	1.0	1.1	1.1	1.1	1.2	1.1	1.1	1.1	1.3	1.1
Ratio of literate females to males 15-24 years old	1.0	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
Goal 5: Improve maternal health										
Contraceptive prevalence rate	100	34	34.4	0	29.9	22.2	25.2	32.1	35.6	-b/
Goal 7: Ensure environmental sustainability										
Proportion of population with access to safe drinking water	86.5	85	65.8	93.5	66.6	78.7	85.4	76.3	70.4	95.1
Proportion of population with access to sanitary toilet facility	83.8	84.3	78.2	71.3	77.5	69.5	77.8	71.4	62.1	85.6

a/ Retrieved from the National Statistical Coordination Board (NSCB) website: [http://www.nscb.gov.ph/stats/mdg/mdg\\_watch.asp](http://www.nscb.gov.ph/stats/mdg/mdg_watch.asp)

b/ Siquijor used a different version of the CBMS Household Profile Questionnaire (HPQ) that does not have a question on contraceptive use.

**Table 2. Correspondence Between the MDG and CBMS Indicators**

MDG	CBMS
<b>Goal 1: Eradicate Extreme Poverty and Hunger</b>	Proportion of households with income below the poverty threshold
	Proportion of households with income below the food threshold
	Proportion of children 0-5 years old who are moderately and severely underweight
	Proportion of households who eat less than 3 full meals a day
	Proportion of persons who are unemployed
<b>Goal 2: Achieve Universal Primary Education</b>	Proportion of children 6-11 years old who are not in elementary school
	Proportion of children 12-15 years old who are not in secondary school
	Proportion of children 6-16 years old who are not attending school
<b>Goal 3: Promote Gender Equality and Empower Women</b>	Ratio of girls to boys in primary and secondary education
	Ratio of literate women to men
<b>Goal 4: Reduce Child Mortality</b>	Proportion of children under 5 years old who died
<b>Goal 5: Improve Maternal Health</b>	Proportion of women who died due to pregnancy-related causes
<b>Goal 6: Combat HIV/AIDS, Malaria and other Diseases</b>	Incidence of malaria
	Incidence and deaths associated with tuberculosis
<b>Goal 7. Ensure Environmental Sustainability</b>	Proportion of households without access to safe water
	Proportion of households without access to sanitary toilet facilities
	Proportion of households who are informal settlers
	Proportion of households with makeshift housing
<b>Goal 8. Develop a Global Partnership for Development</b>	Telephone lines per 100 population
	Cellular subscribers per 100 population
	Internet connections per 100 households
	Access to affordable medicines through Botika ng Barangay (village level)

## CLIMATE CHANGE VULNERABILITY MAPPING AND HOUSEHOLD ADAPTATION STRATEGIES

The achievement of the MDGs may be threatened by the impact of climate change. Because of the increasing frequency and severity of climate-related disasters, many households become increasingly vulnerable, which may lead to greater poverty. The next set of papers in this volume show the importance of climate change vulnerability maps and of formulating better adaptation strategies.

Dr. Herminia Francisco, Director of the Economy and Environment Program for Southeast Asia (EEPSEA) of the International Development Research Centre (IDRC) narrated how their study on *Climate Change Vulnerability Mapping for Southeast Asia* revealed that the Philippines is a “climate hotspot” owing to its geographical position. It is not only exposed to tropical cyclones but also to many other climate hazards particularly floods, landslides, and droughts. She expressed hope that the climate change vulnerability maps that they have generated will provide some indication on how the limited (developmental and research) resources available for adaptation work could be best directed across countries in the region and across subnational areas within a country. The identification of specific adaptation support or research for the different locales should then be carried out.

Meanwhile, the paper of Dr. Linda Peñalba and Dulce Elazegui of the University of the Philippines, Los Baños, examined the institutional dynamics of climate change adaptation at the local level. Their study showed that there is a gap between LGUs’ level of awareness and their understanding of the real context of climate preparedness. They also found that the response mechanism of LGUs is more reactive than proactive. They argued that there is a need to improve awareness on climate risks and the level of response to motivate adaptation behavior. They also stressed the need for a community-based early warning and risk monitoring systems, as well as a database management system.

Governor Sol Matugas of Surigao del Norte presented their experience in addressing some of the recommendations in the paper of Peñalba and Elazigue. CBMS, in fact, was used in identifying and prioritizing areas considered most vulnerable to disaster risks and climate change. The governor said that her administration recognizes that priority assistance should be given to municipalities that scored low in the CBMS indicator survey in order to reduce their vulnerability to disasters.

## NATIONAL POVERTY REDUCTION AGENDA

In response to the global financial crisis and to the development challenges cited earlier, the national government’s spending on social protection programs, in particular, the conditional cash transfer scheme called Pantawid Pamilyang Pilipino Program (4Ps), has increased in recent years.

Under the 4Ps, the poorest households in the municipalities are selected through the National Household Targeting System for Poverty Reduction (NHTS-PR) implemented by the Department of Social Welfare and Development (DSWD) using the proxy means test (PMT). This test determines the socioeconomic category of the families by looking at certain proxy variables such as ownership of assets, type of housing, education of the household head, livelihood of the family, and access to water and sanitation facilities.

Assistant Secretary Florita Villa of the DSWD reported that as of January 31, 2011, the program covers 79 provinces in 17 regions of the country, 74 out of 137 cities, and 936 out of 1,497 municipalities. The total beneficiaries are 1,042,823 households, of which 20.1 percent or 209,522 households are from indigenous people's groups.

Dr. Augusto Rodriguez, in his paper "CBMS-Identified Poor and the 4Ps Beneficiaries: The Case of Northern Samar," revealed that only 20 percent of the poor identified under CBMS were covered by the 4Ps. He noted that there are specific eligibility criteria under the program to be followed but then excluding 4Ps coverage of about 80 percent of the poor in the province would probably not result in achieving the target of getting the children to school.

Given the limited resources available for poverty reduction programs, it is important to ensure that these programs are well-targeted. Since it is a census of households, CBMS can be used to identify eligible beneficiaries for targeted programs. Moreover, it also collects data on all the variables used in the PMT model of the NHTS-PR. Thus, it would be more efficient to use the CBMS data that have already been collected rather than for DSWD to conduct another survey. The DSWD model for identifying the poor can then be applied to the CBMS data. This would lead to substantial savings in financial and human resources.

## DEVELOPING PARTNERSHIPS FOR DEVELOPMENT

The next set of papers illustrates how national government agencies and the private sector are planning to harness the CBMS databases of LGUs in their poverty alleviation efforts.

Secretary Imelda Nicolas of the Commission on Filipinos Overseas (CFO) shared her agency's plan to harness the CBMS as a tool for guiding "diaspora philanthropy." She said that the CFO will utilize the CBMS data and poverty maps to inform and educate donors on where best to put their donation to work.

“With CBMS, for instance, we can generate more donations specifically targeted to waterless areas, direct medical missions to areas with higher reported rates of disease, infant and maternal mortality, increase schools buildings where there are none, and scholarships to children in households that need them most.” Nicolas also noted that this will also prod many of the LGUs to institutionalize CBMS in their planning procedures. Knowing that donors look at CBMS to guide their philanthropy work, this will prompt more LGUs to invest in the system, and in the process increase the level of transparency in local governance particularly in terms of development planning.

Chairman Archimedes King of the Angelo King Foundation, Inc. (AKFI), on the other hand, said that the wide coverage of CBMS all over the archipelago bodes well for grant making or for donor organizations such as AKFI. He pointed out that these organizations always spend a significant amount of their resources in trying to establish baseline information, which is critical for their monitoring processes. With CBMS in place, these organizations can reallocate the money initially allotted for data collection activities to direct program cost. For AKFI and similar organizations, King noted that this means they will be able to help more people help themselves.

## **FINDING PATHWAYS OUT OF POVERTY THROUGH CBMS**

The collection of LGU reports in this section details the various experiences and strategies pursued by selected provinces, cities, and municipalities in addressing poverty alleviation using CBMS data. The reports also highlight the good practices of local governments in responding to the needs of their communities and could serve as valuable references for other LGUs in the country on how to tackle the various dimensions of poverty at their level.

## **CONCLUSION**

These are very challenging times, indeed, for the country’s local government units. On the one hand, they are mandated to provide a wide range of public service delivery functions yet receiving meager budgetary support, on the other hand. Moreover, they are also expected not only to pull people out of poverty but also to prevent them from sliding back in.

Notwithstanding—and perhaps because of these issues and challenges, the LGUs' commitment and support for CBMS have been steadily growing over the years. This is due not only to the growing recognition of the technical soundness of the CBMS methodology but more on its practical value not only to LGUs but to other stakeholders as well. To be able to tackle emerging development challenges—such as monitoring the adverse impacts of climate change and designing targeted social protection programs to cushion the risk of other shocks—will require a highly useful tool such as what the CBMS can offer.

*Part 1*

# **Meeting the 2015 Challenge**

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# Status Report on the Millennium Development Goals Using CBMS Data: Province of Agusan del Norte

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Erlpe John M. Amante<sup>1</sup>

Since the Philippines first resolved to adopt the Millennium Development Goals (MDGs), it has made encouraging strides, particularly towards the attainment of targets on reducing extreme poverty; child mortality; the incidence of HIV/AIDS, tuberculosis, and malaria; and on improving gender equality in education, households' dietary intake, and access to safe drinking water.

Underpinning these gains are two facts. First, the MDGs have been tightly integrated into the Medium-Term Philippine Development Plan (MTPDP) 2004-2010, thus allowing government strategies, policies, and action plans to simultaneously address national and MDG targets. Second, the government has continually closely monitored its own rate of progress in MDG indicators and used this information to fine-tune its planning and implementation, especially to ensure effective implementation at the local level.

Nevertheless, serious challenges and threats remain with regard to targets on maternal health, access to reproductive health services, nutrition, primary education, and environmental sustainability. Also, glaring disparities across regions persist as do severe funding constraints.

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<sup>1</sup> Governor, Province of Agusan del Norte

The overall probability of attaining the targets remains high, though dependent largely on the confluence of several factors, among them: scaling up of current efforts in all target areas; more efficient synchronization and allocation of available limited resources, including mobilization of additional resources; and stronger advocacy for MDG implementation and enhanced capability to actually implement the MDGs at the local level.

The MDG report of Agusan del Norte is a combination of the results drawn from the Community-Based Monitoring System (CBMS) survey conducted in 2007 as well as data from agencies and other stakeholders at various levels.

The results suggest that there are some encouraging accomplishments and some areas posing great challenge for the remaining five years. There is a clear need for political leaders and stakeholders, with the help of donors, to take urgent and concerted action to realize the basic promises of the MDGs in the lives of the people in the province, specifically the poor.

### **Good News:**

- Employment rate was high at 95.9 percent with only 4.1 percent of the labor force not employed. Employment as defined in this survey did not take into account underemployment. This could be one of the reasons why many of the municipalities with high employment rates still have high poverty incidence. Farming and agricultural labor, as well as other unskilled labor, are among the most common sources of income of low-paid laborers.
- Among children aged 0-5 years old, only 3.7 percent were underweight. This figure is way lower than the 2015 national target of 17.25 percent.
- Some 97.6 percent of the population aged 15-24 years old were literate or able to read and write simple messages in any language or dialect.
- Mortality rate for children aged 1 to less than 5 years old is only 0.4 percent while infant mortality rate registered at 3.4 percent.
- The majority (83.2%) of infants (0-1 year old) have received at least one immunization out of the usual package provided by the province, which include: BCG; DPT 1, 2, and 3; OPV 1, 2, and 3; Hepa 1, 2, and 3; and measles. The low infant mortality rate may also be attributed to the high proportion of immunized infants.

- The proportion of informal settlers and those living in makeshift housing was low at only 3.1 percent of the province's total population.
- The proportion of women who held elective seats in the province for the elective term 2007-2010 was 32.5 percent. This is a good sign that more women are elected for barangay, municipal, and provincial positions.

### **Not-So-Good News:**

- The ratio of girls to boys in primary education is 0.9. The girls' advantage over the boys slightly widened with the ratio of 1.1 in the secondary and tertiary levels. A slight difference between girls and boys, in favor of boys, is also noted in terms of literacy rate among population aged 15-24 years old at 0.9.
- Maternal health is improving in view of the fact that only 0.4 percent of women died due to pregnancy-related causes. However, previous data show erratic changes, which remain an area of concern.
- In 2007, 34.8 percent of the total households in the province had cell phones. This percentage has been expected to increase in the future primarily due to the presence of additional cellular sites covering almost all areas in the province. Such development is likely to boost the number of cellular phone subscribers.

### **Posing Great Challenge:**

- Of the total population, 62 percent is living below the poverty threshold, set at PhP13,059 per person per year for rural areas and PhP14,964 for urban areas. Moreover, the proportion of rural households living below the poverty threshold is relatively higher (58%) than the proportion of urban households (48%).
- Almost half of the population (48.7%) is living below the subsistence threshold. This comprises individuals whose income did not meet the required minimum annual food basket amounting to PhP9,208 for rural areas and PhP10,258 for urban areas. In terms of urban/rural classification, similar trend can be observed where the proportion of rural households living below the food threshold (at 45%) is relatively higher than that of urban households (at 33%).
- Achieving universal primary education has been a great challenge because almost 22 percent of children 6-12 years old were not

enrolled in elementary school. This resulted in a higher proportion (almost 43%) of children aged 13-16 who were not enrolled in high school. However, among children aged 6-16, only 15.1 percent were not attending elementary or high school. The reason for this is that some children were enrolled but not in the specified level for their age.

- The proportion of population engaged in family planning methods was only 34 percent.
- Results showed that the proportion of births attended by skilled health personnel was only 43 percent
- The proportion of couples using condoms among those practicing contraception was low at only 1.7 percent.
- In 2007, death rates associated with malaria was reported to be 1.8 per 100,000 population. Death rates associated with tuberculosis was also high at 20.6 per 100,000 population.
- Of the total population, 15 percent had no access to safe drinking water, and nearly 16 percent of the total population had no access to sanitary toilets.
- In 2007, the province was still lagging in terms of ownership of landlines/telephone lines and computers, with only 5.4 percent of households having telephone lines or landlines while only 5.1 percent of them have computers.

**Table 1. Summary of Findings of MDG Indicators, Province of Agusan Del Norte, 2007**

Millennium Development Goals	Households		Population											
	Magnitude	Percentage	Magnitude			Percentage			Magnitude			Percentage		
			Total	Male	Female	Total	Male	Female	Urban	Rural	Urban	Rural		
Goal 1. Eradicate Extreme Poverty and Hunger														
Proportion of households/population living below the poverty threshold	31,516	56.3	171,113	88,800	82,313	62.0	62.7	61.3	5,057	26,459	48.2	58.2		
Proportion of households/population living below the food threshold	23,997	42.9	134,373	69,774	64,599	48.7	49.2	48.1	3,486	20,511	33.2	45.1		
Poverty Gap Ratio		0.3									0.2	0.3		
Employment Rate			77,551	56,595	20,956	95.9	96.6	94.1	14,164	63,387	93.8	96.4		
Proportion of households/population who experienced food shortage	3,038	5.4	15,910	8,348	7,562	5.8	5.9	5.6	264	2,774	2.5	6.1		
Prevalence of underweight children under 5 years of age			1,199	579	620	3.7	3.5	4.0	190	1,009	3.4	3.8		
Goal 2. Achieve Universal Primary Education														
Proportion of children 6-12 years old enrolled in elementary education			37,797	19,390	18,406	78.2	77.2	79.2	6,493	31,304	77.4	78.3		
Proportion of children 13-16 years old enrolled in high school			15,293	7,151	8,142	57.3	52.1	62.8	3,209	12,084	64.9	55.6		
Proportion of children 6-16 years old enrolled in school			63,698	32,230	31,467	84.9	83.0	86.9	11,554	52,144	86.6	84.5		
Literacy rate of the population 15-24 years-old			53,561	28,165	25,396	97.6	97.3	97.8	10,511	43,050	97.5	97.6		
Goal 3. Promote Gender Equality And Empower Women														
Ratio of girls to boys in primary education						0.9					0.9	0.9		
Ratio of girls to boys in secondary education						1.1					1.0	1.1		

Table 1 (continued)

Millennium Development Goals	Households		Population											
	Magnitude	Percentage	Magnitude			Percentage			Magnitude		Percentage			
			Total	Male	Female	Total	Male	Female	Urban	Rural	Urban	Rural		
Ratio of girls to boys in tertiary education							1.1					1.1	1.1	
Ratio of literate females to males (15-24 years old )							0.9					0.9	0.9	
Proportion of seats held by women in municipality and province							32.5							
Goal 4. Reduce Child Mortality														
Proportion of children aged 0 to less than 5 years old who died			283	150	133		0.9	0.9		0.8	31	252	0.6	0.9
Proportion of infants who died			167	88	79		3.1	3.2		3.1	19	148	2.0	3.4
Proportion of children aged 1 to less than 5 years old who died			116	62	54		0.4	0.4		0.4	12	104	0.3	0.5
Proportion of infants given immunizations			4,235				83.2				739	3,496	81.4	83.6
Goal 5. Improve Maternal Health														
Proportion of women deaths due to pregnancy-related causes					19					0.4	2	17	0.2	0.4
Contraceptive prevalence rate			15,823				34.0				2,804	13,019	33.0	34.2
Proportion of births attended by skilled health personnel			2189				43.0				535	1654	58.9	39.6
Goal 6. Combat HIV/AIDS, Malaria and Other Diseases														
Proportion of couples using condom among those who are practicing contraception			275				1.7				60	215	2.1	1.7
Death rates associated with malaria (per 100,000 population)			5	3	2		1.8	2.1		1.5	0	5	0.0	2.2

Table 1 (continued)

Millennium Development Goals	Households		Population						Percentage		Magnitude		Percentage		Magnitude		Percentage	
	Magnitude	Percentage	Magnitude			Percentage			Total	Male	Female	Total	Male	Female	Urban	Rural	Urban	Rural
			Total	Male	Female	Total	Male	Female										
Prevalence and death rates associated with tuberculosis (per 100,000 population)			57	39	18	20.6	27.5	13.4				9			48	17.2	21.4	
<b>GOAL 7. Ensure Environmental Sustainability</b>																		
Proportion of households/population with access to safe drinking water	47,950	85.4	234,561	119,981	114,580	85.0	84.7	85.3				8,804			39,146	83.5	85.9	
Proportion of households/population with access to sanitary toilet facility	47,224	84.1	232,545	118,671	113,874	84.3	83.7	84.8				9,467			37,757	89.8	82.8	
Proportion of households/population who are informal settlers	1,692	3.1	8,418	4,382	4,036	3.1	3.1	3.0				501			1,191	4.8	2.7	
Proportion of households/population who are living in makeshift housing	2,576	4.6	12,824	6,780	6,044	4.6	4.8	4.5				502			2,074	4.8	4.6	
Proportion of households/population living in inadequate living conditions	17,368	30.9	85,990	45,021	40,969	31.2	31.8	30.5				3,093			14,275	29.3	31.2	
<b>GOAL 8. Develop A Global Partnership For Development</b>																		
Proportion of the households with landlines/telephone lines	3,008	5.4										1,090			1,918	10.3	4.2	
Proportion of the households with cellphones	19,538	34.8										5,045			14,493	47.9	31.8	
Proportion of the households with computers	2,885	5.1										973			1,912	9.2	4.2	

Source: CBMS Survey, 2007

## MEETING THE 2015 CHALLENGE

### 1. Priority Programs and Policy Responses

The goal of reducing poverty incidence poses a great challenge to the leadership of the province. It is envisioned that the following programs and projects will complement existing and recommended short-term projects in achieving the elusive goal of poverty reduction:

- Annual support of 2 million pesos for marginalized farmers
- Improvement of road networks
- Expansion and rehabilitation of irrigation systems
- Establishment of agro-industrial processing facilities

Education is a state function in the Philippines as provided for in the Constitution. Yet, despite the Department of Education's directive to local government units (LGUs) to cover all expenses attendant to it, the cost of getting an education remains a major challenge in achieving universal primary education. This concern is very true in Agusan del Norte.

Costs not directly attributed to tuition fees contribute to the gap in the cost requirements. These costs include, among other things, transportation, various contributions, "baon," school supplies, and even meals. The socioeconomic status of the family, therefore, and not just the capability of the government to cover the cost of tuition fees and textbooks, also determines whether children can actually be sent to school. In the lower socioeconomic strata, education is often placed on the lowest rung of the priority ladder.

A comprehensive capability-building program for health workers, with appropriate funds and in coordination with Department of Health (DOH), needs to be drawn up and implemented. This program should cover newborn care and protocol for all health workers and integrated management of newborn illness for nurses and midwives.

The province will develop and fund a scholarship program for a midwifery course for students in indigenous communities. The program, which is envisioned to improve maternal and child health, will stipulate mandatory service in the students' place of origin. Midwives assigned to far-flung barangays underwent a life-saving skills course at a cost of PhP20,000 per midwife. A start-up fund of PhP300,000 for this purpose was allotted.

All types of utilization of natural resources have an impact on the environment, whether favorable or adverse. These impacts can have a



lasting effect on the sustainability of the already fragile ecosystem of the province. A number of national and local laws have been enacted to insure environmental sustainability. Success in the enforcement of these measures largely relies on the political will of leaders to strictly enforce existing environmental laws.

## **2. Financing the MDGs**

To operationalize these initiatives, MDG activities have to be factored into the provincial budget. Other financial institutions as well as ODA grants may also be tapped as fund sources. The private sector can also help fund MDG programs and projects as can budget linkages among stakeholders.

## **3. Institutional Mechanism**

The challenge of making the 2015 MDG targets have a significant impact on the lives of the poor depends largely on how institutions harness human, physical, and financial resources for the attainment of those goals.

Poverty deprives humans of dignity and is a societal ill. It is a problem not only of the poor but of everyone.

The basic challenge boils down to eliminating poverty not only in economics but in all aspects of life, including emotional and spiritual.

Agusan del Norte will maintain and sustain the course with added thrust in doable areas and more strategic approaches in difficult areas. The universal coverage of PhilHealth Insurance will be expanded. Skills trainings through the Technical Education and Skills Development Authority (TESDA) will also be programmed to cover more of the workforce. Global competition will be viewed as a challenge to improve productivity and institute more effective safety nets. Peace and order issues will be given comprehensive solutions. The integrity of the environment will take primary place in the pursuit of poverty-alleviation measures.

A moral recovery program will also be revived as a component of development.

Cost effectiveness, transparency, and accountability will be the guiding principles in building much-needed physical facilities for effective governance.

Finally, the central focus in meeting the MDG challenge is never unattainable for as the Good Book says, "With God, nothing is impossible.

## RECOMMENDATIONS AND CONCLUSIONS

To address the issue of hunger, low income, and unemployment, the following measures are recommended:

- Strengthen administrative support to the local agriculture office, such as hiring additional technicians and giving them adequate travel allowance to enable them to extend assistance to farmers even in remote areas.
- Provide technical support to farmers and poor families with strong focus on productivity, profitability, and enhancement of agri-technology.
- Design a livelihood and savings-mobilization program for the very poor as well as a practical skills capability-building and entrepreneurial development program.
- Organize more groups or associations to undergo Self Employment Assistance Kaunlaran (SEA-K) trainings and avail themselves of funds for capitalization.
- Draw up and implement a comprehensive program for skills and alternative- livelihood development.

In order to sufficiently provide for the educational needs of the target beneficiaries, ample budget has to be set aside to meet the most urgent needs of students. DepEd must consider increasing the per capita cost of students by realigning the budget of some items of expenses. Travel and social functions, for instance, can be reduced in favor of books. Education, on the one hand, can have a larger share in the national budget over that of defense. It is also recommended that fees in public schools be rationalized. While it has always been a stated policy that no unauthorized fees are to be collected in public schools, in actual practice, fees are still being collected. If this is the case, then the collection of fees needs to be uniform, affordable, and rationalized.

Reduce the classroom–student ratio to 1:30 from 1:45 and the teacher–student ratio to 1:30 from its present ratio of 1:45 in order to improve the learning environment. Stricter implementation and enforcement of the state responsibility and policy of ensuring education for all will ensure greater participation. This measure can be reinforced at the local level where LGUs may adopt localized enforcement measures of incentives and penalties.

Homeschooling, on the other hand, and accreditation of indigenous learnings can help expand the reach of education. These strategies can lighten the costs of educating children.

To decrease the incidence of infant mortality and child death, legislation or ordinance has to be passed on (1) the implementation of newborn screening in all hospitals, rural health units, and birthing facilities; and (2) the adoption of baby-friendly policies in offices and establishments.

Train all rural midwives and nurses on maternal care protocol. Make available at the municipal and barangay health stations assistance and advice on natural and artificial family planning methods. Organize health teams in all barangays to respond to maternal emergencies and perform pregnancy tracking and birth planning.

The full implementation of relevant environmental laws could spell the difference between a sustained environment and a degraded environment. The cooperation of the population is an important factor in the implementation of these laws.

While protection is imperative in sustainability, a rational utilization should also be recognized as a factor of sustainability; hence, granting of production and utilization permits has to be carefully considered. This includes the use of foreshore areas where urban blight is usually observed. Similarly, urban ecological management has to observe the same framework of rational use.

Climate change has already exerted its effect in the province, especially in the farming and fishing areas. Thus, a policy regarding climate change readiness and adaptation has to be incorporated in LGU plans, programs, and projects.



# CBMS as a Tool in Fast-Tracking the Achievement of the Millennium Development Goals in Agusan Del Sur

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Adolph Edward G. Plaza<sup>1</sup>

## INTRODUCTION

The focus of this paper is to present how the community-based monitoring system (CBMS) is being utilized to fast-track the achievement of the Millennium Development Goals (MDGs), specifically Goal No. 1. Eradicate Extreme Poverty and Hunger, in Agusan del Sur.

There are two targets for this Goal: *Target 1. Halve, between 1990 and 2015, the proportion of people whose income is less than \$1 a day; and Target 2. Halve, between 1990 and 2015, the proportion of people who suffer from hunger.*

## CBMS in Agusan del Sur

The CBMS in Agusan del Sur was first implemented in 2005 with technical assistance from the CBMS Network Coordinating Team, now known with its new name as PEP-CBMS Network Office, based at the Angelo King Institute for Economic and Business Studies of De La Salle University, Manila, headed by Dr. Celia M. Reyes.

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<sup>1</sup> Governor, Province of Agusan del Sur

The provincial government officials and constituents of Agusan del Sur are very thankful for the technical assistance the team has provided, which made the success of both the first and the second rounds of CBMS implementation possible. Since then, CBMS data were used in identifying programs and project beneficiaries. Targeting, planning, decision making, and budget allocation were made easier and resources were not wasted since CBMS can identify the priority needs of the constituents both at the household and community levels. It is an effective tool for poverty reduction and for fast-tracking the achievement of the Millennium Development Goals. As evidence, poverty in Agusan del Sur has been reduced from 63.86 percent to 54.80 percent, along with the other indicators.

For those local government units (LGUs) that have not yet started the implementation of the CBMS, it is not too late to start it now. Ahead of us are the challenges of development that are laid down in plans, strategies, and policies that we hope could give the best solutions leading to a better future for our constituents. And in all of this, CBMS is providing the best answer.

## **Brief Profile of the Province**

Agusan del Sur is located in Northeastern Mindanao. It is a landlocked province with an elongated basin formation, and with mountainous ranges in the eastern and western sides. It has a total land area of 8,965.50 square kilometers of which 76 percent is classified as forestland, and 24 percent is alienable and disposable (A & D) land, and is considered the fourth largest province in the country. It comprises 47.60 percent of the total land area of CARAGA Region. The province is situated below the typhoon belt. It falls under Type II climate with no pronounced dry season and with maximum rain period, or locally known as “wet and very wet” season.

The province has a total population of 609,447 based on the 2007 census, and is considered the highest among the provinces in CARAGA. It has a growth rate of 1.19 percent and a population density of 68 persons per square kilometer. Urban population comprises 27 percent of the total, while rural population comprises 73 percent. The Indigenous People comprise 38.69 percent of the total, based on 2009 CBMS data.

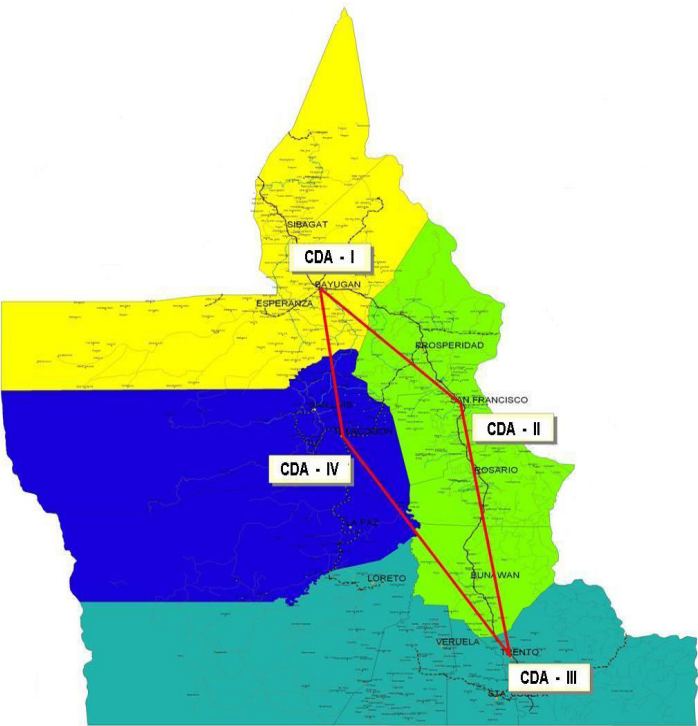
It is a first class province with an income of PhP988.6 million, in which internal revenue allotment (IRA) was PhP878.7 million as of December 2009. It is still very much dependent on IRA, having a high percentage dependency rate of 88.88 percent.

Agriculture and forestry are the major sources of income considering that the agricultural land comprises 46 percent of the province’s total land

area. The agricultural land with 0-18 percent slope is suitable for inland fish, crops, and livestock. Of the land area, 21 percent has a slope of 19 percent–30 percent and is suitable for agroforestry.

Rice and corn are the major crops. As of 2009, the area planted with rice was 116,986 hectares (effective area) with a total production of 429,757 metric tons. Likewise, the area planted with corn is 22,802 hectares with a total production of 79,310 metric tons. Other, common crops grown are coconut, oil palm, banana, root crops and fruits such as durian. The major forest products are falcata, gmelina, rattan, and agsam. The province is also rich in mineral resources such as gold, silver, and copper.

**Figure 1. Agusan del Sur Growth Diamond**



For a more focused economic development, the provincial government identified the growth centers of the province. Growth centers are municipalities that when connected, will form a diamond (see Figure 1) called “Growth Diamond.” Recently, these growth centers were dubbed as the Convergence Development Areas (CDAs) where each CDA is composed of municipalities with their own functional roles.

The four growth centers are Bayugan, San Francisco, Trento, and Talacogon. There are processing centers/plants in the province such as 1 corn processing plant, 2 palm oil mills, 1 banana chip processor, 1 corn coffee processing, 1 kaong processing center, 9 wood processing plants, 1 rattan semi-processing center, 1 large-scale gold processing plant owned by PHILSAGA Mining Corporation, and several small-scale mining processing centers.

The province has an unemployment rate of 10.15 percent based on the 2005 CBMS data but has decreased to 2.68 percent as of the 2009 CBMS survey. The decrease was due to an increase in economic activity, like the booming mining industry sometime in 2005 up to the present, and in agriculture and forestry. However, jobs availability is seasonal in nature, thus underemployment is high.

The province also has financing institutions such as 2 government banks, 2 commercial banks, and 33 rural banks. Rural banks serve as the lending institutions especially for the poor farmers.

Social infrastructure support in the province includes 5 public hospitals, 2 private hospitals, 14 rural health units, 132 barangay health stations, 203 day care centers, and 3,092 classrooms in elementary and 1,736 in secondary schools.

The Human Development Index (HDI) of the province has also improved. The HDI in 2003 was only 0.494, which placed the province at rank 69 among the provinces in the country. In 2006, HDI increased to 0.556 thus placing the province at rank 57.

Infrastructure, utilities, and facilities available in the province include 188 units of bridges constructed in different barangays and municipalities. The total road length is 3,361 kilometers of which 638.320 kilometers are provincial roads. There are 18,892 hectares of irrigated land out of 94,923 hectares of potential irrigable area. The National Transmission Corporation (TransCo) provides electricity for the province, while the Agusan del Sur Electric Cooperative (ASELCO) is in charge of the power distribution throughout the province.

On local governance, as of December 2009, the province has a total workforce of 1,937 in which 15 are elected officials, 35 are co-terminus, 1 temporary, 799 permanent employees, 450 are casuals, and 737 are job orders.

The Provincial Government of Agusan del Sur (PGAS) has eight development agenda such as peace and order; economic development; health and nutrition; education and sports development; social, cultural, and tourism development; moral and spiritual renewal; ecological and environmental protection; and information and communication



technology (ICT). Based on these, the PGAS has formulated its strategic themes that include: economic growth, environmental protection, quality social services, local revenue generation, transforming bureaucracy, proactive legislation, tourism development, and public safety and security. All the programs and projects are anchored on these themes, including the targets of both the departments and the individual employees. These are the basis in measuring PGAS performance using the Balance Score Card.

# **CBMS AS AN EFFECTIVE TOOL IN FAST-TRACKING THE ACHIEVEMENT OF THE MILLENNIUM DEVELOPMENT GOALS**

## **Goal 1. Eradicate Extreme Poverty and Hunger**

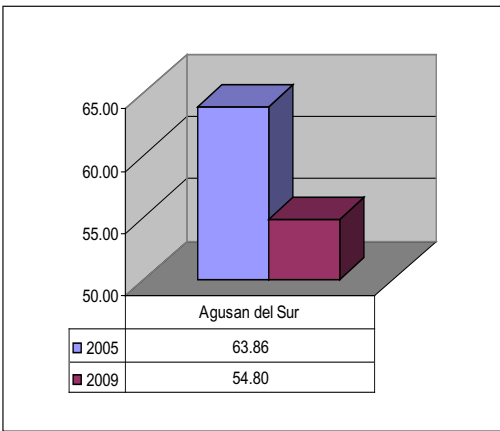
**Target 1.** Halve, between 1990 and 2015, the proportion of people whose income is less than \$1 a day.

**Table 1. Goal 1, Target 1 Indicators vis-a-vis National Targets, 2005 & 2009**

Indicators	CBMS 2005	CBMS 2009	National Target
Proportion of households with income below poverty threshold	63.86%	54.80%	22.70%
Employment rate	87.10%	97.32%	increasing

Source: CBMS Surveys, 2005 and 2009

**Figure 2. Households with Income Below the Poverty Threshold, 2005 & 2009**



Source: CBMS Surveys, 2005 and 2009

**Table 2. Magnitude and Proportion of Households with Income Below the Poverty Threshold, 2005 & 2009**

Municipality	Total No. of HHs		Proportion of HHs with Income Below the Poverty Threshold			
	2005	2009	No. of HHs 2005	Proportion 2005	No. of HHs 2009	Proportion 2009
Agusan del Sur	109,123	124,990	69,681	63.86	66,343	54.80
Bayugan	18,348	19,364	10,941	59.60	9,684	49.20
Bunawan	5,533	7,993	3,283	59.30	1,504	18.80
Esperanza	8,568	9,758	6,017	70.30	5,968	61.20
La Paz	4,128	4,323	3,107	75.30	2,796	64.70
Loreto	5,836	6,895	4,657	79.80	4,900	71.10
Prosperidad	14,102	15,960	8,546	60.60	8,300	52.00
Rosario	5,878	7,440	4,001	68.07	3,805	51.10
San Francisco	11,376	12,685	4,984	43.81	5,369	41.90
San Luis	5,202	6,130	4,231	81.33	4,253	69.40
Santa Josefa	4,178	4,932	2,909	69.63	2,641	53.50
Sibagat	5,540	5,800	4,082	73.68	3,296	56.80
Talacogon	5,690	6,757	3,765	66.17	3,600	53.30
Trento	8,289	10,043	4,879	58.86	5,184	51.20
Veruela	6,455	6,910	4,272	66.18	5,043	73.00

Source: CBMS Surveys, 2005 and 2009

Based on CBMS data, poverty incidence in Agusan del Sur among households was 63.86 percent in 2005, and decreased to 54.80 percent in 2009, which is almost half that of the national target. Among the 14 municipalities in 2005, San Luis was the poorest with a poverty incidence of 81.33 percent, followed by Loreto with 79.80 percent, and La Paz with 75.30 percent. However, the 2009 CBMS results revealed that Veruela ranked first in terms of poverty incidence with 73 percent, followed by Loreto with 71.10 percent, and San Luis with 69.40 percent. These municipalities are located along the Agusan River and some of the barangays are hard to reach due to poor road condition. Although these municipalities are recipients of the Pantawid Pamilyang Pilipino Program (4Ps) of the Department of Social Welfare and Development (DSWD), the CBMS data was not used as basis for identifying the beneficiaries. Instead, the DSWD conducted a separate survey using its tool—the National Household Targeting System for Poverty Reduction (NHTS-PR) with enumerators coming from other places, not from Agusan del Sur, except for Bunawan. The 4Ps has helped in poverty reduction in the areas and increased the number of school enrollment.

On the other hand, the municipalities located along the national highway like Sibagat, Bayugan, Prosperidad, San Francisco, Rosario, Bunawan, and Trento have lesser number of poor households compared to the municipalities located along the river.

Employment rate in 2005 was 87.10 percent and increased to 97.32 percent in 2009. Correspondingly, unemployment rate in 2005 was 12.90 percent and was reduced to 2.68 percent in 2009. This was the time when economic activities, especially the mining industries, boomed. In addition, the agriculture and the forestry sectors were also showing good harvests due to favorable weather condition. However, underemployment remained high due to the seasonal nature of jobs available and also because agriculture and forestry are the main sources of income of the people.

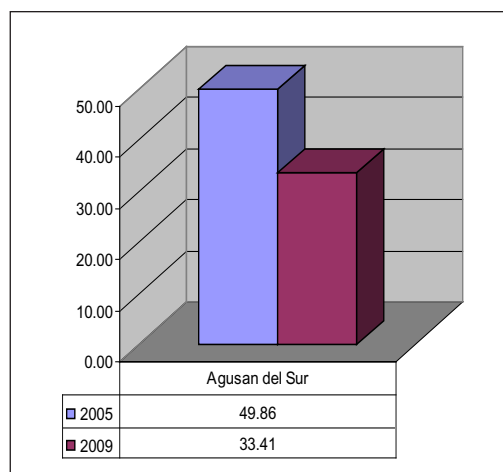
**Target 2. Halve, Between 1990 and 2015, the Proportion of People who Suffer from Hunger.**

**Table 3. Goal 1, Target 2 Indicators vis-a-vis National Targets, 2005 & 2009**

Indicators	CBMS 2005	CBMS 2009	National Target
Proportion of households living below food threshold	49.96%	33.41%	16.6%
Proportion of households who experienced food shortage	13.03%	18.44%	NA
Prevalence of malnourished children 0–6 years old	4.83%	5.65%	24.60%

Source: CBMS Surveys, 2005 and 2009

**Figure 3. Households with Income Below the Food Threshold, 2005 & 2009**



Source: CBMS Surveys, 2005 and 2009

**Table 4. Magnitude and Proportion of Households with Income Below the Food Threshold, 2005 & 2009**

Municipality	Total No. of HHs		Proportion of HHs with Income Below the Food Threshold			
	2005	2009	No. of HHs 2005	Proportion 2005	No. of HHs 2009	Proportion 2009
Agusan del Sur	109,123	124,990	54,407	49.86	39,540	33.41
Bayugan	18,348	19,364	8,188	44.60	5,821	30.06
Bunawan	5,533	7,993	2,524	45.60	254	3.18
Esperanza	8,568	9,758	4,622	53.94	3,508	35.95
La Paz	4,128	4,323	2,626	63.60	1,676	38.77
Loreto	5,836	6,895	4,128	70.70	3,487	50.57
Prosperidad	14,102	15,960	6,417	45.50	5,077	31.81
Rosario	5,878	7,440	3,238	55.09	2,272	30.54
San Francisco	11,376	12,685	3,303	29.03	1,635	12.89
San Luis	5,202	6,130	3,781	72.68	3,090	50.41
Santa Josefa	4,178	4,932	2,394	57.30	1,634	33.13
Sibagat	5,540	5,800	3,397	61.32	1,657	28.57
Talacogon	5,690	6,757	2,992	52.58	2,174	32.14
Trento	8,289	10,043	3,566	43.02	3,380	33.66
Veruela	6,455	6,910	3,225	49.96	3,877	56.11

Source: CBMS Surveys, 2005 and 2009

The proportion of households living below food threshold in 2005 was 49.86 percent but decreased to 33.41 percent in 2009, while the proportion of households that experienced food shortage was 13.03 percent in 2005 but increased to 18.44 percent in 2009. This is so because in Agusan del Sur, people did not consider banana and root crops as staple food. Only rice and corn were considered as staple food, otherwise, food shortage would have been very much lower. Veruela showed a high percentage of households with income below food threshold at 56.11 percent in 2009 compared to 49.96 percent in 2005. This is the only municipality that showed a deterioration compared to the rest of the municipalities since it has lesser rice and corn areas. The majority of its crops are banana and root crops, which people do not consider as staple food.

There was a very slight increase in malnutrition from 4.83 percent in 2005 to 5.65 percent in 2009 (equivalent to 0.82%). This was attributed to an increase in the population of children 0–6 years old from 4,246 in 2005 to 5,936 in 2009 or an increase of 1,690 children. The increase in

the number of children is equivalent to 39.80 percent, which affected the targets in the delivery of nutrition services. The target did not match the corresponding number of increase of the children.

## CURRENT POLICIES AND PROGRAMS

The province has implemented various programs and projects to uplift the living condition of the poorest households. These include giving basic social services to households with monthly income of PhP3,500 and below; providing livelihood under the Diversified Farming System (DFS), a locally funded program, to households with monthly income of PhP3,501–PhP6,500 based on the CBMS survey. Its implementation started in 2009 with a fund allocation of PhP13 million; and in 2010, PhP14.5 million was allocated for its continuing implementation. DFS targets to assist 26,653 households until 2015 at an estimated cost of PhP1.27 billion (at PhP47,649.40/beneficiary). Of the total 26,653 household beneficiaries, only 248 beneficiaries have been granted assistance. For those who have not availed, they will be considered for the next batch in the succeeding years. Other banner programs include the following:

1. **Integrated Sustainable Development of Aquaculture (ISDA)** — This program started in 2005 and involved the distribution of fingerlings to different inland fish growers, especially the poor, to augment their income. From 2005 to 2010, it had a total fund allocation of PhP1.5 million.
2. **Boosted Utilization of Grains in Agusan del Sur (BUGAS)** — This involves the provision of pre- and post-harvest facilities to farmers. Equipments include Pump Irrigation System Open Source (PISOS), Multi-Purpose Drying Pavement (MPDP), Mechanical Flatbed Dryers (MFD), and other support facilities. Since the start of its implementation in 2005, its budget has reached PhP20.36 million as of 2010. This has boosted the production of rice and corn in the province.
3. **Livelihood Employment Assistance Program/Financial Access for Micro Enterprise (LEAP/FAME)** — This program provides financial assistance to the poor who engage in micro enterprises. In 2010, it has a budget of PhP1 million.
4. **Agusan del Sur Goat Program (AGP)** — This program involves the distribution of a packet of goat (one packet is equivalent to one male and 10 female goats) to qualified beneficiaries. Payment scheme is pay in kind, which means that the siblings will be used

to repay and to be redistributed to the next batch of recipients. This started in 2006 with fund allocation of Php5 million. As of 2010, the total budget has reached Php3.2 million.

5. **Baka Alang sa Kalamboan sa Agusan del Sur (BAKAS)** — Although the target beneficiaries for this project are not the poorest of the poor, this can help employ the poor through caretaking of the cattle and maintenance of the pasture areas. Qualified beneficiaries are owners of 10 hectares of land as grazing areas. Total budget as of 2010 is Php2.5 million.
6. **Establishment of Post-Harvest Processing and Trading Center for Corn in Pagkain ng Bayan** — This activity is in partnership with the Department of Agriculture (DA) and the National Agribusiness Corporation (NABCOR). This facility can process corn harvested from 1,000 hectares per cropping. This will help solve the problem on low buying price of corn by private traders, and encourage farmers to produce more, thereby increasing their income, and uplifting their living condition.

There are other locally funded projects implemented in the province to reduce poverty where beneficiary identification is based on CBMS. In sum, a total of Php150.45 million funds have been allocated since 2005–2010 for the implementation of various programs, projects, and support services under the economic sector (including those programs listed above). Among them are the following: Support to Demo Farms, Vegetable Production, Coffee Production, Rubber Production, Banana Production, Support to Off-Farm Livelihood/Support Activities, and many others.

Due to the province-wide implementation of CBMS, Agusan del Sur has been a recipient of both nationally and foreign-funded programs and projects. The Support to Emergency for Livelihood Assistance Program (SELAP) undertaken by the DA is a poverty reduction program with a total cost of Php13 million—where Php9 million is allotted for livelihood projects and Php4 million for infrastructure projects. The DA also supported locally initiated projects, such as the BUGAS. The type of assistance includes seed and fertilizer inputs, which boosted the surplus production of clean rice at 87,809 metric tons in 2008, and 105,640 metric tons in 2009.

As one of the poorest provinces and also identified by the military as a conflict area, the province is also a recipient of Kalayaan Barangay Program (KBP). As of 2009, a total of Php103.50 million was allocated and implemented by the Engineering Brigade of the Philippine Army.

Projects include construction of roads and bridges, school buildings, health centers, water supply, and electrification. Another project for the conflict areas is the Kapit-Bisig Laban sa Kahirapan-Growth Equity for Mindanao (KALAHI-GEM) with funding support of Php23.74 million for the implementation of various infrastructure projects.

Several foreign-funded projects continued to pour into the province. The reason behind is that Agusan del Sur is always ready to put up counterpart funds whenever required by the foreign funding agencies. These projects include the following:

1. **Philippines Australia Community Assistance Program (PACAP)** — This program is funded by the Australian Agency for International Development (AusAID) with a budget of Php78 million for the period 2005–2010. It is a poverty alleviation project with livelihood and small infrastructure components and implemented through partner nongovernment organizations (NGOs) in Focus Community Assistance Program (FOCAS) areas.
2. **Mindanao Settlement for Sustainable Agricultural Development (MINSSAD)** — This program was undertaken by the Department of Agrarian Reform (DAR), in partnership with the provincial government. Included in this program are the construction of farm-to-market roads, bridges, water supply systems, school buildings, and livelihood projects. For 2007–2009, a total of Php760.13 million was allotted to the province.
3. **Northern Mindanao Community Initiatives and Resource Management Project (NMCIREMP)** — This is another poverty-alleviation project with infrastructure component. It is funded by a loan from the International Fund for Agricultural Development (IFAD). The goal of NMCIREMP is the reduction of vulnerability and enhancement of food security of agrarian reform beneficiaries, upland farmers, fisherfolk, and indigenous people. Total fund for this program for 2007–2009 was Php84.39 million. DAR is the lead agency in partnership with the provincial government.
4. **Mindanao Rural Development Program (MRDP)** — This is funded by the World Bank with LGU counterparts for the development of Mindanao Region in which Agusan del Sur is one of the recipients. Adaptable Program Loan 1 (APL 1) projects were implemented in 2000–2006, and APL 2 projects were implemented in 2007 until 2012. Projects include construction of roads and bridges, pre- and post-harvest facilities, and livelihood projects. Total budget allocated was Php83.49 million for 2007–2012.

5. **ACT for Peace Program** — Just like the KALAHI projects, this program was implemented in identified conflict areas. It is funded by the United Nations and projects include peace-building activities, pre- and post-harvest facilities, and provision of livelihood. Total budget for 2007-2009 was PhP6.05 million.
6. **Provincial Road Maintenance Facility (PRMF)** — The PRMF is another program funded by the AusAID. Projects include the improvement or rehabilitation of provincial roads and strengthening of local governance through capacity development.
7. **United Nations Children's Fund-Country Program for Children VI (UNICEF-CPC VI)** — This program includes health and nutrition, education, early childhood care and development, children in need of special protection, communication, and social policy with an estimated budget of PhP20 million from donor countries. Supplies, materials, and equipment were also given to the provincial government, in addition to the cash assistance.

## OTHER PROJECTS IMPLEMENTED TO FAST-TRACK THE ACHIEVEMENT OF THE MDGs

In addition to the programs and projects implemented to meet the demands of **MDG Goal No. 1**, Agusan del Sur has implemented other projects geared toward the achievement of the other MDGs. These are the following:

1. **Provincial Scholarship Program** — The province has granted scholarships to poor and deserving college students. Scholarships include tuition, board and lodging, book allowance, and other fees. There are already 125 scholars who have graduated: 4 are graduates of doctor of medicine in which 2 have passed the licensure examinations, while the other 2 graduates are still completing the requirements; 4 graduated with doctoral degrees; 6 with masteral degrees; 7 are nursing graduates; and the rest are graduates of 4-year degree courses.
2. **Project Pagtuon: Pagtuon Alang sa Masanag nga Kaugmaon** — This project includes distribution of books, establishment of reading centers, and municipal and barangay libraries. The donor is Ms. Nancy Harrington of the Books to the Barrios Foundation based in the United States, in partnership with the Department of Education and the provincial government.



3. **Tubig Imnonon Natong Agusanon (TINA)** — This project is intended for waterless barangays with no potable water source. This project provides a water dispenser made of concrete, containing biosand filters that will purify contaminated water poured into it. After the filtration process, the water is already safe and ready to drink. The province, in partnership with an NGO, has already distributed 391 units to six municipalities.
4. **CBMS ID System** — Based on the CBMS 2009 Survey, the provincial government through the Information Technology Unit (ITU) has prepared and distributed identification cards (IDs) to members of households who are 18 years old and above. This project was conceived due to the observation that the majority of residents aged 18 and above do not have ID cards, which are very important in both government and nongovernment transactions. The total budget for this project is PhP1.43 million.
5. **Establishment of Botika ng Barangay** — This project aims to provide access to cheaper medicines, and to lessen the incidence of morbidity. This is funded by the provincial government in partnership with the community. There are 97 existing *Botika ng Barangay* within the province.
6. **Environmental Protection Program** — Several programs and projects have been implemented for the protection and conservation of the environment. This include the formulation of Environmental Code and its Implementing Rules and Regulations and duly approved by the Sangguniang Panlalawigan, the formulation of the Municipal Ecological Solid Waste Management Plan, Sagip Upland Project, Support to Reforestation Project, Co-Management Program, and many other environment-related programs and projects. From 2005 to 2010, a total of PhP21.95 million fund was allocated.
7. **PhilHealth Sponsored Program** — A total of 35,000 indigent households were enrolled in the PhilHealth program with a provincial counterpart of PhP8.4 million in 2009. In 2010, the health insurance coverage increased to 58,300 beneficiaries with the same amount of provincial counterpart. For 2011 enrollees, the same number of enrollees in 2010 (58,300) are enrolled with the same budget of PhP8.4 million. The CBMS data has been used in identifying the indigent households.

CBMS has been a useful tool in planning, programming, decision making, and in identifying the beneficiaries down to the household level

in Agusan del Sur. However, the DSWD did not use the CBMS in identifying the beneficiaries in the implementation of the 4Ps and the Philhealth Program sponsored by the Department of Health (DOH). Instead, it used the proxy means test (PMT) and the NHTS-PR. The DOH also used the NHTS-PR in identifying the PhilHealth enrollees, for its program launched in October 2, 2010. Based on observations, there are 4Ps recipients and DOH-PhilHealth sponsored enrollees who are not really poor.

## RECOMMENDATION

The national government and other development stakeholders should use the CBMS data in planning, programming, decision making, identifying the beneficiaries, and in other endeavors related to poverty reduction. In Agusan del Sur, CBMS data have gone through a series of validation at the barangay level prior to its approval and adoption through a resolution. The same process was conducted at the municipal and provincial levels. There is always a validation process prior to approval and adoption. This process ensures the accuracy and reliability of CBMS data especially when these are used for identifying poverty reduction program beneficiaries.

# Status Report on the Millennium Development Goals Using CBMS Data: Province of Biliran

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Danilo L. Bonifacio<sup>1</sup>

Biliran is an island province located between the islands of Leyte and Samar in Eastern Visayas. From being a subprovince of Leyte, it became a regular province on May 11, 1992, after a plebiscite was conducted in accordance with the provisions of Republic Act (R.A.) 7160, also known as the 1992 Local Government Code of the Philippines. The province is composed of eight municipalities and 132 barangays and has a total land area of 555.42 square kilometers (sq km). It is classified as a fourth-class province and is one of the poorest provinces in the country. Its lack of financial, material, and manpower resources might hinder its ability and capacity to meet the Millennium Development Goals (MDGs).

Despite the constraints, Biliran vigorously pursued the programs and projects that would lead to the attainment of the targets set in the Millennium Declaration. Through this report, we can determine the extent to which the MDGs have achieved using data from the local government unit's Community-Based Monitoring System (CBMS) survey in 2005-2006 and, where possible, compare these levels with the national and/or regional levels and targets. This report does not attempt to measure the rate of progress the LGU has made in recent years considering that only a single round of CBMS survey was conducted in the seven municipalities in

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<sup>1</sup> Provincial Planning and Development Coordinator (PPDC), Biliran

2006 following the successful implementation of the same survey in the municipality of Cabucgayan in 2005 as a pilot LGU.

At the time the survey was conducted (mainly in 2006), the total population was 144,238, of which the males constituted 50.9 percent (73,397) and the females accounted for 49.1 percent (70,841). As there were 30,763 households, the average household size was computed to be 5 (4.7) persons. The poverty threshold of Biliran was placed at Php12,966 (Php12,100 for Cabucgayan) for the urban areas and Php12,137 (Php10,700 for Cabucgayan) for the rural areas. The food threshold was set at Php8,948 (Php8,350 for Cabucgayan) and Php8,786 (Php7,746 for Cabucgayan) for the urban and rural areas, respectively.

The following presents a summary of the MDG report of the province of Biliran using the results of the CBMS survey in 2006.

### **Good News:**

- The provincial average ratio of girls to boys in primary education was 1.0, which is already the ideal ratio. This means that there are as many girls as there are boys attending elementary school. This situation is almost the same both in the urban and rural areas.
- In secondary education, the ratio of girls to boys was 1.1, indicating that girls are performing well than boys. In rural areas, the ratio was 1.0 and in the urban areas, 1.1. In tertiary education, on the other hand, the same ratio of 1.1 was estimated. Unlike in secondary education, boys outnumber girls in urban areas.
- The proportion of households with access to safe drinking water was quite high at 93.6 percent, covering a total of 28,783 households. Urban areas had higher access at 98.7 percent than rural areas with only 92.0 percent.
- The proportion of households living as informal settlers was 2.5 percent, which is equivalent to 768 households. In terms of population, the proportion was 2.6 percent, or 3,726 persons.
- There were 1,203 households living in makeshift housing, representing 3.9 percent of the total number of households. The proportion of the population living in makeshift housing, on the other hand, was 3.8 percent, representing 5,490 people.
- Mortality rate among children aged 0 to less than 5 is 6 per 1,000 live births. The under-five mortality rate registered at 27.1, which was 15.9 points lower than the regional average (43.0) and was better than the national average of 32.0. According to the National

Statistical Coordination Board (NSCB), the under-five mortality rate of Eastern Visayas (43.0) was the second-highest in the country, next to Region IV-B (MIMAROPA) and the Autonomous Region of Muslim Mindanao (ARMM), both of which have 45.0 (RSET Report 2009).

- Literacy rate among the population aged 15-24 was 97.1 percent. Also, there were more literate males (13,120) than females (11,285).
- There were no reported cases of HIV/AIDS in Biliran as per report of the Provincial Health Office (PHO).

### **Not-So-Good News:**

- The survey showed that there were more literate males than females in the 15-24 age bracket and the ratio of girls-to-boys was 0.9. This observation applies both to rural and urban areas.
- Some 451 out of the 1,159 local elective posts, or 39 percent of the total elective seats, were occupied by women. The positions considered included that of the Sangguniang Kabataan president.
- Six pregnancy-related deaths were recorded in the province; one case took place in an urban area while five deaths occurred in rural areas. The maternal mortality ratio per 100,000 live births was 205.4 while the proportion of pregnancy-related deaths was 0.2.
- In terms of the prevalence and number of deaths associated with tuberculosis, there were 27 reported deaths consisting of 16 males (59.3%) and 11 females (40.7%). Ten incidents occurred in urban areas while 17 cases happened in rural areas. The proportion of deaths associated with tuberculosis was 18.7 per 100,000 population.
- The proportion of households with access to sanitary toilet facilities was 71.5 percent, representing 21,978 households. The proportion of the population with access to sanitation facilities, however, was 71.3 percent, which is equivalent to 102,929 persons. The rural population had lower access to sanitation facilities at 68.2 percent than urban population, with 81.8 percent.
- The magnitude of employed population was estimated to be 39,730. There were more employed males (28,877 or 82.4%) than females (10,853 or 62.4%). The employment rate, meanwhile, was 75.8 percent.

## Posing a Great Challenge:

- In 2006, 19,941 households (or 65.0% of the total number of households) were living below the poverty line. The proportion of the population living below the poverty line was 70.4 percent, which is equivalent to 101,667 Biliranons.
- Of the households, 16,217 were living below the food threshold. This is equivalent to 52.9 percent of the total number of households. The magnitude of the population living below the food threshold was 84,848 or 53.4 percent of the total population.
- There were a total of 14,897 children aged 13-16 in the province, composed of 7,846 males (52.7%) and 7,051 females (47.3%). The magnitude of the population aged 13-16 who are enrolled in high school was 8,388, representing 56.3 percent. The proportion of children aged 6-16 who were enrolled in school is 82.6 percent. This means that of the 42,946 children belonging to this age bracket, only 35,456 children were in school. This finding also implies that most of the children who were not in school belong to the 13-16 age group. The foregoing data underscore the fact that although elementary and secondary education in public schools are free, many other factors were preventing children from continuing their studies, foremost of which is poverty.
- During the survey period, Biliran registered 93 deaths among children aged 0 to less than 5 years old. Of this number, 54 were males (58.1%) and 39 (41.9%) were females. There were 16,761 children belong to this age bracket. This segment of the population was concentrated in rural areas (78.2%).
- There were 40 infants who died in 2006, 25 of which were males (62.5%) while 15 were females (37.5%). The number of infants then was 2,915, in which 1,500 (51.5%) were males and 1,415 were females (48.5%). Infant mortality rate was 13.5 per 1,000 live births. The majority of the children (77.8%) was in the rural areas.
- The survey further revealed that 3,706 households experienced food shortage; this represents 12.1 percent of the total number of households. The magnitude of the population was 19,250, and there were more males (9,955) than females (9,295) who experienced food shortage.
- Also, 10,804 households (35.1%) were living in inadequate housing conditions.

Table 1. Summary of Findings of MDG Indicators, Province of Biliran, 2005-2006

Millennium Development Goals	Households		Population										
	Magnitude	Proportion	Magnitude			Proportion			Magnitude			Proportion	
			Total	Male	Female	Total	Male	Female	Urban	Rural	Urban	Rural	
GOAL 1. Eradicate Extreme Poverty and Hunger													
Proportion of households/population living below the poverty threshold	19,941	65.0	101,667	52,480	49,187	70.4	71.5	69.4	3,876	16,065	52.2	69.1	
Proportion of households/population living below the food threshold	16,217	52.9	57,561	29,701	27,860	53.4	54.4	52.5	2,915	13,261	39.3	57.1	
Poverty Gap Ratio		0.4									0.3	0.4	
Employment Rate			39,730	28,877	10,853	75.8	82.4	62.4	9,774	29,956	74.9	76.0	
Proportion of households/population that experienced food shortage	3,706	12.1	19,250	9,955	9,295	13.3	13.6	13.1	588	3,118	7.9	13.4	
Prevalence of underweight children under 5 years of age			1,131	564	567	6.7	6.6	6.9	175	956	4.8	7.3	
GOAL 2. Achieve Universal Primary Education													
Proportion of children 6-12 years old enrolled in elementary education			21,490	10,660	10,830	77	74.4	79.0	4,871	16,619	77.7	76.3	
Proportion of children 13-16 years old enrolled in high school			8,388	3,795	4,593	56.3	48.4	65.1	2,358	6,030	66.7	53.1	
Proportion of children 6-16 years old enrolled in school			35,456	17,344	18,112	82.6	78.2	87.2	8,463	26,993	86.3	81.4	
Literacy rate of children 15-24 years old			24,405	13,120	11,285	97.1	96.4	97.8	6,231	18,174	98.5	96.5	
GOAL 3. Promote Gender Equality And Empower Women													
Ratio of girls to boys in primary education						1.0					1.0	1.0	
Ratio of girls to boys in secondary education						1.1					1.0	1.1	

Table 1 (continued)

Millennium Development Goals	Households		Population							
	Magnitude	Proportion	Magnitude				Proportion			
			Total	Male	Female	Total	Male	Female	Urban	Rural
Ratio of girls to boys in tertiary education						1.1				1.0
Ratio of literate females to males (15-24 years old )						0.9				89.0
Proportion of seats held by women in municipality and province										
<b>GOAL 4. Reduce Child Mortality</b>										
Proportion of children aged 0 to less than 5 years old who died			93	54	39	0.6	0.6	0.5	12	81
<i>Children aged 0 to less than 5 years old</i>			16,761	8,550	8,211				3,659	13,102
Proportion of infants who died			40	25	15	1.4	1.6	1.0	6	34
<i>Children aged 0 to less than 5 years old</i>			2,915	1,500	1,415				648	2,267
Proportion of children aged 1 to less than 5 years old who died			53	29	24	0.4	0.4	0.4	6	47
<i>Children aged 1 to less than 5 years old</i>			13,846	7,050	6,796	83.2			3,011	10,835
<b>GOAL 5. Improve Maternal Health</b>										
Proportion of women deaths due to pregnancy-related causes					6			0.2	1	5
Contraceptive prevalence rate			0			0.0			0	0
<b>GOAL 6. Combat HIV/AIDS, Malaria and Other Diseases</b>										
Proportion of couples using condom among those who are practicing contraception			0			0.0			0	0
Death rates associated with malaria			0	0	0.0	0.0	0.0	0.0	0	0
Prevalence and death rates associated with tuberculosis			27	16	11	18.7			10	17
									28.8	15.5



Table 1 (continued)

Millennium Development Goals	Households		Population													
	Magnitude	Proportion	Magnitude			Proportion			Magnitude						Proportion	
			Total	Male	Female	Total	Male	Female	Urban	Rural					Urban	Rural
GOAL 7. Ensure Environmental Sustainability																
Proportion of households/population with access to safe drinking water	28,783	93.6	134,890	68,441	66,449	93.5	93.2	93.7	7,335	21,448	98.7	92.0				
Proportion of households/population with access to sanitary toilet facility	21,978	71.5	102,929	51,730	51,199	71.3	70.5	72.2	6,078	15,900	81.8	68.2				
Proportion of households/population who are informal settlers	768	2.5	3,726	1,946	1,780	2.6	2.7	2.5	157	611	2.2	2.6				
Proportion of households/population who are living in makeshift housing	1,203	3.9	5,490	2,836	2,654	3.8	3.9	3.7	472	731	6.4	3.1				
Proportion of households/population living in inadequate living conditions	10,804	35.1	51,068	26,666	24,402	35.4	36.3	34.4	1,729	9,075	23.3	38.9				
GOAL 8. Develop A Global Partnership For Development																
Proportion of the households with landlines/ telephone lines	NA	NA							NA	NA	NA	NA				
Proportion of the households with cellphones	8,961	29.2							3,207	5,754	43.2	24.7				
Proportion of the households with computers	824	2.7							382	442	5.1	1.9				

Source: CBMS Survey, 2005-2006

## MEETING THE 2015 CHALLENGE

The results of the 2006 CBMS survey provide a clear-cut assessment of whether the MDG targets can be attained. More so, they provide guidance and direction on how these targets can be achieved by 2015. To achieve the eight MDGs, the problems must be identified so that solutions could be proposed. Attaining the desired objectives needs passion and a strong political leadership. Sustaining the rate of achieving the MDG targets over the remaining years also requires team effort and harmonious interagency collaboration; otherwise, the goals will be difficult to attain.

### Priority Programs and Policy Responses

#### 1. Eradicate Extreme Poverty and Hunger

- Improve agri-fishery production by intensifying/diversifying farming programs through the promotion of crop and fishery production technologies and the provision of agri-infra support projects such as the construction of irrigation systems, farm-to-market roads, and pre- and post-harvest facilities, among others.
- Increase income and livelihood opportunities by institutionalizing SMMEs through the “Dagdag Puhunan Pangkabuhayan” Program and the One Town-One Product (OTOP) program of the Department of Trade and Industry (DTI) in all municipalities of the province.
- Improve the marketing system, access to credit, and financing assistance through the microlending program and the provision of microlivelihood and economic relief assistance to farmers, fishermen, cooperatives, and overseas Filipino workers (OFWs).
- Gradually develop the tourism industry by constructing tourism facilities and infrastructure. Encourage private sector investment in the industry to facilitate the generation of more employment opportunities.
- Institutionalize the Public Employment Service Office (PESO), conduct regular jobs fairs, and establish an offline and online Philjobnet.
- Sustain the supplemental feeding program and encourage more nongovernment organization and private sector participation.

#### 2. Achieve Universal Education

- Increase the overall mean percentage scores (MPS) performance both for the secondary and elementary levels by enhancing

teacher/pupil/student capacities and competencies. This can be achieved through continuous capacity building for teachers. Complete supplies and instructional materials should be provided.

- Strengthen the LCIP by establishing functional reading projects in all schools, install a school guidance center, and utilize computer-aided learning materials.
- Improve the implementation of the Alternative learning System (ALS) by providing adequate supplies and instructional materials.

### **3. Health Reforms**

- Ensure the sustainability of the Maternal and Child Health program (MCHP) as identified in the Provincial Investment Plan for Health. Conduct continuous advocacy on maternal and child health care, lifestyle, and infectious diseases through a massive information campaign; distribution of information, education, and communication (IEC) materials; and hosting/airing a regular radio program.
- Install adequate and efficient water supply facilities in underserved areas. Likewise, strengthen the provincial sanitation program through strong governance, adequate financing, and clear regulatory procedures.

### **4. Improve the Lives of Informal Settlers**

- Minimize the proliferation of unplanned and overcrowded settlements.
- There should be a thorough assessment of disadvantaged families who could be beneficiaries of a government housing program. The Core Shelter Project provides lots with housing units while the CMP provides lots at affordable cost.

### **5. Reverse the Loss of Environmental Resources**

- Strict implementation of environmental laws should be enforced by concerned government agencies such as the DENR and the Bureau of Fisheries and Aquatic Resources (BFAR).
- The government should continue to provide protective infrastructure to hazard-prone areas, mitigate indiscriminate land conversion to protect selected agricultural lands, encourage urban expansion to environmentally compatible areas, and review and update land-use plans and zoning of the municipalities.

## 6. Limited Budget of LGUs

- Develop a workable and effective revenue generation plan to improve and increase tax collection. Capacity programs should be made available to LGUs on this matter.
- Develop further the partnership with NGOs and the private sector, tapping their resources to enhance development.
- Tap available foreign assistance.

## FINANCING THE MDGS

With the limited income of the province, carrying out programs and projects to achieve the MDG targets requires convergence of efforts and resources of the national and local governments, the private sector, and foreign donors.

The province of Biliran posted an average annual income growth rate of only 8.34 percent from 2006 to 2009. The biggest single income contributor is the IRA, which accounted for 90.62 percent (from 2006-2009) of the province's income. The remaining 9.38 percent was derived from local taxes (local property tax, business and income taxes, etc.). Aside from the IRA with its annual growth rate of 7.78 percent (from 2006-2009), there were no significant increases in other sources of income except for grants and donations, which had an 82.8 percent average annual growth rate.

On average, the province's expenditures grew at the rate of 12.82 percent. The largest component goes to personal services (53.44%) followed by Maintenance and Other Operating Expenses (MOOE) (42.33%), financial expenses (1.14%), and subsidies given to LGUs (3.09%). For the four-year period of 2006-2009, the province posted an average budget surplus of PhP47.0 million.

In the 2010 annual budget, 30.38 percent goes to health care services (hospital and field health services), public services (29.79%), engineering services (11.10%), economic services (9.07%), and social security and social services and welfare (4.18%). Infrastructure support and other obligations constitute 15.48 percent of the total budget.

## MONITORING THE MDGS

The CBMS is still considered as the most effective tool for monitoring the MDGs at the local level. There are other monitoring tools developed and used by line agencies of the national government (i.e., Department of Education, DOH) that are internal to the agencies and contain their respective specific targets. These monitoring tools could also be of help in tracking the progress of the MDGs.

Table 2. Summary of Incomes and Expenditures, Biliran Province (2006-2009)

Income/ Expenditure	2006	2007	2008	2009	Average	% of Ave.	Ave. Growth Rate (%)
I. Income	215,829,707.39	235,039,865.08	248,587,406.19	297,411,775.54	249,217,188.55		8.34
Local Taxes	1,584,495.81	1,080,018.79	1,456,987.78	1,542,522.69	1,416,006.27	0.568	-0.67
Permits/Licenses	30,485.00	9,790.00	-	4,540.00	11,203.75	0.004	-37.88
Service Income	5,008,325.70	5,793,449.51	5,052,048.91	6,391,367.99	5,561,298.03	2.232	6.29
Business Income	5,688,867.09	5,936,516.55	4,559,171.00	6,302,494.26	5,621,762.22	2.256	2.59
Subsidy Income	-	-	-	2,389,080.00	597,270.00	0.240	-
Other Income	203,517,533.79	222,220,090.23	237,519,198.50	280,781,770.60	236,009,648.28	94.700	8.38
Grants/Donations	834,917.20	18,416,642.41	7,677,193.89	9,324,034.30	9,063,196.95	3.64	82.80
Interest Income	1,399,670.25	424,556.23	159,929.37	403,176.87	596,833.18	0.24	-26.74
IRA	200,512,754.86	202,744,877.00	229,546,582.00	270,579,653.00	225,845,967.465	90.62	7.78
Misc. Income	770,191.48	634,014.59	135,493.24	474,906.43	508,401.435	0.20	-11.39
II. Expenditure	161,363,617.57	168,518,463.22	217,271,039.80	261,434,078.80	202,147,799.85		12.82
Personal Services	84,489,531.99	98,216,552.77	118,686,398.24	130,715,058.95	108,027,135.49	53.44	11.53
MOOE	63,945,639.46	63,221,028.54	93,046,782.32	122,082,796.34	85,574,061.67	42.33	17.55
Financial Expenses	1,426,534.28	2,810,982.23	942,473.34	4,035,991.57	2,303,995.36	1.14	29.69
Subsidies to LGU's	11,501,911.84	4,289,899.68	4,599,385.90	4,599,231.94	6,242,607.34	3.09	-20.48
III. Excess/Deficit	54,466,089.82	66,521,401.86	31,312,366.39	35,977,696.74	47,069,388.70	-	-9.85

Source: Provincial Accounting Office, Biliran

# Status Report on the Millennium Development Goals Using CBMS Data: Province of Camarines Norte

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Madonna A. Abular<sup>1</sup>

The first Provincial Millennium Development Goals (MDG) Report of the Province of Camarines Norte aims to track the progress toward the attainment of the MDGs in the province and to increase local awareness of how this report can bridge local and national development strategies.

The report used the results of the 2006 Community-Based Monitoring System (CBMS) indicators related to MDG as shown in the summary of findings presented in Table 1, and some data from the provincial government departments, national government agencies, and surveys.

The results suggest that there have been some good news and not-so-good news in some indicators while some indicators pose a great challenge during the remaining five years, from the time of writing of this report to the target year of 2015, in achieving the MDGs. There is a clear need for political leaders and stakeholders, with the help of donors, to take urgent and concerted action to realize the basic promises of the MDGs on the lives of the people in the province, specifically the poor.

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<sup>1</sup> Provincial Planning and Development Coordinator (PPDC), Camarines Norte

## Good News:

- The proportion of underweight children 0 to less than 5 years old was 12.2 percent, which is lower than the 2015 national target of 17.25 percent.
- Literacy rates among population aged 15-24 was high at 98.3 percent or only 1.7 percent short of the 2015 target (100%). Females had slightly higher literacy rate (98.5%) than males (98.1%).
- The ratio of girls to boys in the elementary school level was 0.9, somewhat close to the desired ratio of 1:1 by 2015. At the secondary level, the girls' advantage over the boys slightly widened at a ratio of 1:1. At the tertiary level, the ratio was 1:2 in favor of the girls. In terms of literacy among population aged 15-24, the boys surpassed the girls at a ratio of 0.9:1.
- Among women, 40.2 percent held elective posts in the province such as in the Sangguniang Kabataan or youth council, in the barangay council, and in the municipal and provincial boards.
- The proportion of indigent households covered by PhilHealth was high at 91.7 percent in 2008.
- No deaths associated with malaria were reported.
- The proportion of individuals living as informal settlers was low at 4.2 percent and the proportion of those living in makeshift housing was 4.5 percent.
- The proportion of households with cellular phone was 34.6 percent and was expected to increase because of the presence of 33 cellular sites in the province (as of 2008). Although the percentage of households with computers was low at 4.2 percent, there is a high probability that this will increase due to the presence of five internet service providers in the province (as of 2008).

## Not-So-Good News:

- The employment rate was 88.2 percent, while the remaining 11.8 percent in the labor force were not employed and might have contributed to the high poverty incidence, in addition to those already employed but perceived to have low income.
- The mortality rate among children aged 0 to less than 5 was 402 out of 61,256, or equivalent to 0.7 percent. The majority of these children were infants, comprising 256 out of 11,303 or 2.2 percent. Meanwhile, the measles immunization coverage in the province was low at 75.6 percent.



- From the four cases of HIV/AIDS that were detected from January 1992 to December 2007, two of the cases were reported to have led to death, while the other two cases were currently under treatment and receiving antiretroviral drugs in Manila. The rate of condom usage was also low at only 2.7 percent among couples practicing contraception.
- Tuberculosis was still one of the 10 leading causes of death, with a ratio of 38.3 per 100,000 population in 2008. Detection rate, however, was high at 96.0 percent and cure rate was 81.2 percent.
- The proportion of the population with access to sanitary toilet facility was 78.5 percent, or only 5.5 percentage points lower than the 2015 national target of 83.8 percent.

### **Posing a Great Challenge:**

- Of the province's population, 66 percent was poor. This figure must be lowered by 43.2 percent in order to attain the 2015 national target of 22.7 percent. However, with a poverty gap of 0.3 percent, this means that the MDG target on this indicator for 2015 has a lesser chance of being achieved.
- The proportion of children who experienced early childhood care and development was low at only 20.0 percent in 2007. Only 79.5 percent of children aged 6-12 years old were in school. This means that 20.5 percent of the children were not in school but some of them may not be in elementary yet but in preschool. There was also a very low participation rate in secondary education, at 59.6 percent. Such figures are way below the 100 percent target for 2015. In school year 2008-2009, the cohort survival rate and completion rate in public elementary school was 88.9 percent while the completion rate was 79.4 percent, also far from the 100 percent target by 2015.
- Some 31 mothers were reported to have died due to pregnancy-related causes in 2006, or a proportion of only 0.3 percent. Contraceptive prevalence rate was also low at 29.9 percent. In 2008, births attended by skilled health personnel were low at 59.4 percent. Antenatal coverage was also low at 57.5 percent.
- The proportion of the population with access to safe drinking water was only 66.6 percent. Access to safe drinking water was higher in the urban areas at 89.3 percent, and lower in the rural areas at 59.1 percent.

Table 1 shows the provincial summary of the status of MDG indicators based on the 2006 CBMS results.

Millennium Development Goals	Households		Population									
	Magnitude	Proportion	Magnitude			Proportion			Magnitude		Proportion	
			Total	Male	Female	Total	Male	Female	Urban	Rural	Urban	Rural
GOAL 1. Eradicate Extreme Poverty and Hunger												
Proportion of households/population living below the poverty threshold	59,898	59.6	320,149	165,150	154,999	65.9	66.6	65.2	14,192	45,706	52.3	62.4
Proportion of households/population living below the food threshold	42,434	42.3	235,955	121,928	114,027	48.6	49.2	47.9	9,498	32,936	35.0	44.9
Poverty Gap Ratio		0.3									0.2	0.3
Employment Rate			146,985	104,521	42,458	88.2	89.9	86.2	38,440	108,545	87.4	89.3
Proportion of households/population who experienced food shortage	6,428	6.4	35,409	18,497	16,912	7.3	7.5	7.1	972	5,456	3.6	7.4
Prevalence of underweight children under 5 years of age			7,492	3,663	3,829	12.2	11.6	12.9	1,470	6,022	9.8	13.0
GOAL 2. Achieve Universal Primary Education												
Proportion of children aged 6-12 years old enrolled in elementary education			73,282	37,322	35,960	79.5	78.6	80.5	18,342	54,940	80.3	79.3
Proportion of children aged 13-16 years old enrolled in high school			28,630	13,288	15,342	59.6	53.3	66.4	8,359	20,271	68.7	56.5
Proportion of children aged 6-16 years old enrolled in school			117,985	58,862	59,123	84.2	81.3	87.2	31,107	105,172	88.9	82.6
Literacy rate of 15-24 year-olds			88,194	46,417	41,776	98.3	98.1	98.5	23,015	65,179	98.9	98.1
GOAL 3. Promote Gender Equality And Empower Women												
Ratio of girls to boys in primary education						0.9					1.0	0.9
Ratio of girls to boys in secondary education						1.1					1.1	1.1
Ratio of girls to boys in tertiary education						1.2					1.2	1.3

Table 1 (continued)

Millennium Development Goals	Households		Population							
	Magnitude	Proportion	Magnitude			Proportion			Magnitude	
			Total	Male	Female	Total	Male	Female	Urban	Rural
Ratio of literate females to males (15-24 years old )						0.9				1.2 1.3
Proportion of seats held by women in municipality and province			1,828			40.2				
<b>GOAL 4. Reduce Child Mortality</b>										
Proportion of children aged 0 to less than 5 years old who died			402	219	183	0.7	0.7	0.6	87	315
<i>Children aged 0 to less than 5 years old</i>			61,256	31,669	29,587				15,031	46,225
Proportion of infants who died			256	137	119	2.2	2.3	2.1	53	194
<i>Children aged 0 to less than 5 years old</i>			11,303	5,760	5,543				2,743	8,560
Proportion of children aged 1 to less than 5 years old who died			146	82	64	0.3	0.3	0.3	115	31
<i>Children aged 1 to less than 5 years old</i>			49,953	25,909	24,044	83.2			12,288	37,665
<b>GOAL 5. Improve Maternal Health</b>										
Proportion of women deaths due to pregnancy-related causes					31			0.3	5	26
Contraceptive prevalence rate			25,510			29.9			6,414	19,096
<b>GOAL 6. Combat HIV/Aids, Malaria and Other Diseases</b>										
Proportion of couples using condom among those who are practicing contraception			685			2.7			217	468
Death rates associated with malaria			0	0	0	0.0	0.0	0.0	0	0
Prevalence and death rates associated with tuberculosis			186	121	65	38.3	48.8	27.3	42	146
										32.8 40.8

Table 1 (continued)

Millennium Development Goals	Households		Population									
	Magnitude	Proportion	Magnitude			Proportion			Magnitude		Proportion	
			Total	Male	Female	Total	Male	Female	Urban	Rural	Urban	Rural
GOAL 7. Ensure Environmental Sustainability												
Proportion of households/population with access to safe drinking water	67,712	67.2	323,508	163,172	160,336	66.6	65.8	67.4	24,267	43,445	89.3	59.1
Proportion of households/population with access to sanitary toilet facility	79,058	78.5	380,200	192,194	188,006	78.3	77.5	79.0	23,766	55,292	87.4	75.2
Proportion of households/population who are informal settlers	4,137	4.1	20,605	10,593	10,012	4.2	4.3	4.2	1,442	2,695	3.7	5.3
Proportion of households/population who are living in makeshift housing	4,437	4.4	21,789	11,409	10,380	4.5	4.6	4.4	1,236	3,201	4.6	4.4
Proportion of households/population living in inadequate living conditions	46,020	45.7	225,466	117,520	107,946	46.4	47.4	45.4	6,859	39,161	25.2	53.2
GOAL 8. Develop A Global Partnership For Development												
Proportion of the households with cellphones/ telephones	34,847	34.6							13,053	21,794	48.0	29.6
Proportion of the households with computers	3,993	4.2							2,075	1,918	7.6	2.6

Source: CBMS Survey, 2009

## MEETING THE 2015 CHALLENGE

Achieving the MDG targets in the province must be pursued through the concerted efforts and resources of the national and local governments, nongovernment organizations (NGOs), and other funding institutions, with the active participation of the communities and other sectors. This should especially focus on indicators that pose a greater challenge to the province, such as: (i) high poverty incidence caused by low agricultural productivity, limited viable livelihood projects for the poor, lack of entrepreneurial spirit of the people, and lack of access to financing; (ii) low participation rate in Early Childhood Care and Development (ECCD), elementary and secondary education, low quality of education, and low retention rates; (iii) improvement of maternal health specifically on increasing the proportion of births attended by skilled health personnel, antenatal care coverage, and contraceptive prevalence rate; (iv) low water and sanitation coverage; (v) cross-cutting issues of the limited budgets of the local government units (LGUs) to finance the MDGs and sustain the efforts made on other indicators; and (vi) laxity in enforcing laws relative to the achievement of the MDGs.

### 1. Priority Programs and Policy Responses

#### 1.1. Eradicate Extreme Poverty and Hunger

- Institutionalize/expand the Pantawid Pamilyang Pilipino Program (4Ps), which addresses five MDGs and targets and intensify the implementation of the Kapit Bisig Laban sa Kahirapan-Comprehensive and Integrated Delivery of Social Services (KALAHI-CIDSS) program of the national government.
- Increase livelihood and employment opportunities by creating more jobs through the development of rural-based and resource-based livelihood projects/ enterprises, improve access to credit facilities and other microfinance services, and accelerate the provision of globally competitive skills and entrepreneurial training.
- Boost agricultural productivity by providing adequate infrastructure support facilities (irrigation, farm-to-market roads and bridges, and post-harvest facilities); intensify information, education, and communication (IEC) to encourage farmers to adopt modern technology, develop effective marketing channels, and aggressive marketing of investment areas and tourism attractions that will create more job opportunities even beyond 2015. Moreover, ensure the implementation of the Provincial Investment Code to encourage investments in the province.

- Sustain the efforts made in improving the nutritional status of children especially the programs of the national government such as the food-for-school program.

### 1.2. Achieve Universal Education

- Strengthen the EECD program at the Department of Education (DepEd) and LGU levels since the ECCD strengthens the possibility of pupils performing better once they enter formal schooling. Promote home-based ECCD in areas where a facility for day care center is not accessible and available and accelerate the implementation of the Parents Effectiveness Service session at the community level.
- Intensify/accelerate the implementation of the Alternative Learning System (ALS) of the DepEd in partnership with the LGUs and NGOs. This would include the following: Balik Paaralan for Out-of-School Youth (BP-OSY), female functional literacy classes, Basic Literacy Program, and Project REACH, a strategy for reaching the stay-out children 6-11 and 12-15 years old and making them learn anytime, anywhere.
- Improve school facilities and the level of competency and adequacy of preparation of teachers. Increase the budget for scholarship programs and look into the low completion and retention rates among boys in the school system and intensify the campaign for the Adopt-a-School Program.

### 1.3. Health Reforms

- The LGUs' acceptance of the Fourmula 1 (F1) for Health resulted in the crafting of a 5-Year Provincial Investment Plan for Health (PIPH). The implementation of this program in the province is guided by the National Objectives for Health, Provincial Vision for Health, and the MDGs (reduce child mortality, improve maternal health, combat HIV/AIDS, malaria and other diseases, and halve the proportion of the population without access to safe drinking water and to sanitation facilities). The overall strategies of the program are service delivery, governance, financing, and regulation. All health programs in the province are considered critical investment packages. Gender sensitivity trainings are also part of the plan.
- There is a need to expedite the implementation of programs and projects under the PIPH to meet the MDG targets on health by 2015 and the implementation of the Millennium Development Goal Fund (MDGF) 1919 Program for waterless municipalities.

#### 1.4. Improve the Lives of Informal Settlers

- Accelerate the implementation of the core shelter assistance program of the Department of Social Welfare and Development (DSWD), expedite the completion of the Comprehensive Land Use Plan of the municipalities for easier determination/classification of lands for residential use, provide land tenure security for the low-income population by expediting the regularization of informal settler families occupying public lands, create Local Housing Boards and formulate shelter plans to address urban and rural housing concerns.

#### 1.5. Reverse the Loss of Environmental Resources

- Ensure the strict implementation of environmental laws; accelerate the implementation of community-based upland and coastal management programs; reforest all forestlands; promote the urban greening program; intensify the identification, preservation, and protection of marine sanctuaries; and promote information dissemination.

#### 1.6. Enhance the Budget of the LGUs

- Increase tax collection at the provincial and municipal levels, tap available and accessible official development assistance (ODA), explore the wide range of developmental partnership initiatives with legitimate business investors within and outside the province, and enhance the management of existing economic enterprises.

In addition, improve the capacity of the LGUs on tax collection, accessing of ODA to fund projects, and exploring of developmental initiatives with business investors.

## FINANCING THE MDGS

The barangay, municipal, and provincial LGUs in the province are highly dependent on the Internal Revenue Allotment (IRA) for the implementation of devolved functions and responsibilities under the Local Government Code of 1991. The IRA for the province alone was 87 percent in 2009. Other local revenues collected from local taxes, permits and licenses, service income and other income ranging from PhP40 million to PhP105 million in 2004-2009 (an average of PhP58 million per year) represent just 13 percent of the total annual income. On the other hand, total expenditures ranged from PhP377 million to PhP540 million,

an average of PhP436 million per year spent for economic, social, general public services, and other purposes. Expenditures for social services range from PhP120 million to PhP188 million per year and constitute 33 percent of the total annual expenditures. Said expenditure is also generally increasing by an average of 10 percent or PhP14 million per year.

Funds of the different line agencies in the province such as the DepEd, Technical Education and Skills Development Authority (TESDA), DSWD, Department of Environment and Natural Resources (DENR), Department of Agrarian Reform (DAR), Department of Agriculture (DA), and National Commission on Indigenous People (NCIP), which all implement programs and projects in the province, will contribute largely to the attainment of the MDGs.

The province is also one of the recipients of the Focused-Food Production Assistance for Vulnerable Sectors (FPAVAS) funded by the European Commission (EC), with counterpart Fund from the Southeast Asian Regional Center for Graduate Study and Research in Agriculture (SEARCA) and the LGUs. The project aims to reduce poverty, improve the well-being of farmers, and ensure the access, particularly of the vulnerable sectors, to safer food.

The PIPH shall be supported by both internal and external funds. It is expected that donors, e.g., the EC, the United States Agency for International Development (USAID), and others, shall provide reasonable amounts of grant assistance to the provincial and municipal LGUs and the DOH for additional counterpart. The total amount in the plan is PhP943 million, to be shared by the LGUs, the national government (DOH), the Philippine Health Insurance Commission (PHIC), and other donors.

## MONITORING THE MDGS

An effective tool that could be used in monitoring the MDG progress in the province is the CBMS, which is being conducted every three years by all the municipalities in Camarines Norte.

Other tools include the Development Information System (DevInfo), a system introduced by the UNICEF, which is user-friendly and wherein social indicators are stored and updated annually; the Basic Education Information System (BEIS) of the DepEd, an excel-based system for the collection, processing, and dissemination of education data; and the FHSIS of the Provincial Health Office generated by health workers in the barangay and consolidated at the municipal level and then forwarded to the provincial level.



# Status Report on the Millennium Development Goals Using CBMS Data: Province of Eastern Samar

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The results of the Community-Based Monitoring System (CBMS) survey, conducted province-wide in Eastern Samar during the period 2005-2006, indicated a total population of 385,875 comprising 79,976 households, or an average household size of five. Of the total population, 51.7 percent were males and 48.3 percent were females. The majority or 70.6 percent of households were in rural areas while 29.4 percent were in urban areas. The results of the survey, as indicated in Table 1, show the status of the province in relation to the eight Millennium Development Goals (MDGs).

## Good News:

The results shown in Table 1 suggest some good news among the different indicators. Some targets show promise of being met by 2015 as programs and services of the local government units (LGUs) are now focused on the needed areas.

- The prevalence of underweight children under 5 years of age was only 6.7 percent.
- The literacy rate among population aged 15-24 was 96.6 percent.
- The ratio of girls to boys in primary education is 0.9, in secondary education, 1.1 and in tertiary education, 1.1.

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<sup>1</sup> Former Provincial Planning and Development Coordinator (now Mayor of Maydolong, E. Samar), Project Development Officer IV, Planning Officer I, and members of the Provincial CBMS Team, respectively.

- The proportion of elective positions held by women in municipalities and in the province was 46.5 percent. The majority of the elected officials in the six municipalities were females.
- Death associated with malaria was zero (0) since the province is malaria-free.
- The proportion of maternal deaths due to pregnancy-related causes in the last 12 months prior to the survey was only 0.4 percent.
- The proportion of children aged 0 to less than 5 who died in the last 12 months prior to the survey was only 0.9 percent.
- The proportion of deaths among children aged 1 to less than 5 was only 0.6 percent.
- The proportion of the population who were informal settlers was only 2.9 percent.
- The proportion of the population who were living in makeshift housing was only 2.3 percent.
- The proportion of the population with access to safe drinking water was 78.7 percent.
- The proportion of the population with access to sanitary toilet facilities was 69.5 percent.
- Employment rate in the province was 77.7 percent.

### **Not-So-Good News:**

There are also not-so-good news as shown by the relatively poor performance in some of the indicators. These indicators also reveal that there is less likelihood of meeting some of the targets by 2015.

- The proportion of the population living below the poverty threshold was 69.5 percent.
- The proportion of the population living below the food threshold was 59.4 percent.
- Poverty gap ratio was 0.4 for the entire province.
- The proportion of the population that experienced food shortage in the last three months prior to the survey was 13.8 percent.
- The proportion of children aged 6-12 who were not enrolled in elementary education was 23.4 percent.
- The proportion of children aged 13-16 who were not enrolled in high school was 43.2 percent.
- The proportion of children aged 6-16 who were not enrolled in school was 16.5 percent.
- The proportion of infants who died in the last 12 months prior to the survey was 2.5 percent.

- Death rate associated with tuberculosis was 33 per 100,000 population.
- Of the population, 45.0 percent was living in inadequate living conditions.

### **Posing a Great Challenge:**

- Poverty is the biggest cause for concern. The provincial poverty incidence is at 69.5 percent. The challenge is how to provide opportunities for family income and support.
- While only 13.8 percent of the province's households had experienced food shortage, the proportion of those living below the food threshold is high at 58.7 percent, indicating that the majority of households are unable to meet their required food needs. Mitigation of hunger and malnutrition is the challenge that should be addressed.
- In the area of health, tuberculosis and other endemic diseases such as filariasis, schistosomiasis and dengue should be contained/controlled.
- The reduction of maternal and child deaths must be sustained.
- The provision of basic services such as water, sanitation, and adequate living conditions need to be addressed vis-à-vis the need to ensure the protection and sustainability of the environment and natural resources.
- More and better quality educational facilities for preschool, elementary and high school should be made accessible to more students, especially to those living in geographically isolated areas.
- Information technology and communication facilities should be expanded to reach far-flung municipalities.

The attainment of the MDG goals and targets depends largely on the political will of the LGUs to carry out policy directions and on the provision of the necessary resources needed to make the policies operational. For 2010, the province of Eastern Samar has allocated 40.5 percent of its 20-percent Development Fund for social services that include programs, projects and activities primarily on health and nutrition, education, water and sanitation, and sports development. For economic infrastructure, 7.1 percent was allocated while 17.1 percent for other support infrastructures. Financial, material, and technical resources are expected from local and foreign donors.

**Table 1. Summary of Findings of MDG Indicators, Province of Eastern Samar, 2005-2007**

Millennium Development Goals			Households		Population									
			Magnitude	Percentage	Magnitude			Percentage			Magnitude		Percentage	
					Total	Male	Female	Total	Male	Female	Urban	Rural	Urban	Rural
GOAL 1. Eradicate Extreme Poverty and Hunger														
Proportion of population living below the poverty threshold			50,772	63.7	268,104	139,898	128,206	69.5	70.2	68.7	11,698	39,074	50.0	69.3
Proportion of population living below the food threshold			42,218	52.9	229,136	119,596	109,540	59.4	60.0	58.7	9,687	32,531	41.4	57.7
Poverty Gap Ratio				0.4									0.3	0.4
Employment Rate					111,486	80,306	31,174	77.7	83.7	65.5	33,029	78,457	74.6	79.0
Proportion of population who experienced food shortage			10,191	12.8	53,441	28,092	25,349	13.8	14.1	13.6	2,548	7,643	10.9	13.5
Prevalence of underweight children under 5 years of age					3,055	1,532	1,532	6.7	6.6	6.9	604	2,451	4.8	7.5
GOAL 2. Achieve Universal Primary Education														
Proportion of children aged 6-12 years old enrolled in elementary education					57,763	29,239	28,523	76.6	75.1	78.1	16,389	41,374	77.6	76.1
Proportion of children aged 13-16 years old enrolled in high school					22,001	9,801	12,200	56.8	49.3	64.6	7,632	14,369	66.0	52.8
Proportion of children aged 6-16 years old enrolled in school					95,418	47,303	48,114	83.5	80.4	86.9	28,233	67,185	86.4	82.4
Literacy rate of 15-24 year-olds					66,674	35,289	31,384	96.6	95.6	97.7	20,934	45,740	97.9	96.0
GOAL 3. Promote Gender Equality And Empower Women														
Ratio of girls to boys in primary education								0.9					0.9	0.9
Ratio of girls to boys in secondary education								1.1					1.1	1.1
Ratio of girls to boys in tertiary education								1.1					1.1	1.1

Table 1 (continued)

Millennium Development Goals	Households		Population														
	Magnitude	Percentage	Magnitude			Percentage			Magnitude		Percentage						
			Total	Male	Female	Total	Male	Female	Urban	Rural	Urban	Rural					
Ratio of literate females to males (15-24 years old)						0.9										0.9	0.9
GOAL 4. Reduce Child Mortality																	
Proportion of children aged 0 to less than 5 years old who died			420	232	188	0.9	1.0	0.8		109	116	0.9				0.4	
Children aged 0 to less than 5 years old			45,345	23,379	21,966					12,481	32,866						
Proportion of infants who died			175	103	72	2.5	2.8	2.1		59	121	3.1				2.3	
Children aged 0 to less than 5 years old			6,945	3,586	3,356					1,841	5,105						
Proportion of children aged 1 to less than 5 years old who died			146	82	64	0.3	0.3	0.3		115	31	0.9				0.1	
Children aged 1 to less than 5 years old			49,953	25,909	24,044	83.2				12,288	37,665						
GOAL 5. Improve Maternal Health																	
Proportion of women deaths due to pregnancy-related causes					31			0.4		6	25	0.3				0.5	
Contraceptive prevalence rate			499			22.2				0	499	0.0				22.2	
GOAL 6. Combat HIV/Aids, Malaria and Other Diseases																	
Proportion of couples using condom among those who are practicing contraception			6			1.2				0	6	0.0				1.2	
Death rates associated with malaria			0	0	0	0.0				0	0	0.0				0.0	
Prevalence and death rates associated with tuberculosis			126	85	41	32.6				15	111	13.0				40.9	
GOAL 7. Ensure Environmental Sustainability																	
Proportion of households/population with access to safe drinking water	62,970	78.9	303,437	156,263	147,174	78.7	78.4	78.9		20,178	42,792	86.0				75.9	

Table 1 (continued)

Millennium Development Goals	Households		Population										Percentage			
	Magnitude	Percentage	Magnitude			Percentage			Magnitude				Percentage			
			Total	Male	Female	Total	Male	Female	Urban	Rural	Urban	Rural				
Proportion of households/population with access to sanitary toilet facility	55,384	69.3	268,138	136,985	131,153	69.5	68.7	70.3	18,576	36,808	79.2	65.2				
Proportion of households/population who are informal settlers	2,234	2.8	11,130	5,869	5,261	2.9	2.9	2.8	672	1,562	2.9	2.8				
Proportion of households/population who are living in makeshift housing	1,848	2.3	8,758	4,655	4,103	2.3	2.3	2.2	590	1,258	2.5	0.2				
Proportion of households/population living in inadequate living conditions	35,931	44.92835	173,758	91,222	82,536	45.03953	45.76018	44.2374	8,016	27,915	34.1	49.4				
GOAL 8. Develop A Global Partnership For Development																
Proportion of the households with cellphones/ telephones	17,321	21.7							8,367	8,954	35.7	15.9				
Proportion of the households with computers	2,190	2.7							1,208	982	5.2	1.7				

Source: CBMS Surveys, 2005-2007

## PRIORITY PROGRAM AND POLICY RESPONSES

The province has achieved modest successes in some areas of human development. Based on the Field Health Service Information System (FHSIS) reports from the Provincial Health Office, both infant and mortality rates have gone down, malnutrition prevalence has been reduced, access to potable water and sanitary toilet facilities has improved, and basic education performance indicators are at par with the rest of the provinces in the country.

According to the National Statistical Coordination Board (NSCB), poverty incidence has also been reduced to 33.9 percent in 2003 from 45.9 percent in 2000, enabling the province to move out of the “Club 20” of the poorest provinces in the country. However, the 2006 CBMS survey showed that the province had 50,772 households (63.7%) living below the poverty threshold. This means that 268,104 persons (69.5%) of the population were classified as poor. Those in the rural areas had a higher poverty incidence (69.3%) than those in the urban areas (50.0%) in 2006.

The province’s pace of development has been slow and uneven across municipalities. The vicious cycle of poverty and underdevelopment is visible in the province. Low income, poor health and nutrition, low level of education, and low standard of living are the tangible manifestations of underdevelopment and deprivation among a big chunk of the population.

The major cause of poverty in Eastern Samar is the relatively underdeveloped and stagnant economy. This, to a large extent, accounts for the lack of/or insufficiency of income of the poor families in the province. The province’s economy is dominated by low-income primary economic activities, such as agriculture, fisheries, and forestry. More than half of the province’s poor have household heads who are engaged in agriculture.

The low productivity of agricultural lands, especially rice fields and coconut farms on which the majority of the population are dependent for their living, is a cause for alarm. This situation has serious implications on the income-earning capacities of farmers and fishermen who comprise the bigger portion of the population.

Low agricultural/fishery production is, in turn, caused by the lack of appropriate and adequate inputs such as seeds, feeds, and technology. These are beyond the reach of small farmers, fishermen, and livestock producers due to lack of capital. The depletion and degradation of the environment, especially marine and fishery resources, have negative implications on production levels. This is further aggravated by the inefficient post-harvest and marketing systems.

A more direct result of the relatively poor performance of the agriculture sector is the negative effect on the province's food security, which in turn affects the health of the people. Based on nutritional standards and estimated food requirements, Eastern Samar suffers deficits in most commodities such as rice, vegetables, fruits, beef, and eggs. Only rootcrops and fish are produced in excess of the dietary requirements of the province.

A substantial proportion of the population lives without the benefit of the minimum basic facilities and services. As shown in the latest CBMS survey, 30.7 percent of households do not have access to sanitary toilet facilities, while a significant 21.1 percent of households have no access to safe drinking water. As of 2007, 46 percent of households did not yet enjoy the benefit of electricity.

Another cause for concern is the degradation of the environment due to uncontrolled extraction and exploitation of natural resources through such activities as quarrying, mining, deforestation and other abusive practices. This is compounded by an inadequate solid waste management system in most parts of the province.

Against this backdrop, some segments of the population are left with no choice but to move or migrate as workers—either to other areas of the country or to other countries. Due to their low skills and educational qualifications, however, the majority of them end up as domestic helpers in the country's big cities or abroad. At the same time, outmigration also drains out the province of its skilled manpower and leaves a generally weak human resource base. The predominance of negative and counterproductive values among a big segment of the population and the perceived presence of too much politics and corruption in government further deter the institution of positive changes in Eastern Samar.

Given the above development problems and issues, the province shall address the following development imperatives geared toward the attainment of the MDGs:

1. The need to invest in agricultural development to ensure food security;
2. The need to shift to high-value crops, to diversify land usage, and to move toward agro-industrialization;
3. The need to extensively render critical social services such as health, education, housing, potable water and sanitation, and social welfare;
4. The need to invest in infrastructure and other facilities that could bring the province to the development mainstream such as by



rehabilitating the national highway, and improving and expanding seaports and airports, irrigation facilities, farm-to-market roads, power, and communication systems;

5. The need to improve the condition of the environment;
6. The need to provide the poor greater access to specialized credit sources and social preparation to become bankable; and
7. The need to broaden the ownership base of local economies by organizing and promoting cooperatives, livelihood associations, and collective enterprises and linking both government and the business sector for financial, technical, and marketing assistance.

## FINANCING THE MDGS

The major development concerns of the provincial government have always been in line with the MDGs, particularly on health care, education, and poverty eradication. However, these concerns require substantial resources, which the provincial government cannot adequately provide due to its very limited financial resources.

The major source of the province's development fund is the mandatory 20-percent allocation from its internal revenue allotment (IRA) from the national government. In fact, this fund comprises almost 97 percent of the province's projected total income for 2010. Its locally generated income merely comprises 3 percent. This limited income of the province is fortunately augmented by development assistances from the United Nations Children's Fund (UNICEF), United Nations Population Fund (UNFPA), World Health Organization (WHO), and European Commission (EC).

For the calendar year 2010, the province's 20-percent Development Fund amounting to Php126 million reflected the following allocation:

	<u>Amount</u>	<u>Percent</u>
General Public Services :	Php 22,665,000.00	17.99
Social Services :	Php 50,980,000.00	40.46
Economic Services :	Php 8,900,000.00	7.06
Support Infrastructure :	Php 21,500,000.00	17.06

The biggest allocation of 40.46 percent on social services includes programs, projects and activities primarily on health and nutrition, education, water and sanitation, and sports development. Economic services are focused on agricultural and fisheries development, livestock

development, livelihood development, tourism, and trade and commerce. The support infrastructure includes development on land transportation, power and energy, and flood control. The general public services are support activities that include initiatives in information technology, public finance, and peace and order programs.

The grant for the health sector from EC through the Department of Health (DOH) amounts to PhP500 million for 2006-2010 in support of the Provincial Investment Plan for Health. The UNICEF and UNFPA Sixth Country Program for Children (CPC 6) for the current year, which is for the welfare of children and women, amounts to PhP19.1 million and PhP3.86 million, respectively. The Joint Programme on Maternal and Neonatal Health (JPMNH) for the province of Eastern Samar will be fully operational in 2011-2016.

Seven municipalities of the province will also be covered by the Pantawid Pamilyang Pilipino Program (4Ps) of the Department of Social Welfare and Development (DSWD).

## **MONITORING PROGRESS TOWARD THE ATTAINMENT OF THE MDGs**

The Provincial Planning and Development Office, in cooperation with other stakeholders, has been conducting regular assessment of the provincial progress vis-a-vis the MDGs. In tracking the progress, the major sources of data were (i) NSCB for poverty and subsistence incidence with baseline data as early as 1990 and updated every three years; (ii) the annually published BEIS data for performance indicators in education; (iii) FHSIS's data on health indicators, which has consolidated province-wide annual data, as well as disaggregated data by municipality for select indicators; (iv) National Statistics Office (NSO) for demographic data and others; and (v) CBMS for its disaggregated data by municipality, sex, and urban/rural that is updated every three years. The second update is already ongoing, with the first CBMS results serving as baseline data. The performance of the province is compared to national and regional benchmarks whenever the data are available for such comparative analysis.

## **CONCLUSION AND RECOMMENDATIONS**

This report presents the status of the province vis-à-vis the MDG targets, and the challenges facing the government to achieve the MDGs. The results highlight which areas the government should prioritize. As such, the following should be given priority if the province is to achieve the MDG targets.

1. Poverty is the highest cause for concern of the province. Poverty incidence at 69.5 percent indicates that the majority of the population remains poor. How to provide support and opportunities to increase family income is therefore the challenge for the government. The Eastern Samar Provincial Development Physical and Framework Plan (PDPFP) for 2010-2015 proposes to adopt strategies for economic development that will lessen reliance on primary economic activities and gradually shift the focus to secondary or tertiary ones, particularly on agri-based industries and the development and promotion of eco-tourism. Priority programs will be the Rice Self-Sufficiency Program, Agricultural Product Diversification and Intensification Program, Livestock and Poultry Production Program, Fishery Production and Development Program, Investment Promotion Program, Market Development Program, Small- and Medium-Industry Credit Program, and Eco-Tourism Development Program.
2. While only 13.8 percent of households experienced food shortage, the proportion of the population living below the food threshold was high at 58.7 percent. This indicates that the majority of households are unable to meet the minimum food needs. Hunger and malnutrition need to be addressed. One of the component strategies for agro-industrialization is productivity enhancement in agriculture and fishery through intensification and diversification. To optimize the productive levels of agricultural and fishery resources, the government should provide adequate and timely production inputs such as appropriate technology, seeds, fertilizers, pre- and post-harvest facilities, high-quality breed of livestock and poultry, and fishing gears and implements. This will target major food and industrial crops to satisfy food sufficiency and the raw materials requirements of industry.
3. To address malnutrition, the province will continue to implement its Nutrition Program. The program has two components: micronutrient deficiencies, and protein energy malnutrition. The former seeks to prevent and virtually eliminate deficiencies in iron, Vitamin A, and iodine. The latter is concerned with the generally poor nutritional status of children as indicated by low weight and stunted growth. The major activities include the following: (i) food production through bio-intensive gardening; (ii) supplemental feeding; (iii) micronutrient supplementation; (iv) food fortification; (v) advocacy and social mobilization and information, education and communication (IEC) development; and (vi) designation of full-time municipal nutrition action officers.

4. In the area of health, diseases such as tuberculosis and other endemic diseases such as filariasis, schistosomiasis, and dengue must be contained/controlled.
5. The Public Health Improvement Program aims to improve the delivery of public health services and thus help reduce mortality and morbidity cases. The major components include communicable diseases control, endemic diseases prevention and control, and prevention and control of lifestyle-related diseases.
6. The Field Facilities Upgrading Program aims to turn all the province's Rural Health Units (RHUs) into *Sentrong Sigla*-certified and PhilHealth-accredited, and thus be able to offer improved health services. It also aims to help establish additional health stations in remote areas to complement the health services offered by hospitals and health centers in the *poblacion*.
7. The reduction of maternal and child deaths must be sustained through the Child Health Program and the Maternal Health Program. The Child Health Program seeks to reduce the mortality rate among infants and children under-five years of age by implementing projects such as immunization and the Integrated Management of Child Illnesses (IMCI).
8. The Maternal Health Program is intended to improve direct services to mothers and reduce maternal mortality and morbidity. The major components are (i) upgrading and improvement of maternal health facilities in hospitals and rural health units, (ii) training of health workers on the management of obstetrical emergencies, and (iii) lactation management.
9. The provision of basic services such as potable water, sanitation, and adequate living conditions need to be addressed to ensure the protection and sustainability of the environment and natural resources. These can be done through the Environment Protection and Development Program and the Infrastructure and Utilities Program.
10. More and better-quality educational facilities for preschool, elementary, and high school students must be accessible especially for those living in geographically isolated areas. In 2005-2006, only 469 elementary schools provided services for 597 barangays (78.6%) of the province. Of these, only 304 were complete elementary schools while 154 were incomplete elementary or primary schools usually located in small and hard-to-reach barangays. There were only 66 secondary schools and

eight tertiary schools. This concern can be addressed through the Department of Education's (DepEd) School Building Program and Multi-Grade Program. The incomplete elementary schools have to be addressed so as to widen the children's access to basic education. Other underlying problems, such as poverty, can be addressed by poverty reduction measures intended for poor families.

11. Information technology and communication facilities need to be expanded to include far-flung municipalities. Along with power development, this is important especially since part of the overall goal is to attract tourists and investors into the province.
12. The attainment of the MDGs and targets, however, depends largely on the political will of LGUs to carry out policy directions and on the provision of resources for the operationalization of these policies. For 2010, the province of Eastern Samar has allocated 40.5 percent of its 20-percent Development Fund to social services, particularly for programs, projects and activities on health and nutrition, education, water and sanitation, and sports development.

For economic infrastructure, 7.1 percent has been allocated. For support infrastructure, 17.1 percent has been allocated. Financial, material, and technical resources are expected from local and foreign donors such as PLAN Philippines, UNICEF, UNFPA, United Nations Development Programme, WHO, EC, and faith-based donor agencies such as Compassion International. The progress of the province vis-a-vis the MDGs will also be monitored using data from various sources such as the NSCB, NSO, DepEd, Department of the Interior and Local Government, Department of the Environment and Natural Resources, Provincial Health Office and others, using administrative/monitoring tools such as the CBMS, BEIS, FHSIS, Family Income and Expenditure Survey (FIES), and Local Governance Performance Management System (LGPMS).



# Meeting the Challenge of the Millennium Development Goals on Health from the Perspective of Local Governance

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Carmencita O. Reyes<sup>1</sup>

The dominant characteristic of our society that demands a radical change is the economic gap between the rich and the poor. This gap is the constant theme of political oratory and social criticism. There is a general agreement that this gap must be narrowed down if only for the sake of social stability.

The stability of the Philippine society is currently on precarious ground, and such stability depends on the effectiveness of the government in taking care of the poor sector of our society. We must distinguish between the social services that the government provides through allocation of scarce resources and the patronage that it dispenses for political purposes. The latter suggests a kind of patronage for the poor in order to keep its consent to the established order of things. This is precarious because no government can remain a patron without institutionalizing a general dependency that is not only a burden but a threat to the stability of a society.

While the government must care for the unfortunate members of society, this cannot be its social mission. The social mission of government, given a widespread poverty, is to turn wards into free men, for unless this is done, the poor

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<sup>1</sup> Governor, Province of Marinduque

will soon constitute a significant and a precarious sector of this nation. Poverty is neither a fate nor a punishment but a social condition that can and must be changed.

*Ang kasaganaan at katatagan ng isang bansa'y nakasalalay sa maraming bagay ngunit sa lahat ng mga ito, ang lakas-tao ang siyang pinaka-saligang-yaman. Ang kayamanang tao ang siyang lunduyan ng gawaing pangkabuhayan. Ang inihahakbang ng isang sambayanan, maunlad man o hindi, upang mapangalagaan, mapagyaman at magamit nang buong kapakinabangan ang natatagong lakas ng kanyang mga tauhan ang siyang magtatakda ng kanyang kagalingan at kayamanan.*

*Ang diwa ng pagtulong sa sarili ang pinaka-ugat ng tunay na pagsulong ng isang tao at kung nakikita ito sa buhay ng marami, ito ang bumubuo sa pinakadiwa ng pambansang lakas at tibay.*

*Sa puntong ito, nais ko pong ilarawan sa inyo ang Marinduque at kung paano namin tinatahak ang hamon ng MDG sa pamamagitan ng paggamit ng community-based monitoring system o CBMS.*

## SOCIOECONOMIC PROFILE

Located at the very center of the Philippine archipelago, my province is a lone congressional district with only six municipalities and 218 barangays. With a land area of 95,925 hectares, it represents only about 3.5 percent of the total land area of the Mindoro, Marinduque, Romblon, Palawan (MIMAROPA) region and 0.30 percent of the country's total land area.

Based on the 2007 census by the National Statistics Office, its total population is 229,636, a mere 10 percent of the total population of the region, which is 2,349,883. And considering that land area and population are what comprise the codal formula for the annual internal revenue allotment or IRA share for every local government unit (LGU), it is sad to note that for the past five years, the province's IRA only increased at an average of 10 percent–15 percent every year, from 2007 to present, or from PhP215.32 million in 2007 to PhP347.78 in 2011.

We are a province that is highly dependent on our annual share of IRA, from which we use the 20 percent development fund—a statutory



appropriation provided under Section 287 of Republic Act 7160—to implement our socioeconomic development programs and projects, and to undertake poverty reduction or eradication programs.

We are proud though that we have infrastructures in place—good roads and bridges, national seaports, a fully operational airport, adequate public schools, and almost all of our barangays are energized.

Having been chosen as one of the pilot provinces under the “Strengthening the Government Capacity for Poverty Assessment, Plan Formulation and Monitoring,” a technical assistance grant under the World Bank-ASEM Program in 2004, this led to the implementation of the community-based monitoring system (CBMS) in 2005, and our province became one of the few provinces in the country with a complete survey of households using CBMS as a tool. It took us almost a year to come up with the CBMS result. Various strategies were applied to ensure that implementation is successful.

The CBMS survey in 2005 was a joint undertaking of the Provincial Government of Marinduque and its six municipalities. With the establishment of its result as an important tool for planning and monitoring, the second round of CBMS was conducted in 2008.

With CBMS, we now have a disaggregated data that can easily target and identify *who are the poor, where are they, and why they are poor*.

The CBMS survey result in 2005 showed that almost 50 children of the households live below the poverty threshold. Said proportion declined by more or less 15 percent in the 2008 survey but the problem of poverty is still haunting us. A total of 2,557 children are suffering from severe malnutrition and more than 8,000 of the total population experienced extreme hunger, even showing an increase in 2008 to more than 11,000.

This is the reality we face.

For example, Buenavista, the smallest municipality in terms of land area and number of barangays, is considered the poorest municipality in the province. Despite having its classification elevated from 5th class municipality to 4<sup>th</sup> class in 2009 based on the Department of Finance (DOF) Order No. 20-05, more than 60 percent of its population still live below the poverty threshold. Ironically, most of the poor can be found in rural areas where opportunities for livelihood abound because of available land and fertile soil.

A good number of poverty reduction programs were also implemented in the municipality—that of the Department of Social Welfare and Development’s (DWSD) KALAHI-CIDDS. This project was implemented

alongside with projects initiated and funded by nongovernment organizations (NGOs) like the Peace and Equity Foundation and the Norwegian Mission Alliance, Inc., by the Social Action Commission, and by the United Nations Development Programme (UNDP), in addition to the employment generated during the construction period of the Bellaroca Resort Hotel. These should have helped raise the economic status of the municipality. Despite these collaborative efforts with the local government, however, our people are still wallowing in poverty.

Another critical question is: What about health?

Health programs remain the topmost priority of my administration. It is an issue that I have always been vigilant about in how we address it. As an advocate of healthy lifestyle, I specifically requested the inclusion in the 2005 CBMS survey questions such as who and how many in the family are habitual drinkers and smokers. That way, we are able to identify the root causes of their illnesses. This is also the main reason why I personally tasked myself to tackle the health situation in our province and thus present three of the eight MDGs; Goals 4, 5, and 6 concerning health:

- MDG 4—which pertains to Reducing Child Mortality,
- MDG 5—which pertains to Improving Maternal Health, and
- MDG 6—which pertains to Combating HIV/AIDS and other Infectious Diseases

How do we now meet the challenges of the MDGs? And more importantly, what are the strategies to address the emerging issues under these goals?

## ON INFANT MORTALITY RATE

The MDG target for Goal No. 4 is to reduce child mortality by two-thirds or approximately 66 percent between 1990 and 2015. Let us take a look at the Marinduque situation.

The 2005 CBMS data show that of the 4,228 children aged 0 to less than 1 year old, 87 infants died, mostly females. Of the 24,093 children aged 0 to less than 5 years old, 136 children died, 71 of whom are males.

From 2004 to 2008, the Provincial Health Office reported that Marinduque's infant mortality rate stood at 18.11 percent. It went up to 19.21 percent in 2009. Although this is lower than the national data of

24.9 per 1,000 live births in 2008, it still is alarming. In fact, the 2006 data from the Department of Health (DOH) revealed that the province's infant mortality rate was the highest among the MIMAROPA provinces at 19.99 percent.

Some of the leading causes of mortality among children are acute respiratory infection, bronchitis, gastroenteritis, pneumonia, and vitamin deficiency.

It is sad to note that these are all highly preventable illnesses if given immediate treatment. Surprisingly also, most infant deaths are found in urban areas where health facilities, both private and public, are highly accessible.

So what have we done so far?

Recent developments show that infant mortality in our province has decreased. *"Pababa na ito,"* according to the Provincial Health Officer Dr. Honesto Marquez. According to him, *"Pag maganda ang serbisyo sa buntis, maganda rin ang resulta sa bata."* (*"This is going down,"* according to the Provincial Health Officer Dr. Honesto Marquez. According to him, *"If pregnant women are well cared for, this translates into healthier babies."*)

Programs such as the Essential Newborn Care are being implemented, where one hour after delivery, *inaalalayan na ang baby para makainom ng breastmilk* (...children are being nursed with breastmilk). Cutting the umbilical cord is also delayed so that anemia and damage to the baby's brain will be prevented. This is the best way for the mother's love to be immediately felt by the newborn child. For six months, exclusive breastfeeding is highly recommended. Free immunizations are given monthly in health stations. After six months, complementary foods are given to the infant.

Health personnel were oriented and trained in Infant and Young Child Feeding, or IYCF. *Tetanus toxoid*, ferrous sulfate, and vitamins are also provided free.

## ON IMPROVING MATERNAL HEALTH

The national target is to reduce maternal mortality rate by 75 percent, between 1990 and 2015.

Let us take a closer look at the CBMS survey results.

In 2004, there were 13 women who died due to pregnancy-related causes with a proportion of 0.3. Of this number, 12 came from the rural areas, mostly in the municipalities of Boac, Sta.Cruz, and Torrijos. This

went up in 2008 to 29 deaths. In a matter of two years, Torrijos had 21 deaths due to pregnancy-related causes.

In 2003, Marinduque ranked 2<sup>nd</sup> highest in terms of maternal mortality rate in MIMAROPA and one of the highest in the whole country.

Data from the Provincial Health Office (PHO) revealed that hemorrhagic shock during peripartum, abruption placenta, and placenta retention are the leading causes of maternal mortality. These are mostly the result of deliveries not attended by trained midwives or birth attendants. Of the 4,804 total births in the province, more than 50 percent of deliveries were handled by health personnel and 41 percent were handled by trained birth attendants.

During the National Conference on Monitoring, Evaluation for Equity and Effectiveness by the DOH, it was reported that in terms of facility-based deliveries, our performance is lower than the national average.

Most pregnant mothers would still prefer the traditional *hilot* as they are more accessible *at syempre, mas mura* (and of course, much cheaper). Distance from health facilities would entail them additional cost for transport.

Data show that there are 21 geographically isolated and disadvantaged areas or GIDAs in the province. As a result, it takes a patient more than an hour before reaching the nearest health facility and another hour or so to reach the next referral hospital, traversing mountains or crossing rivers. Blood loss is one of the causes of maternal deaths, hence, the need for a blood bank facility.

The good news though is that since July 2010, health facility-based delivery has increased where before it was only 17 percent. "*Nabawasan na ang nanganganak sa bahay.*" (*Home-based deliveries were lessened.*) Programs are now basically focused on facility-based delivery.

Being aware that critical to reducing or eliminating maternal and infant deaths is the presence of properly trained health workers, we have constructed 34 barangay health stations manned by 1,192 barangay health workers (BHWs). We strongly advocate facility-based deliveries and not at homes. Basic Emergency Obstetric and Newborn Care (BEMONC) and Comprehensive Emergency Obstetric and Newborn Care (CEMONC) shall serve as halfway homes for pregnant mothers. The LGU of Torrijos has passed an ordinance for facility-based deliveries that discourage birth deliveries at home.

Marinduque has 309 birth attendants. *At bagamat itinuturing namin ang aming traditional birth attendants o hilot bilang counterpart ng mga midwives at doktor sa kanayunan (doctor in the barrios) at para hindi naman sila ma-displace, we asked them to undergo an Orientation on Women's Health Team where they can now team up with midwives and BHWs. What they are tasked to do is pregnancy tracking—which means they monitor pregnant women in the barangays and help them in their birth plans up to the time of their delivery in the BEMONC and CEMONC facilities. Prenatal care visits have been strengthened.*

*Bilang isang pro-life advocate, I would rather that we focus on improving maternal and prenatal care through proper health and nutrition practices. Ang Marinduque ay isang lalawigan kung saan ang karamihan ay mga Katoliko na bumubuo ng halos 90 percent ng aming kabuuang populasyon. Ang natitirang porsyento ay binubuo naman ng ibang sekta tulad ng Iglesia Filipina Independiente, Iglesia ni Cristo, Born-Again Christians, at iba pang Protestant churches.*

## ON COMBATING HIV, MALARIA, AND OTHER INFECTIOUS DISEASES

I am proud to announce that Marinduque is a malaria-free province thus, we are able to attain that MDG target. What we are currently doing to maintain our malaria-free state is conduct surveillance and monitoring activities through our midwives and BHWs of those non-residents of Marinduque who may be infected with malaria and may be entering the province.

We have two cases of HIV-AIDS under treatment. We will be setting up social hygiene clinics starting in 2011 in Sta. Cruz and by year 2012 in Boac and Gasan. This is also part of the DOH priority program in increasing the level of awareness on prevention and control of sexually transmitted infections and HIV-AIDS.

Pulmonary tuberculosis (PTB) though has remained to be a public health problem and ranks 7<sup>th</sup> among the 10 leading causes of death in the province. Cases went down from 81 in 2005 to 44 in 2008. However, if not prevented, it could spread five times to other members of the family and although detection rate is high—ranging from 78.0 percent to 100 percent in 2004 to 2008—cure rate is still relatively low at 71 percent. This is because of the poor health-seeking behavior of patients, which usually lead to chronic stage and complications. Noticeable is the high incidence among the male population. This could be true since PTB is associated

with unhealthy lifestyle such as smoking and heavy drinking. From among the six municipalities, Sta. Cruz had the most number of deaths caused by PTB and most cases are in the rural areas.

In October 2010, the Philippine Coalition Against Tuberculosis (PhilCAT), an NGO that helps the government in controlling TB through global funding, has tied up with the Marinduque-PHO. The goal of the PhilCAT program is for a TB-free Philippines in 2015 by institutionalizing mixed private and public partnerships. In February 2011, there will be a "Provincial Situation Analysis on the TB Program in Marinduque" and a strategic planning will be conducted based on the provincial situationer to improve program implementation and to reach the targeted goal.

## OTHER CHALLENGES, CURRENT POLICIES AND STRATEGIES, PROGRAMS, AND PROJECTS IN ACHIEVING THE MDGs ON HEALTH

Accessibility to the nearest health care facility is one issue we are trying to address. All rural health units and barangay health stations should be fully utilized in preventive health care services while facilities must be improved. *Sentrong Sigla* facilities shall also be provided to augment and complement rural health units, which shall also serve as birthing facilities manned by trained BEMONC staff. For a primary hospital like the Torrijos Municipal Hospital, for example, it shall function as a CEMONC facility.

All barangays must have *Botika sa Barangay* and if possible, we will assign doctors in the remote areas.

The social insurance to maintain medical care, especially for the poor is also inadequate. Thus, it is imperative for us to implement *universal coverage of Philhealth insurance*. Appropriation for health insurance for the poor shall form part of the annual budget. We have been distributing *health cards* to those identified as the *true poor* so they could avail of a 100 percent free hospital services through the Provincial Social Welfare and Development Office. Validation and updating of the poverty data generated in 2008 were done to ensure that this program will benefit those who are really in need of free health care services and by prioritizing indigent families and individuals.

*Salamat sa* DSWD because, finally, Marinduque is now a recipient of the Conditional Cash Transfer (CCT). But I would like to appeal because we have more or less 50 percent poor as against the less than 3,000 recipients of the CCT. *Siguro naman, madadagdagan na ang aming appropriation sa susunod.*

Another strong measure is the establishment of the two Interlocal Health Zones, which was organized during my past stints as governor. Before the year 2010 ended, I approved the Health Rationalization Plan spearheaded by the PHO in collaboration with the DOH, and the six LGUs. It will serve as the province's guiding imprimatur in the implementation of our health programs during this administration and beyond, until we have addressed all the health concerns of the Marinduqueños.

Hospital services will be upgraded and improved to cater to our needy population so that it will no longer be necessary to transport patients to nearby provinces because of inadequate facilities. The preventive health care department will further be strengthened.

We will also strengthen partnerships and collaboration with organizations like the Marinduque International, University of Sto. Tomas, University of the Philippines–Philippine General Hospital (UP-PGH), and other institutions conducting medical missions. It is imperative to continue strong collaboration with NGOs because for a province that is highly dependent on IRA, and with a ballooning poor population, we absolutely need help from them.

Admittedly, our resources are scarce yet very critical in the attainment of our target. In the past few years, only about 30 percent of the total annual budget went to health services. With a tall order from this administration and health being my priority program, budgetary allocation will surely be increased.

*At bago po ako magtapos ng aking ulat ngayong araw, nais kong magpasalamat sa dalawang naging instrumento upang maging katotohanan ang pagbuo ng CBMS survey sa aming lalawigan.* To the UNDP, for having chosen Marinduque as one of the pilot provinces—from among the more than 70 provinces all over the country—to produce the first *Status Report on the Millennium Development Goals using the CBMS* as database, and to the CBMS team headed by Dr. Celia M. Reyes for their technical assistance. We would still be groping in the dark had they not taught us how to complete our data.

Yes, we will continue bringing the government closer to the people of Marinduque. *Ipagpapatuloy ko ang aking nasimulan at patuloy kong hihikayatin ang aking mga kababayan na mahalaga ang aming pagpupunyagi para sa kaunlaran ng aming mahal na lalawigan at ng ating bayan.*

Let us all work hard and work with unwavering focus toward the goal of elevating our people's lives to the level of human dignity. This will be our paramount legacy to our nation.





# Status Report on the Millennium Development Goals Using CBMS Data: Province of Romblon

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Eduardo C. Firmalo<sup>1</sup>

The provincial Millennium Development Goals (MDG) report was a result of a collaborative effort between the PEP-CBMS Network Coordinating Team and the Provincial Government of Romblon, with funding support from the United Nations Development Programme (UNDP), Philippines. The report aims to track the progress toward the achievement of the MDGs in the province and create a document that would increase the awareness of local stakeholders on the universal development thrust.

The report used the result of the 2007 CBMS survey conducted in the province and other administrative data.

The result presented in this report suggested that there has been some good news, and not-so-good news on some indicators, but there are indicators that pose a great challenge for the local government during the remaining five years until the 2015 target. Without doubt, there is a need for a concerted effort among all stakeholders, from the national down to the local level, to make urgent response to achieve the MDG targets that would result in a better life for every person in the province.

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<sup>1</sup> Governor, Province of Romblon

### **Good News:**

- The prevalence of underweight children under 5 years old was 8.15 percent, which is already below the national target of 17.25 percent by 2015.
- The literacy rate among the population 15-24 years old was high at 97.71 percent and was only 2.3 percentage point away from the 100 percent target.
- The ratio of girls to boys who were enrolled in elementary is 0.9 but this is due to the higher population of boys than girls. In high school and college, there are more girls enrolled—the proportion is 1.03 in high school and 1.14 in college, even if the population of males is greater than females.
- The ratio of literate females to males 15-24 years old is lower at 0.88 due to the higher male population in this age group.
- No HIV/AIDs case has been reported in the province.
- The proportion of informal settlers to total population was low at 1.3 percent and those living in makeshift housing comprise 2.12 percent.

### **Not-So-Good News:**

- The proportion of the population who experienced food shortage was minimal at 3.02 percent.
- Employment rate was high at 97.73 percent although employment opportunities provide low economic returns.
- The poverty gap ratio was moderate at 0.34.
- The proportion of deaths among children aged 0 to less than five was 0.56 percent, with 1.81 percent for infants and 0.28 percent for those 1 to less than 5 years old.
- The proportion of women deaths due to pregnancy-related causes was 0.23 percent;
- The proportion of the population with access to safe drinking water was 76.28 percent and those with access to sanitary toilet facilities was 71.38 percent.
- The proportion of households with telephone landlines was a meager 1.21 percent but this is due to the province's geophysical characteristics.
- The proportion of population with cellular phones was 26.96 percent but increasing.

- The proportion of population with computers was low at only 3.34 percent because of the difficulty in obtaining internet connection

### **Posing Great Challenge:**

- The proportion of the population below poverty threshold was staggering at 68 percent and those below food threshold was 55.68 percent, more than half of the population.
- The proportion of children 6-12 years old enrolled in elementary education was 77.06 percent, children 13-16 years old enrolled in high school was 62.5 percent, and children 6-16 years old enrolled in school was 88.5 percent, which is more than 10 percentage points short of the 2015 target of universal education.
- Only 26.37 percent of women held elective positions in the province at the barangay, municipal, and provincial levels.
- Contraceptive prevalence rate was 32.04 percent while the proportion of couples using condom among those who are practicing family planning was only 1.45 percent.
- The prevalence of deaths associated with tuberculosis was high at 46.68 percent.
- The proportion of the population living under inadequate conditions was 43.12 percent because of the water and sanitation component.

Table 1 presents the summary of the status of the MDG indicators based on the 2007 CBMS survey results.

**Table 1. Summary of Findings of MDG Indicators, Province of Romblon, 2007**

Millennium Development Goals	Households		Population											
	Magnitude	Percentage	Magnitude			Percentage			Magnitude					
			Total	Male	Female	Total	Male	Female	Urban	Rural	Urban	Rural		
GOAL 1. Eradicate Extreme Poverty and Hunger														
Proportion of population living below the poverty threshold	34,627	62.10	171,798	88,057	83,741	68.00	68.96	67.02	5,626	29,001	54.36	63.87		
Proportion of population living below the food threshold	42,218	52.9	229,136	119,596	109,540	59.4	60.0	58.7	9,687	32,531	42.66	50.72		
Poverty Gap Ratio		0.34									0.32	0.35		
Employment Rate			67,528	45,158	22,366	97.73	97.92	97.34	12,234	55,294	97.69	97.74		
Proportion of population who experienced food shortage	1,509	2.67	7,637	4,020	3,617	3.02	3.15	2.89	244	1,265	2.32	2.75		
Prevalence of underweight children under 5 years of age			2,424	1,147	1,277	8.15	7.54	8.79	304	2,120	5.71	8.69		
GOAL 2. Achieve Universal Primary Education														
Proportion of children aged 6-12 years old enrolled in elementary education			38,879	20,001	18,878	77.06	76.12	78.08	6,820	32,059	77.28	77.01		
Proportion of children aged 13-16 years old enrolled in high school			16,828	7,904	8,924	62.52	56.16	69.49	3,474	13,354	70.18	60.79		
Proportion of children aged 6-16 years old enrolled in school			68,439	34,813	33,626	88.46	86.28	90.83	12,516	55,923	90.86	87.93		
Literacy rate of 15-24 year-olds			40,993	21,836	19,157	97.71	97.56	97.87	7,910	33,083	98.07	97.62		
GOAL 3. Promote Gender Equality And Empower Women														
Ratio of girls to boys in primary education						0.90					0.91	0.90		
Ratio of girls to boys in secondary education						1.03					1.05	1.03		

Table 1 (continued)

Millennium Development Goals	Households		Population														
	Magnitude	Percentage	Magnitude			Percentage			Magnitude		Percentage						
			Total	Male	Female	Total	Male	Female	Urban	Rural	Urban	Rural					
Ratio of girls to boys in tertiary education							1.14								1.14		1.15
Ratio of literate females to males (15-24 years old)							0.88									0.94	0.86
Proportion of seats held by women in municipality and province			1,805	1,329	476		26.37										
GOAL 4. Reduce Child Mortality																	
Proportion of children aged 0 to less than 5 years old who died			166	97	69		0.56				0.47			24	142	0.45	0.58
Children aged 0 to less than 5 years old			29,728	15,207	14,521								5,327		24,042		
Proportion of infants who died			96	58	38		1.81				1.50			16	80	1.60	1.73
Children aged 0 to less than 5 years old			5,221	2,719	2,502								966		4,535		
Proportion of children aged 1 to less than 5 years old who died			70	39	31		0.28				0.26			8	62	0.18	0.31
Children aged 1 to less than 5 years old			24,507	12,488	12,019								4,341		20,167		
GOAL 5. Improve Maternal Health																	
Proportion of women deaths due to pregnancy-related causes			12				0.23							2	10	0.20	0.24
Contraceptive prevalence rate			13,406				32.08							2,399	11,007	31.45	32.22
GOAL 6. Combat HIV/Aids, Malaria and Other Diseases																	
Proportion of couples using condom among those who are practicing contraception			194				1.45							52	142	2.17	1.29
Death rates associated with malaria			5	3	2		1.98				2.35		1.60	–	5	–	2.43

Table 1 (continued)

Millennium Development Goals			Households		Population									
	Magnitude	Percentage	Magnitude			Percentage			Magnitude				Percentage	
			Total	Male	Female	Total	Male	Female	Urban	Rural	Urban	Rural		
Prevalence and death rates associated with tuberculosis			118	79	39	46.68	61.83	31.19	19	99	40.10	48.12		
GOAL 7. Ensure Environmental Sustainability														
Proportion of households/population with access to safe drinking water	43,129	76.29	192,647	96,922	96,725	76.28	75.90	76.61	9,375	33,754	89.07	73.37		
Proportion of households/population with access to sanitary toilet facility	40,793	72.16	180,268	90,081	91,187	71.38	70.54	72.18	8,574	32,219	81.47	70.03		
Proportion of households/population who are informal settlers	24,073	42.50	108,901	56,031	52,870	43.12	43.88	42.31	2,795	21,278	26.45	46.18		
Proportion of households/population who are living in makeshift housing	601	1.07	2,854	1,483	1,371	1.13	1.16	1.10	155	446	1.48	0.97		
Proportion of households/population living in inadequate living conditions	1,173	2.08	5,344	2,727	2,617	2.12	2.14	2.09	185	988	1.76	2.15		
GOAL 8. Develop A Global Partnership For Development														
Proportion of the households with landlines/telephone lines	1,069	1.21							449	620	4.27	1.35		
Proportion of the households with cellphones	15,241	26.96							4,191	11,050	39.82	24.02		
Proportion of the households with computers	2,169	3.84							766	1,403	7.28	3.05		

Source: CBMS Survey, 2007

## MEETING THE 2015 CHALLENGE

Achieving the MDG challenge is an enormous task that necessitates the convergence of national and local agencies, the active participation of the nongovernment organizations (NGOs) operating in the area, and the cooperation of the community members. The inadequacy of logistics, particularly funding support to spur massive economic growth, will hamper some of these efforts; nonetheless, with the concerted efforts of all stakeholders and with proper prioritization of the meager resources, the province hopes to ultimately make an inroad in achieving the MDG targets and alleviating the poverty situation in province.

### **Priority Programs and Policy Responses**

Given the socioeconomic condition of the province, including its very unique physical characteristics, the first priority of all local chief executives (LCEs) is to promote economic development while attempting to expand the delivery of basic services. The latter could not be relegated to the background as it is the primary duty of every local government unit (LGU). The more rampant the poverty, the bigger the need and the necessity to provide basic services, particularly on health and sanitation, food and nutrition, shelter, education, even financial assistance for those in crises situation in the form of Aid in Crisis Situation (AICS). The provision of basic services drains much of the coffers of any poor LGU and the dilemma of each LCE is how to go about improving the socioeconomic condition of the poverty-stricken constituents given the scarce financial resources. The challenge lies in the proper management and utilization of our area's vast natural resources, particularly our fishing grounds that are rich in marine products, as well as our marble reserves.

### ***Poverty Alleviation and Hunger Mitigation***

Economic development is the key to eradicating poverty and mitigating hunger. To provide a better climate for the establishment of small-scale industries, the provision of incentives such as tax breaks for the first year of operation could encourage new players. To support this new industry, it is imperative to maximize agricultural production by utilizing all spare lands. Taxes on idle lands could be levied so that owners would be encouraged to make them productive. Modern agricultural inputs and innovative technologies suited to our land should be employed to maximize production. Marginalized farmers and fishermen should be given social preparation to form people's organizations (POs) or cooperatives

for them to be able to rise from economic bondage. There is also a need to intensify livestock and poultry production so that the province will no longer import dressed chickens and eggs from neighboring provinces. The coconut industry must be given attention; improved varieties should be introduced to boost copra production that could be nurtured as a small-scale industry for oil or soap. Likewise, the marble industry would need assessment for new product development and improved market linkages. Tourism is also a potential industry to look into.

### ***Universal Primary and Secondary Education***

With the implementation of the Local Government Code, the LGUs were empowered to address issues and concerns regarding education through the Local School Board (LSB) with finances coming from the Special Education Fund (SEF). The national government likewise provides logistics support for the “Education for all” policy. Although elementary and high school educations are free, the problem of low participation rate remains. This is the challenge that needs immediate attention. Expanding the pre-elementary education services of the Department of Education (DepEd) would help students in terms of readiness in their transition to elementary. Strengthening the Early Childhood Care and Development (ECCD) program and day care services, and requiring all children 3-5 years old to attend will help instill the habit of going to school everyday. This could reduce dropouts in elementary education. For those who really cannot go to school for some reasons, the DepEd’s provision of the Alternative Learning System (ALS) should be intensified, including the provision of additional special education (SPED) classes for children with special needs. Likewise, the “Tuloy Aral Walang Sagabal” (TAWAG) program of the Department of Social Welfare and Development (DSWD) should be expanded to cover all municipalities. Improving school facilities including provision of books and instructional materials will also inspire children to study. The LSB should look deeper into the issue of low participation in both elementary and high school, including the case of more boys not going to school. Reasons for dropouts must be evaluated to implement proper strategies and solutions.

### ***Gender Equality and Women Empowerment***

There is no gender disparity in the access to primary and secondary education in the province. However, there is a trend of lower proportion of males going to school, particularly in secondary and tertiary education. To address this concern, a study must be made as to the real reasons so that adequate policies and interventions could be put in place. For women



empowerment, the provision of livelihood skills training with gender advocacy could increase their self-esteem in order to become productive members of the community. The establishment of a one-stop-shop for victims of abuse and the Women's Desk will encourage more women to report cases of atrocities. Information and dissemination of the violence against women and children (VAWC) law will help decrease marital abuses including maltreatment of children. To encourage more women to seek elected position and serve their communities, women success stories in the area of governance could facilitate realizations that they could also make a difference and contribute to the wellbeing of the community.

### ***Health Reform Program***

The implementation of the Provincial Investment Plan for Health (PIPH) under the FOURmula One for Health program has provided a wide array of health-related programs and intervention geared toward improving health indices. To immediately realize the program, there is a need to expedite the implementation of all program components as well as replicate good practices. To sustain the program, there is a need to strengthen the Inter Local Health Zones (ILHZ), particularly the referral system. Involvement and active participation of all stakeholders, particularly Municipal Health Offices (MHOs) can make a lot of difference, particularly in service delivery and implementation of innovative program interventions. Most importantly, the LCEs, as head of the LGUs, must be in the forefront of this program for the necessary logistics and leadership to make the health reform program effective and successful. The implementation of the Responsible Parenting Movement (RPM) through parents' association could generally encourage couples to practice birth spacing using any given method acceptable to them. The Adolescent Health and Youth Development programs should also address the issues of teenage pregnancies, drug addiction, alcoholism, and other juvenile-related problems to make the health reform program holistic.

### ***Environmental Sustainability and Improving the Lives of Informal Settlers***

The problem of dwindling natural resources, in most cases, is irreversible, particularly coastal and marine ecosystem. Hence, environmental laws must be strictly implemented to stop the degradation and start reversing the process. The approval of the Sangguniang Panlalawigan on the proposed Environmental Code of the province is a priority to guide us in reversing the loss of environmental resources. The expansion and establishment of fish sanctuaries, the rehabilitation

of mangroves, and a regular coastal cleanup can improve our marine resources. All forestlands must be reforested, including Mt. Guiting-guiting Natural Park while support to the Integrated Social Forestry (ISF) and Community-Based Forest Management (CBFM) programs is needed to hasten the recovery of our forest cover. Immediate attention is required to rehabilitate our watershed areas and improve current water sources. The implementation of the Integrated Coastal and Marine Resources Management (ICMRM) needs to be strengthened to cover all areas so that all economic activities could be monitored. Proper mobilization of “Bantay Dagat” agents is needed to apprehend encroaching fishing vessels in municipal waters. The strict implementation of laws especially the payment of fines will discourage violators. For the informal/illegal settlers, establishment of housing projects for their relocation including provision of livelihood opportunities will dramatically improve their socioeconomic condition. For waterless families, improvement of water system facility and provision of toilet bowls for those without sanitary latrines would ensure better health and sanitation.

### ***Development for Global Partnership***

With the upgrading of the Romblon State College into a university, the challenge to provide a globally competitive education is within our reach. Provision of career options particularly for our younger generation could bring in development because of a highly educated labor force. Another priority is the establishment of a research facility that could do research on any field, particularly on the endemic species and the biodiversity in Sibuyan Island, and the high-value agricultural products suited to Romblon’s unique land characteristics. Likewise, the improvement of internet access including relay stations for cell signals to increase intercommunication within and outside the country is a must. It is important to encourage all high school principals throughout the province to include computer literacy in their academic curriculum to prepare the students for college life and for their chosen field. All these would lead to a development that is globally competitive.

## **FINANCING THE MDGS**

To achieve the MDG targets, a myriad of interventions have to be institutionalized and implemented to achieve the desired results. Table 2 presents the proposed programs/projects/activities geared toward achieving the MDG targets as well as improving the socioeconomic conditions of the Romblomanons.

**Table 2. Estimates of Funding Requirements**

Programs/Projects/Activities		Location	Project Cost, By Year (In Millions)					
			2010	2011	2012	2013	2014	2015
Goal 1. Eradicate Extreme Poverty and Hunger								
1. Skills Development Training/Capability Building	Province-wide	.2M	.2M	.2M	.2M	.2M	.2M	1.2M
2. Provision of livelihood assistance and seed capital	Province-wide	2M	2M	2M	2M	2M	2M	12M
3. Promotion of Agriculture Projects	Province-wide	—	—	—	—	—	—	—
4. Bio-intensive Gardening Cash Crop	Province-wide	.3M	.3M	.2M	.1M	.1M	—	1M
5. Vegetable Production & Seed Dispersal	Province-wide	1M	.3M	.2M	.2M	.2M	.1M	2M
6. Upland Farming using SALT	Province-wide	.3M	.3M	.3M	.1M	—	—	1M
7. Promotion of Fishery Development	Province-wide	—	—	—	—	—	—	—
8. Establishment of Fish Processing Plant	San Fernando, Romblon & Santa Fe	—	3M	3M	3M	—	—	9M
9. Inland Fish Production/Aqua Culture	Province-wide	.3M	.3M	.3M	.1M	—	—	1M
10. Construction of Payao	Province-wide	.3M	.3M	.3M	.1M	—	—	1M
11. Livestock Dev't Program	Province-wide	.5M	.5M	.5M	.5M	.5M	.5M	3M
12. Promotion and establishment of Linkages for marble products	Romblon	.25M	.25M	.25M	.1M	.1M	.1M	1.05M
13. Product Dev't and Marketing	Province-wide	.5M	.5M	.5M	.5M	.5M	.5M	3M
14. Establishment of Coco-based Industries	Tablas	—	10M	5M	3M	2M	—	20M
15. Promotion of Tourism Industry	Province-wide	1M	1M	1M	1M	1M	—	5M
16. Facilitate Co nduct of Jobs Fair	Province-wide	.2M	.2M	.2M	.2M	.1M	.1M	1M
17. Cooperative Dev't Program	Province-wide	.7M	.7M	.7M	.7M	.7M	.7M	4.2M
18. Nutrition Program – Training of MNAOs & BNS Supervisors	Province-wide	.4M	.4M	.4M	.4M	.4M	.4M	2.4M
19. Procurement of Iodized Salt	Province-wide	.2M	.2M	.2M	.2M	.2M	.2M	1.2M
20. Supplemental Feeding for 0 to less than 5 year old	Province-wide	.4M	.4M	.4M	.4M	.4M	.4M	2.4M
21. Monitoring & Evaluation for Nutrition Program	Province-wide	.35M	.35M	.35M	.35M	.35M	.35M	2.1M
Sub-total		8.9M	21.2M	16M	13.15M	8.75M	5.55M	73.55M

Table 2 (continued)

Programs/Projects/Activities	Location	Project Cost, By Year (In Millions)						
		2010	2011	2012	2013	2014	2015	Total
Goal 2. Achieve Universal Primary Education								
1. Establishment of Elementary School	Tampayan, Magdiwang	1M	1M	2M	–	–	–	4M
2. Establishment of Practical & Technical Institution	Poblacion, Magdiwang	–	–	2M	3M	–	–	5M
3. Construction of additional classrooms	Province-wide	5M	10M	10M	10M	10M	5M	50M
4. Rehabilitation of School Buildings	Province-wide	3M	5M	5M	5M	5M	3M	26M
5. Provision of books and school supplies to students from poor families	Province-wide	1M	2M	2M	2M	1M	1M	9M
6. Conduct of Trainings/Seminars to Teachers	Province-wide	.2M	.2M	.2M	.2M	.2M	.2M	1.2M
7. Rehabilitation of Severely Underweight Students	Province-wide	.2M	.2M	.15M	.15M	.15M	.15M	1M
8. Supplemental Feeding to Malnourished In-school Children	Province-wide	.2M	.2M	.2M	.2M	.2M	.2M	1.2M
9. Early Childhood Care & Development program (ECCD)	Province-wide	5M	5M	5M	5M	.5M	.5M	21M
Sub-total		15.6M	23.6M	26.55M	25.55M	17.05M	10.05M	118.4M
Goal 3. Promote Gender Equality								
1. Mainstreaming of Gender Advocacy in Livelihood Trainings/Skills Capability	Province-wide	–	–	–	–	–	–	–
2. Capability Building for Women's Groups	Province-wide	.2M	.2M	.2M	.2M	.2M	.2M	1.2M
3. Strengthening of Women's Association	Province-wide	.2M	.2M	.15M	.15M	.15M	.15M	1M
4. Women's Welfare Program	Province-wide	.2M	.2M	.2M	.2M	.2M	.2M	1.2M
Sub-total		.6M	.6M	.55M	.55M	.55M	.55M	3.4M
Goal 4. Reduce Child Mortality								
Goal 5. Improve Maternal Health								

Table 2 (continued)

Programs/Projects/Activities	Location	Project Cost, By Year (In Millions)						
		2010	2011	2012	2013	2014	2015	Total
Goal 6 – Combat HIV/AIDS, Malaria & Other Diseases								
1. Upgrading of Health Facilities including BHS	Provincewide	7M	5M	4M	2M	2M	2M	22M
2. Training for Service Providers	Province-wide	.2M	.2M	.2M	.2M	.2M	.2M	1.2M
3. Provision of family planning commodities	Province-wide	.5M	.5M	.5M	.5M	.5M	.5M	3M
4. Disease Free Zone (rabies, malaria, filaria & leprosy)	Province-wide	.2M	.2M	.2M	.2M	.2M	.2M	1.2M
5. Intensified Disease Prevention (TB, Dengue, HIV/AIDS)	Province-wide	.3M	.3M	.3M	.3M	.3M	.3M	1.8M
6. IEC on Prevention of communicable diseases	Province-wide	.2M	.2M	.2M	.2M	.2M	.2M	1.2M
7. Intensity Campaign for Responsible Parenting Movement with Emphasis on Natural Family Planning Methods	17 Centers	.5M	.5M	.5M	.5M	.5M	.5M	.3M
8. Establishment of Adolescent Health & Youth Dev't (AHYD) Center	Province-wide	2M	5M	5M	3M	2M	–	17M
9. Monitoring & Evaluation of Health programs/projects	Province-wide	.5M	.5M	.5M	.5M	.5M	.5M	.3M
10. Phil-health Program for Indigents	Province-wide	2M	3M	4M	5M	5M	5M	24M
Sub-total		13.4M	15.4M	15.4M	12.4M	11.4M	9.4M	77.4M

Table 2 (continued)

Programs/Projects/Activities	Location	Project Cost, By Year (In Millions)						
		2010	2011	2012	2013	2014	2015	Total
Goal 7. Ensure Environmental Sustainability								
1. Protection of Marine & Forest Reserves	Province-wide	–	–	–	–	–	–	–
2. Integrated Social Forestry (ISF) & Community Based Forest Management (CBFM)	Sibuyan & Tablas	1M	1M	1M	1M	1M	1M	6M
3. Rehabilitation of Watershed Areas & Management Program	Province-wide	1M	1M	1M	1M	1M	1M	6M
4. Integrated Coastal & Marine Resources Management	Province-wide	2M	2M	2M	2M	2M	2M	12M
5. Establishment of Marine & Fish Sanctuaries	Province-wide	–	–	–	–	–	–	–
6. Development/upgrading of water system facility	Province-wide	7M	5M	3M	2M	2M	2M	21M
7. Full implementation of sanitation and waste management program	Province-wide	–	–	–	–	–	–	–
8. Implementation of Waste Segregation Scheme	Province-wide	–	–	–	–	–	–	–
9. Establishment of Organic Fertilizer Plant	Province-wide	1M	1M	1M	1M	.5M	.5M	5M
10. Establishment of Materials Recovery Facilities	Province-wide	.75M	.75M	.75M	.3M	–	–	2.55M
11. Provision of Sanitary Toilet	Province-wide	1M	1M	1M	1M	1M	1M	6M
12. Housing Program for relocation of informal/illegal settlers	Magdiwang	10M	10M	10M	–	–	–	30M
13. Provision of Livelihood Opportunities for relocated families	Magdiwang	.5M	.4M	.3M	.1M	.1M	–	1.4M
14. Assistance to Bantay Dagat	Provincewide	1M	1M	1M	1M	1M	1M	6M
15. Assistance to Bantay Kalkasan	Sibuyan	.1M	.1M	.1M	.1M	.1M	.1M	.6M
16. Strict Monitoring of “Minahang Bayan” small scale mining	Magdiwang	–	–	–	–	–	–	–
17. Monitoring & Regulation of Prov'l Mining Activities/Operations	Province-wide	1M	1M	1M	1M	1M	1M	6M
Sub-total		26.35M	24.25M	22.15M	10.5M	9.7M	9.6M	102.55M

Table 2 (continued)

Programs/Projects/Activities	Location	Project Cost, By Year (In Millions)						
		2010	2011	2012	2013	2014	2015	Total
Goal 8. Develop a Global Partnership for Development								
1. Rehabilitation/Concreting of Roads	Province-wide	20M	40M	50M	40M	40M	40M	230M
2. Improve Access to Telecommunication/Internet	Province-wide	3M	.5M	.5M	.5M	.5M	.5M	5.5M
3. Skills Training on IT	Province-wide	.5M	.5M	.5M	.25M	.25M	.25M	2.5M
4. Establishment of a Research Facility	Sibuyan, Tablas (RSU)	–	–	10M	10M	2M	2M	24M
Sub-Total		23.5M	41M	61M	51M	42.75M	42.75M	262M
Total Over-all Project Cost		88.35M	126.05M	141.65M	113.15M	90.2M	77.9M	637.3M

## MONITORING THE MDGS

The implementation of the CBMS in the province of Romblon had been a laudable effort of the provincial government and its 17 municipalities. The availability of grassroots data at each geopolitical level—barangay, municipal, and provincial—has greatly enhanced the analysis of current situation, providing insights into the underlying causes of the existing condition. The Memorandum of Agreement (MOA) between the provincial government, PEP-CBMS Network Coordinating Team, and the other provinces in the MIMAROPA Region indicated the commitment of the signatories for the updating of the CBMS database preferably every three years.

The preparation of the Provincial MDG Report had been done with the support and technical assistance of many partners, including the provision of the licensed software Stata. The provincial CBMS-MDG Teams have been capacitated to prepare this report and to generate similar documents in the future.

For the yearly monitoring of the MDGs, the province will have to rely on the administrative data generated by the different provincial offices and other agencies to gauge the progress of the indicators being monitored. These data will provide us with yearly information on the status and trends, particularly in the education and health components of the MDGs.



# Status Report on the Millennium Development Goals Using CBMS Data: Province of Sarangani

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Steve Chiongbian Solon and Rene Paraba<sup>1</sup>

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The 1<sup>st</sup> Provincial Millennium Development Goals (MDG) Report of Sarangani Province is a result of the collaborative efforts of the Provincial Government of Sarangani, the PEP-Community-Based Monitoring System (CBMS) Network Coordinating Team, and the United Nations Development Programme (UNDP), Philippines. It aims to monitor the progress toward the attainment of the MDGs in the province and to increase local awareness of how this report can bridge local and national development strategies.

This report used the results of the 2007 CBMS survey in relation to the MDG targets. The results suggest that there have been some good news and not-so-good news in some indicators while some indicators are posing a great challenge to the provincial government for the remaining five years—from the time of writing this report to the target year of 2015—to achieve the MDGs.

## Good News:

- The poverty gap ratio was 0.3.
- The prevalence of underweight children is 4.0, which already surpassed the 2015 national target of 17.3.

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<sup>1</sup> Vice Governor and Provincial Planning and Development Coordinator (PPDC), respectively, of the province of Sarangani

- The province also has an ideal 1:1 gender ratio in primary education.
- The ratio of literate females to males aged 15-24 is 0.9, which is closer to the 2015 national target of 1.0.
- Under-five mortality rate is 0.3 percent.
- There are no reported cases of deaths associated with HIV/AIDS and malaria.
- The proportion of the population living as informal settlers was low at 3 percent and the proportion of the population living in makeshift housing was also low at 4 percent.
- Of the land area, 56 percent was covered by forest.
- Of the total area of the province, 23 percent was declared as protected area.

### **Not-So-Good News:**

- The proportion of the population with income below the poverty threshold was 69 percent, which is quite high relative to the national target of 22.7 percent.
- Of the population, 56 percent was living below the food threshold, which means that less than half of the population has an average annual income of PhP10,500.
- The proportion of children aged 6-12 who were enrolled in elementary education was 68 percent. This implied that close to one-third of the school-age population at the primary level were not in school.
- Literacy rate among the population aged 15-24 was 91 percent but still below the 100 percent national target.
- The proportion of elective posts held by women in municipalities and the province was merely 15 percent.
- The province also had relatively high prevalence and death rates associated with tuberculosis. Total death toll throughout the province was 65 and most of them were males.
- The proportion of the population with access to safe drinking water was 70 percent, or short by 16 percent against the national target.
- The proportion of urban population with access to improved sanitation was high at 62.1 percent but falls short by 17 percent against the 2015 national target.

- The proportion of households with telephone landlines was very low despite the presence of several telecommunication service providers serving the province.

### **Posing a Great Challenge:**

- There is a need to reduce the percentage of poor Sarangans by 46 percent to be at par with the national target of 22.7 percent.
- The percentage of children aged 6-12 who are enrolled in elementary education has to be increased by 32 percent to meet the 100 percent national target by 2015.
- Gender disparity in the areas of education and political participation has to be eliminated. There is a need to level the ratio of boys and girls in secondary and tertiary education and to increase the proportion of elective seats held by women in the municipalities and in the province.

**Table 1. Summary of Findings of MDG Indicators, Province of Sarangani, 2007**

Millennium Development Goals	Households		Population											
	Magnitude	Proportion	Magnitude			Proportion			Magnitude			Proportion		
			Total	Male	Female	Total	Male	Female	Urban	Rural	Urban	Rural		
GOAL 1. Eradicate Extreme Poverty and Hunger														
Proportion of population living below the poverty threshold	54,271	63.8	267,088	138,429	128,659	69.5	69.4	69.7	7,943	46,328	59.8	64.6		
Proportion of population living below the food threshold	42,400	49.9	214,315	110,978	103,337	55.8	55.7	55.9	6,002	36,398	45.2	50.7		
Poverty Gap Ratio		0.3									0.3	0.3		
Employment Rate			113,789	92,043	21,745	98.9	99.2	97.5	18,925	94,864	99.1	98.9		
Proportion of population who experienced food shortage	3,072	3.6	14,226	7,305	6,921	3.7	3.7	3.7	229	2,843	1.7	4.0		
Prevalence of underweight children under 5 years of age			1,998	974	1,024	4.0	3.9	4.2	57	1,941	0.8	4.6		
GOAL 2. Achieve Universal Primary Education														
Proportion of children aged 6-12 years old enrolled in elementary education			47,501	23,789	23,711	67.8	66.3	69.3	6,988	40,513	71.4	67.2		
Proportion of children aged 13-16 years old enrolled in high school			14,134	6,180	7,953	38.2	32.9	43.5	2,860	11,274	50.8	35.9		
Proportion of children aged 6-16 years old enrolled in school			79,221	39,024	40,195	73.9	71.4	76.6	12,163	67,058	78.9	73.1		
Literacy rate of 15-24 year-olds			71,038	36,518	34,519	90.7	90.1	91.4	11,808	59,230	96.1	89.7		
GOAL 3. Promote Gender Equality And Empower Women														
Ratio of girls to boys in primary education						1.0					0.9	1.0		
Ratio of girls to boys in secondary education						1.2					1.1	1.2		

Table 1 (continued)

Millennium Development Goals	Households		Population										
	Magnitude	Proportion	Magnitude			Proportion			Magnitude		Proportion		
			Total	Male	Female	Total	Male	Female	Urban	Rural	Urban	Rural	
Ratio of girls to boys in tertiary education							1.3					1.1	1.4
Ratio of literate females to males (15-24 years old )							0.9					0.9	1.0
Proportion of seats held by women in municipality and province													
GOAL 4. Reduce Child Mortality													
Proportion of children aged 0 to less than 5 years old who died			168	96	72	0.3	0.4	0.3	31	137	0.4	0.3	0.3
Children aged 0 to less than 5 years old			49,594	25,099	24,495				7,252	42,342			
Proportion of infants who died			60	39	21	0.6	0.8	0.4	14	46	0.9	0.6	0.6
Children aged 0 to less than 5 years old			9,494	4,774	4,720				1,571	7,923			
Proportion of children aged 1 to less than 5 years old who died			108.0	57	51	0.5	0.6	0.5	17	91	0.6	0.5	0.5
Children aged 1 to less than 5 years old			20,069	10,183	9,886				2,830	17,239			
GOAL 5. Improve Maternal Health													
Proportion of women deaths due to pregnancy-related causes					21			0.2	2	19	0.1	0.2	
Contraceptive prevalence rate	25,719	35.6							4,254	21,465	39.6	35.0	
GOAL 6. Combat HIV/Aids, Malaria and Other Diseases													
Proportion of couples using condom among those who are practicing contraception			333			1.3			47	286	1.1	1.3	
Death rates associated with malaria			0	0	0	0.0	0.0	0.0	0	0	0	0	0
Prevalence and death rates associated with tuberculosis			65	48	17	16.9			5	60	8.3	18.5	

Millennium Development Goals		Households		Population									
		Magnitude	Proportion	Magnitude			Proportion			Magnitude		Proportion	
				Total	Male	Female	Total	Male	Female	Urban	Rural	Urban	Rural
GOAL 7. Ensure Environmental Sustainability													
Proportion of households/population with access to safe drinking water		60,002	70.5	270,375	140,360	130,015	70.4	70.4	11,678	48,324	87.9	67.3	
Proportion of households/population with access to sanitary toilet facility		53,422	62.8	238,595	123,490	115,105	62.1	61.9	10,494	42,928	79.0	59.8	
Proportion of households/population who are informal settlers		2,455	2.9	11242.0	5,904	5,338	2.9	3.0	846	1,609	6.7	59.8	
Proportion of households/population who are living in makeshift housing		3,019	3.6	14,094	7,363	6,731	3.7	.37	350	2,669	2.6	3.7	
Proportion of households/population living in inadequate living conditions		43,703	51.2	199,280	103,860	95,420	51.9	52.1	4,187	39,516	31.5	54.9	
GOAL 8. Develop A Global Partnership For Development													
Proportion of the households with landlines/ telephone lines		1,355	1.6						418	937	3.2	1.3	
Proportion of the households with cellphones		15,756	18.5						4,700	11,056	35.4	15.4	
Proportion of the households with computers		1,890	2.2						739	1,151	5.6	1.6	

Source: CBMS Survey, 2007

## MEETING THE 2015 CHALLENGE

Persistent and chronic poverty in Sarangani led the provincial government to review and strengthen its anti-poverty policy and program thrusts. A high poverty incidence (52 percent of total population, based on SAE, NSCB, 2006 and 69 percent according to CBMS, 2007; 11<sup>th</sup> poorest province in the country in 2006), low educational attainment (only 74 percent of children 6-16 years old are attending school), presence of marginalized groups (IPs/Muslims/upland dwellers); and low access to basic social services are among the critical concerns that the province needs to address.

A widespread inequality among the population also exists in the province. Thus, government's responses to poverty alleviation and institutional capacities need to be improved. The following programs/projects and policy responses were thus designed for the achievement of the MDGs:

### a. Priority Programs / Projects and Policy Responses

- Project 1021

The Project 1021 was conceptualized and initiated in January 2010. The project comprises major reforms toward strengthening poverty program administration and implementation, and ultimately, developing inclusive and coordinated social policy. It supports the following policy directives of the provincial governor: "No Sarangan shall be left behind"; "CBMS is Sarangani's development bible"; and "Free Sarangani from the Top 20 most impoverished provinces by 2010."

The Project's operational approach is geographic convergence of multi-sector development services in five most impoverished barangays (the barangays were identified based on simple composite index) of the seven component municipalities. The objective is to reduce poverty incidence by 20 percentage points (from 65 percent in 2007 to 45 percent by the end of 2010). A total of 13,544 poor households, determined through proxy means test, shall be targeted for assistance. To monitor their progress out of poverty, a project tracking system shall be developed. Civil society and community engagement, as well as LGU counterparting schemes shall be encouraged for stakeholder-driven partnership and project management. Private sector CSR funds shall be coordinated and harmonized while national and donor programs shall be tapped.

The province has initially invested the amount of PhP985,950 to support the operation of the project. Other services will be identified based on the actual needs as assessed during community immersion.

The Project hopes to cover the provision of social assistance (Localized Conditional Cash Transfer or LCCT); protective and rehabilitative services for vulnerable population (e.g., youth, women, etc.); livelihood development and employment generation by promoting access to income and gainful employment for poor households; and human development through promotion of greater access to, and improved quality of social services and infrastructure, especially among poor communities.

- The positive outcomes of this project will be as follows:
  - Short-term effects: Poverty reduction due to income transfer and multiplier effects;
  - Long-term effects: Significant improvements in human capital outcomes (education outcomes, health and nutrition improvements, economic opportunities, security, dignity and participation);
  - Institutional synergy;
  - Standardized poverty targeting/policy—National, local, NGOs/Pos and others; and
  - Strengthened communication and accountability.
- Mindanao Rural Development Program (MRDP)

The province is a recipient of the Mindanao Rural Development Program-2. The program involves a PhP154-million package and has the following four main components:

#### ***Natural Resource Management (NRM)***

This component is designed to conserve coastal resources and marine biodiversity through co-management of critical marine habitats; better resources management practices; and introduction of improved, upstream land management practices that would arrest land degradation and enhance the integration of coastal ecosystem.

#### ***Rural Infrastructure (RI)***

A component aimed at financing local infrastructure responsive to the needs and priorities of LGUs and communities,



for increasing agricultural and fisheries productivity and for market development.

***Community Fund for Agricultural Development (CFAD)***

This aims to address diverse investment priorities of rural communities through the financing of subprojects that meet community preferences and local priorities.

***Investment in Governance Reform (IGR)***

This is a major component that aims to strengthen institutional capacities of the LGUs in operationalizing a decentralized agricultural and fisheries support service delivery system.

***Support to Emergency and Livelihood Assistance Program (SELAP)***

Phase II of the program will be implemented in 2010, taking into account the major policy thrusts of the province.

- **Early Childhood Care Development (ECCD)**

This program is focused on children 3-5 years old for their brain and psychosocial motors development.

Among program partners, the United Nations Children's Fund (UNICEF) provides financial assistance amounting to P2.5 million annually for trainings and learning materials. On the other hand, the honorarium of day care teachers is shouldered by the province.

- **Food Security Program**

This is a national program implemented in the province to ensure food security and sufficiency thereby addressing hunger and poverty in the province.

- **Resettlement and Housing Project**

This housing project is financed by the province and implemented by the municipalities. The process of selecting the beneficiaries is conducted by the municipality. Priority is given to residents who are vulnerable to natural hazards or calamities.

- **The major policy thrusts of the province are as follows:**

- Provide better health and other social services to the poorest of the poor.
- Reduce the vulnerability of the poor to economic and other adverse shocks through subsidy programs, social insurance, and improved judicial efficiency.

- Institute reforms in education policy and programs to increase people's access to formal education and/or community-based learning opportunities in areas affected by poverty and conflict.
- Convergent delivery of public and other support services.
- Promote economic policies and programs with an equity orientation.
- Raise local revenues through strengthening and computerization of real property tax administration.
- Promote a more transparent and accountable governance through systematic reform toward evidence-based programming and performance budgeting.

#### **b. Financing the Achievement of the Millennium Development Goals**

The following are the sources of funds to finance the programs/projects that would address the gaps that were identified:

- 20 percent Local Development Fund of the IRA
- 5 percent Gender and Development (GAD) Fund
- Children's Fund
- Special Education Fund (SEF)
- External commitments from donors (UNICEF, MRDP, SELAP, Food Security, and others.)

#### **c. Monitoring the Millennium Development Goals**

A regular updating of the CBMS should be conducted to monitor and assess the progress of achieving the MDGs. For the province of Sarangani, CBMS will be updated in 2011 to measure the achievement of the MDG targets.

# Status Report on the Millennium Development Goals Using CBMS Data: Province of Siquijor

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Gladys F. Estrellada<sup>1</sup>

The First Millennium Development Goals (MDG) Report of the Province of Siquijor used the results of the 2006 CBMS Survey.

There are good and not so good results in terms of some indicators. Some indicators, however, require more innovative and highly creative strategies if the local government wants to achieve the MDG targets by 2015. Given the financial capability of the province, there may be low probability of meeting these targets. However, with the local leaders, the constituents, and the national government working and acting together, and with the help of other equally concerned foreign donors, the MDG targets can be realized and the lives of the people in the province could be improved.

## **Good News:**

- The proportion of children aged 0-5 who are underweight was only 2.3 percent, which already surpassed the 2015 national target of 17.3 percent. Malnutrition in the province is not a very big problem but it should also be noted that the target is to have zero (0) malnutrition rate by 2015.

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<sup>1</sup> Provincial Planning and Development Coordinator (PPDC), Siquijor

- The mortality rate among children aged 0-5 was only 0.4 percent. This very low rate could be attributed to the presence of readily available child health programs such as, but not limited to, immunization programs, cheaper medicines at the Botika ng Barangay, breastfeeding program, and other child-focused health projects. Given these interventions, it is believed that the province has high probability of achieving zero child mortality by 2015.
- The province recorded only three pregnancy-related deaths. This very low maternal death can be attributed to the fact that complicated pregnancies among mothers are referred to health facilities outside the province. Despite this low maternal death rate, the general perception is that pre-natal care services are still poor and facility-based services are very low as most of the deliveries were performed at home (87%). To achieve zero (0) maternal death rates, deliveries must eventually be performed in the birthing facilities by trained personnel or midwives. Maternal care package should also be vigorously implemented.
- The literacy rate among population aged 15-24 was high at 98.7 percent, with literacy rate of males (98.7%) being slightly higher by 0.1 percent than that of females (98.6%). Given that the target is 100 percent, the difference to be worked out until 2015 is only 1.3 percent.
- The ratio of girls to boys in elementary education was 0.94, which is very close to the desired ratio of 1. In higher educational levels, this ratio slightly increased in favor of girls, with 1.03 in secondary and 1.05 in tertiary levels. The results indicate that there is gender equality in school participation. Although the proportion of seats held by women in positions in municipalities and in the province is only 27.0 percent, it was assured that women are given equal opportunities in the electoral exercise.
- The proportion of households with access to safe drinking water was 95.1 percent.
- The proportion of households with access to sanitary toilet facilities was 85.6 percent, which is already higher than the 2015 national target of 83.8 percent. The remaining 14.4 percent will be attended to in the next 5 years.



Table 1 (continued)

Millennium Development Goals	Households		Population									
	Magnitude	Proportion	Magnitude			Proportion			Magnitude		Proportion	
			Total	Male	Female	Total	Male	Female	Urban	Rural	Urban	Rural
Ratio of literate females to males (15-24 years old )						0.9					1.1	0.9
Proportion of seats held by women in municipality and province			1,272	928	344	27.0						
GOAL 4. Reduce Child Mortality												
Proportion of children aged 0 to less than 5 years old who died			25	10	15	0.4	0.3	0.4	0	25	0.0	0.4
Children aged 0 to less than 5 years old			7,016	3,559	3,457				732	6,284		
Proportion of infants who died			17	8	9	1.5	1.4	1.6	0	17	0.0	1.7
Children aged 0 to less than 5 years old			1,108	557	551				108	1,000		
Proportion of children aged 1 to less than 5 years old who died			8	2	6	0.1	0.1	0.2	0	8	0.0	0.2
Children aged 1 to less than 5 years old			5,908	3,002	2,906				624	5,284		
GOAL 5. Improve Maternal Health												
Proportion of women deaths due to pregnancy-related causes					3			0.3	1	2	0.9	0.2
Contraceptive prevalence rate												
GOAL 6. Combat HIV/Aids, Malaria and Other Diseases												
Proportion of couples using condom among those who are practicing contraception												
Death rates associated with malaria			0	0	0	0.0			0	0	0.0	0.0
Prevalence and death rates associated with tuberculosis			22	16	6	27.0			1	21	9.7	29.4

Table 1 (continued)

Millennium Development Goals	Households		Population									
	Magnitude	Proportion	Magnitude			Proportion			Magnitude		Proportion	
			Total	Male	Female	Total	Male	Female	Urban	Rural	Urban	Rural
GOAL 7. Ensure Environmental Sustainability												
Proportion of land area covered by forest		3.7										
Proportion of households/population with access to safe drinking water	18,382	95.3	77,645	38,882	38,763	95.1	95.0	95.2	2,295	16,087	96.6	95.1
Proportion of households/population with access to sanitary toilet facility	16,243	84.2	69,837	34,788	35,049	85.6	85.0	86.1	2,205	14,038	92.8	83.0
Proportion of households/population who are informal settlers	253	1.3	1,095	557	538	1.3	1.4	1.3	31	222	1.3	1.3
Proportion of population who live in makeshift housing by urban/rural	749	3.9	2,796	1,431	1,365	3.4	3.5	3.4	58	691	2.4	4.1
Proportion of population living in inadequate housing conditions by urban/rural	4,415	22.9	17,541	9,016	8,525	21.5	22.0	20.9	300	4,115	12.6	24.3
GOAL 8. Develop A Global Partnership For Development												
Proportion of the households with landlines/telephone lines	719	4.1										
Proportion of the households with cellphones	11,945	68.8										
Proportion of the households with computers	1,042	6.0										

Source: CBMS Survey, 2006

## Not-So-Good News:

- There were 48,030 persons, or approximately 58.8 percent of the province's total population, who are living below the poverty threshold. This figure is relatively higher than the national poverty rate of 32.9 percent in 2006. In addition, the magnitude of the population living below the food threshold was 35,357, which is equivalent to 43.3 percent of the total population.
- The employment rate was only 82.0 percent of the total labor force, which means that 18.0 percent are not employed. This partly explains why more than half of the population in the province was living below the poverty threshold.
- The proportion of children aged 13-16 who are enrolled in high school was only 70.1 percent. This means that a relatively large proportion of children within this age range are not attending high school. The reasons for the low participation rate should be explored and the root causes of the problem should be addressed.

## MEETING THE 2015 CHALLENGE

Eradicating extreme poverty and hunger is an enormous task which every administration or government faces. More than the rest, the problem of poverty and hunger is a primary concern that must be immediately looked into. This is already very much reflected in the province's priorities, especially in the economic aspects of its development agenda. The Economic Development Sector posted the highest share in terms of budget requirements.

The present provincial administration needs to capacitate and provide capability interventions to the poor communities to enable them to rise above their present "extremely poor conditions" and be able to live decent lives. The programs, projects and activities identified and prioritized are mostly those that directly provide capabilities and skills to create livelihood opportunities and allow the people to earn incomes.

The rest of the MDGs are expected to be more achievable once the poor households are able to get decent incomes. With better incomes, issues on education, health, malnutrition, and maternal care may be properly addressed. On primary education, the programs and projects are mainly on the repair/rehabilitation of school buildings and classrooms. The province has enough school buildings and classrooms as well as teachers until 2015. The province's classroom-pupil ratio is 1:22 while its teacher-pupil ratio is 1:21.



Gender equality issues are best addressed through advocacy and information campaigns. On the issue of women having seats in political positions, the province sees to it that women are given equal opportunities but eventually, the will of the electorate will prevail.

Child mortality rate is low in the province. This is the result of the efforts to convert the six rural health units (RHUs) into Basic Emergency Obstetric and Newborn Care (BEmONC ) facilities. Through the strong implementation of child care programs, child mortality will decrease over the years until hopefully, the mortality rate becomes zero in 2015. The same is true with maternal deaths. The implementation of maternal health care packages will fast-track the reduction of maternal deaths.

## Priority Program and Policy Responses

### 1. Goal 1. Eradicate Extreme Poverty and Hunger

#### Economic Development

PROGRAM / PROJECT /ACTIVITY	LOCATION	In Million Pesos						Total Project Cost
		2010	2011	2012	2013	2014	2015	
Overseas Development Assistance Program	San Juan Community Development Cooperative as Conduit	2.5						2.5
Agricultural Development Program	Province-wide	2.0	2.0	2.0	2.0	2.0	2.0	12.0
Livestock & Poultry Development Program	Province-wide	1.0	1.0	1.0	1.0	1.0	1.0	6.0
Integrated Coastal Resource Management Project	Province-wide	0.5	0.25	0.25	0.25	0.25	0.25	1.75
Development of Tourism Potentials	San Juan, Siquijor, Maria, Lazi	5.0	2.5	2.5	2.5	2.5	5.0	20.0
Establishment of Mango Processing Plant	Siquijor	0.5	0.5	0.5	0.1	0.1	0.1	1.8
OSFUA (Gulayan sa Paaralang at Bayan)	Province-wide	0.5	0.5	0.5	0.5	0.5	0.5	3.0
Small and Medium Enterprise Development & Promotion	Province-wide	8.0	5.0	5.0	2.5	2.5	2.5	25.5
Improvement of Farm to Market Roads	Province-wide							
Aquaculture Production	Siquijor	0.5	0.3	0.25	0.25	0.25	0.25	1.8

## 2. Goal 2. Achieve Universal Primary Education

## 3. Goal 3. Promote Gender Equality Education

PROGRAM/PROJECT/ ACTIVITY	LOCATION	In Million Pesos						Total Project Cost
		2010	2011	2012	2013	2014	2015	
Construction / Repair / Rehab of Classrooms								
Pre-School	Province-wide	1.0	0.5	0.25	0.25	0.2	0.2	2.3
Elem. School – 35 pcs.	Province-wide	1.5	0.75	0.75	0.5	0.5	0.5	4.5
Secondary Sch. – 29 pcs.	Province-wide	1.0	1.0	1.0	0.5	0.5	0.5	4.5

## 4. Goal 4. Reduce Child Mortality

### Social Development

PROGRAM/PROJECT/ ACTIVITY	LOCATION	In Million Pesos						Total Project Cost
		2010	2011	2012	2013	2014	2015	
Upgrading Construction of Hospital Facilities/ Equipment	Siq. Prov'l Hospital, Lazi Medical Hospital, 6 RHUs	5.0	6.0	6.0	6.5	7.0	7.0	37.5
Indigency Program		0.75	0.75	0.5	0.5	0.5	0.5	3.5
Water and Sanitation Program		0.3	0.5	0.5	0.75	0.75	0.75	4.25
Support to Child Care		0.5	0.5	0.5	0.3	0.3	0.3	2.4
Immunization Program		0.2	0.2	0.2	0.5	0.5	0.5	2.1
Nutrition Program		0.15	0.15	0.2	0.2	0.25	0.25	1.0
Child Health Education		0.1	0.1	0.1	0.05	0.05	0.05	0.45
Early Child Care		0.1	0.2	0.2	0.2	0.2	0.2	1.1

## 5. Goal 5. Improve Maternal Health

### Social Development

PROGRAM/PROJECT/ ACTIVITY	LOCATION	In Million Pesos						Total Project Cost
		2010	2011`	2012	2013	2014	2015	
Construction / Repair / Rehab of Classrooms								
Maternal Health Care Package		0.75	0.75	0.75	0.5	0.5	0.5	3.75
Upgrading of RHU as BEMONC		0.3	0.3	0.5	0.5	0.5	0.5	2.6
Upgrading of Siquijor Provincial Hospital as CEMONC		0.5	0.5	0.75	0.75	1.0	1.0	4.5
Women and Children's Crisis Care		0.1	0.5	0.5	0.2	0.2	0.2	1.7

## 6. Goal 6. Combat HIV/AIDS, Malaria and Other Diseases

PROGRAM/PROJECT/ ACTIVITY	LOCATION	In Million Pesos						Total Project Cost
		2010	2011	2012	2013	2014	2015	
National Tuberculosis Program		0.1	0.1	0.2	0.2	0.25	0.25	1.1
Accreditation of all RHUs as TB-DOTS		0.2	0.2	0.5	0.5	0.5	0.5	1.4

## 7. Goal 7. Ensure Environmental Sustainability

### Environmental Management

PROGRAM/PROJECT/ ACTIVITY	LOCATION	In Million Pesos						Total Project Cost
		2010	2011	2012	2013	2014	2015	
Enforcement of the Environment Code/Laws		0.15	0.15	0.2	0.2	0.25	0.25	0.930
Clean & Green Program		2.5	1.0	1.0	1.0	1.0	1.5	7.0
Establishment of Barangay Nurseries	134 Brgys		0.2	0.2	0.2	0.2	0.2	10.0
Intensives IEC	134 Brgys	0.2	0.2	0.2	0.2	0.2	0.2	1.2
Settlements and Housing	Lazi, San Juan, E. Villa., Maria		1.5	1.5	2.0	2.0	2.0	9.0

## Financing the MDGs

### Investment

PROGRAM/PROJECT/ACTIVITY	In Million Pesos						Total Project Cost
	2010	2011	2012	2013	2014	2015	
1. Economic Dev.	20.5	12.05	12.0	9.1	9.1	11.6	74.35
2. Social Dev	8.75	10.45	10.7	10.95	11.75	11.75	64.35
3. Environmental Mgt. Dev.	2.85	4.85	4.9	5.4	5.45	5.95	29.4
<b>Overall Project Cost</b>	<b>32.1</b>	<b>27.35</b>	<b>27.6</b>	<b>25.45</b>	<b>26.3</b>	<b>29.3</b>	<b>168.1</b>

## MONITORING PROGRESS TOWARD THE ATTAINMENT OF THE MDGs

To monitor the progress of the attainment of the MDGs, the province will conduct in the near future the second round of CBMS survey.

As in the first round, the municipalities and barangays will be requested to put up at least some counterpart funds and human resource

counterparts. At the same time, the MDG Provincial Team will endorse a proposal to the Provincial Development Council to approve the conduct of a CBMS survey every three years even beyond 2015.

The MDG Team will also endorse to the Local Development Council (LDC) the adoption of the CBMS survey results as the benchmark data for the province and as the basis for identifying projects to be implemented in the respective barangays and municipalities.

## CONCLUSION AND RECOMMENDATIONS

The 2006 CBMS Survey proved to be a good and accurate source of information on the state of the living condition of the people of Siquijor, especially because the survey covered all households in the province. The results are reliable basis for prioritizing interventions that would help local government units (LGUs) achieve their MDG targets. For instance, results showed that more than half of the population in Siquijor lived below the poverty threshold, which confirmed that there are still many poor residents in the province. Most of them also did not have enough income to meet their basic food needs. Furthermore, the unemployment rate in the province is relatively high (18.0%). Given these data, the government should implement programs that would address poverty, unemployment, and hunger that would lead to the attainment of the MDG targets of eradicating extreme poverty. Interventions that would address problems on education and inadequacy of living conditions should also be implemented. During program implementation, corruption also needs to be eradicated so that scarce resources could be judiciously put to proper uses.

The major recommendation for the provincial government is to prioritize, through the Provincial Development Council, the funding of the MDG funding requirements so that the province can implement all the suggested programs and policies that would translate the MDG targets into realities.

The following are some specific recommendations based on the results discussed in this report:

1. *Exercise a strong political will.* This is particularly in terms of implementing policies that would facilitate the achievement of the MDG targets. Priorities should be given to sectors that need immediate interventions, based on data and recommendations.

2. *Enact policies and ordinances that would eliminate corruption in the LGUs.* This move is very important in ensuring that the funds will be judiciously utilized in implementing comprehensive basic health care services, and in undertaking viable and profitable livelihood projects. Hence, there should be improvements in the procurement system within the LGUs.
3. *Implement agriculture development programs that can be sustained.* Given the fact that Siquijor is still predominantly agriculture-based, with 52.0 percent of its land devoted to agriculture production (e.g., corn and rice production, coconut production), agricultural development should be given attention. Although there have been several projects in the past that addressed agricultural development, the lack of resources to be used as equity among the LGUs to enhance project sustainability had been a common problem. Hence, this should be considered in designing any agricultural development project.
4. *Improve revenue generation and collection strategies.* One of the things that should be done is the updating of the Tax Maps, which will reflect the updated valuation of properties and thus increase revenue collection. Better collection strategies should also be implemented.
5. *Improve access to education.* It is generally recognized that educational status is directly related to poverty. Hence, addressing the problems on access to education could help improve the living conditions of the population in the long run. The reasons for non-enrollment of children should be explored and the root causes of the problem should be addressed.
6. *Create jobs and improve opportunities for employment.* This can be done through the conduct of livelihood trainings (e.g., making souvenirs) and seminars (e.g., for tour guides).
7. *Improve capabilities and knowledge.* This would include trainings that improve computer literacy.
8. *Encourage women's participation in governance.* Aside from participation in elections, women shall be encouraged to become members of the different councils and committees in the province. This shall start by organizing a women's organization in the province that advocates equal opportunities for men and women. Members of the organization could be part of consultative meetings and may be elected as members of the local councils and committees.

9. *Conduct a second round of CBMS survey in the province.* The conduct of another round of CBMS survey in the province will help assess the impact of government interventions. The data collected will also allow the province to monitor its progress in attaining the MDG goals.

*Part 2*

**Climate Change Vulnerability  
Mapping and Household  
Adaptation Strategies**

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# Climate Change Vulnerability Mapping for Southeast Asia

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Arief Anshory Yusuf & Herminia A. Francisco<sup>1</sup>

## ABSTRACT

This paper provides information on the subnational areas (regions/districts/provinces) most vulnerable to climate change impacts in Southeast Asia. This assessment was carried out by overlaying climate hazard maps, sensitivity maps, and adaptive capacity maps following the vulnerability assessment framework of the United Nations' Intergovernmental Panel on Climate Change (IPCC). The study used data on the spatial distribution of various climate-related hazards in 530 subnational areas of Indonesia, Thailand, Vietnam, Lao People's Democratic Republic (Lao PDR), Cambodia, Malaysia, and the Philippines. Based on this mapping assessment, all the regions of the Philippines; the Mekong River Delta in Vietnam; almost all the regions of Cambodia; North and East Lao PDR; the Bangkok region of Thailand; and West Sumatra, South Sumatra, West Java, and East Java of Indonesia are among the most vulnerable regions in Southeast Asia.

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<sup>1</sup> Senior Economist and Director, respectively, of the Economy and Environment Program for Southeast Asia (EEPSEA)

## INTRODUCTION

The United Nations Climate Change Conference held in Bali, Indonesia, in December 2007 acknowledged, among other things, the need for enhanced action on adaptation and the provision of financial resources for it. This, in turn, implies the need for financial and technology transfer from the rich to the poor countries. In general, most developing countries in Asia have the least capacity to adapt to climate change and are therefore in need of whatever external support they can get to build their capacity (Francisco 2008).

As the long history of international climate change agreements tells us, resource transfers from rich to poor countries not only require a common and shared vision among the countries, but also involve long and complex political processes. Acknowledging the fact that in a resource-constrained world, there is a benefit and cost to every action, it is then essential for the resources available to be well targeted to the people who need them the most; those located in the areas most vulnerable to climate change.

The identification and characterization of the vulnerable communities and sectors were identified as priority concerns by the participants of the Economy and Environment Program for Southeast Asia (EEPSEA) Climate Change Adaptation Conference held in Bali in February 2008. Identification of the most vulnerable groups by way of determining the most vulnerable regions within countries and in Southeast Asia as a whole is thus an urgent task for development agencies. This paper addresses this need.

## OBJECTIVES

The general objective of this study is to identify which regions in Southeast Asia are the most vulnerable to climate change. It is expected that this information will be useful to policymakers of the region as well as external donors in better targeting their support toward climate change efforts. The specific objectives are as follows:

1. To identify which subnational areas/units (regions, provinces, or districts, depending on the availability of the data) of Southeast Asian countries (Thailand, Vietnam, Lao PDR, Cambodia, Indonesia, Malaysia, and the Philippines) are the most vulnerable to climate change.
2. To show these vulnerable areas in a map for ease of reference of interested parties.

## METHODOLOGY AND DATA

Identifying climate change vulnerability requires a clear conceptual framework. We started by adopting the concept contained in the Third Assessment Report of the IPCC where vulnerability is defined as: “The degree to which a system is susceptible to, or unable to cope with the adverse effects of climate change, including climate variability and extremes. Vulnerability is a function of the character, magnitude, and rate of climate variation to which a system is exposed, its sensitivity, and its adaptive capacity” (IPCC 2001, p.995). Vulnerability can thus be defined as a function of exposure, sensitivity, and adaptive capacity, or:

$$\text{Vulnerability} = f(\text{exposure, sensitivity, adaptive capacity})$$

In the IPCC report, **exposure** is defined as “the nature and degree to which a system is exposed to significant climatic variations”; **sensitivity** is defined as “the degree to which a system is affected, either adversely or beneficially, by climate-related stimuli<sup>2</sup>”; and **adaptive capacity** is defined as “the ability of a system to adjust to climate change (including climate variability and extremes), to moderate the potential damage from it, to take advantage of its opportunities, or to cope with its consequences”.

We used the above conceptual framework to do a ‘quick’ assessment of the ‘current’ vulnerability of selected Southeast Asian countries based on past as well as the most recently available data. We emphasize the term ‘quick’ as this effort should be considered as a first cut of sorts since this work was largely dependent on whatever information we could get from public sources (such as the internet) and climate change experts in the region. We used the inputs of a select group of climate and social scientists from the region, obtained through a Climate Change Experts Consultation Meeting held with them in Bangkok in the middle of 2008.

The main limitation of our assessment was our inability to factor in projections of climate change and socioeconomic conditions for the coming years. However, given that the future trajectory of climate change events and socioeconomic conditions is so uncertain, we feel that such an analysis would be hard to sell in any case. It is far more reliable to use historical data as current vulnerability is likely to worsen than improve. Naturally, there is room for fine-tuning this assessment to take into account scientifically acceptable projections on future climate change impacts as

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<sup>2</sup> The effect may be direct (e.g., a change in crop yield in response to a change in the mean, range or variability of temperature) or indirect (e.g., damages caused by an increase in the frequency of coastal flooding due to sea-level rise).

well as projected changes in socioeconomic conditions. Detailed sub-national information on the various indicators of adaptive capacity should be collected, given more time and resources. However, we shall leave such improvements to future studies on this topic.

Our motivation in coming up with this map is to provide some indications on how the limited (developmental and research) resources available for adaptation work could be best directed across countries in the region and across subnational areas within a country. The identification of specific adaptation support or research for the different locales should then be carried out.

## Vulnerability Assessment

To identify the vulnerable regions, we constructed an index of the climate change vulnerability of subnational administrative areas in seven countries in Southeast Asia, i.e., Vietnam, Lao PDR, Cambodia, Thailand, Malaysia, the Philippines, and Indonesia. The assessment considers 590 subnational areas comprising 341 districts (*kabupaten/kota*) in Indonesia, 19 provinces (*khet*) in Cambodia, 17 provinces (*khoueng*) in Lao PDR, 14 states (*negeri*) in Malaysia, 74 provinces in the Philippines, 72 provinces (*changwat*) in Thailand, and 53 provinces (*tinhh/thanh pho*) in Vietnam.

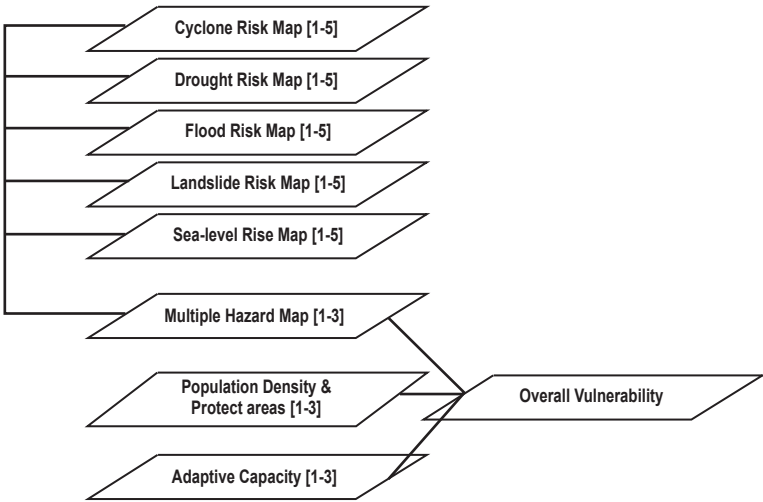
The climate change vulnerability index was derived through the following steps:

- We assessed exposure using information from historical records of climate-related hazards as we considered past exposure to climate risks as the best available proxy for future climate risks.
- We obtained climate hazard maps for five climate-related risks: tropical cyclones, floods, landslides, droughts, and sea-level rise.
- We used population density as a proxy for human sensitivity to climate-hazard exposure. The assumption here is that regions that are relatively less inhabited will be less vulnerable compared to regions with high population densities, given the same degree of exposure to climate hazards.
- In addition to the human aspect of vulnerability, we also included ecological sensitivity of the region using biodiversity information as a proxy variable. A biodiversity-rich region, measured by the percentage of protected areas, is thus considered here as more vulnerable than other areas to climate hazards, other things being equal.
- We constructed an index of adaptive capacity as a function of socioeconomic factors, technology, and infrastructure.

Based on the above, we constructed an index of the overall climate change vulnerability of the region.

Figure 1 illustrates the steps we took in constructing the index.

**Figure 1. Method Used in Deriving the Climate Change Vulnerability Index**



Note: The figures in parenthesis indicate the weights given to the respective factors.

### Generating the Component Maps for the Vulnerability Assessment

As shown in Figure 1, we derived the overall climate change vulnerability index by overlaying a series of maps. These maps are described below. (Please refer to Appendix 1 for the sources of the data used in this vulnerability mapping project.)

#### Climate hazard maps

First, we obtained maps (in grid/raster format) for five different climate hazards: the frequency of droughts, floods, and cyclones, for about 20 years (1980-2000/1/3), physical exposure to landslides, and inundation zones of a five-meter sea-level rise. The maps of these five hazards are given in Appendix 2. Then, to make the maps comparable, we normalized each of them using the following formula:

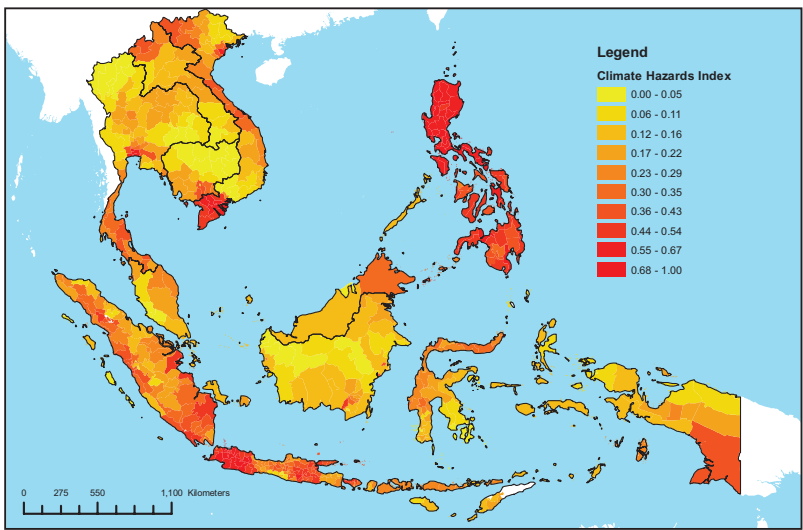
$$Z_{i,j} = \frac{X_{i,j} - X_i^{\text{MIN}}}{X_i^{\text{MAX}} - X_i^{\text{MIN}}}$$

where  $Z_{i,j}$  is the standardized climate hazard of type  $i$  of region  $j$ ;  $X_{i,j}$  is the unstandardized climate hazard of type  $i$  of region  $j$ ;  $X_i^{MAX}$  is the maximum value of the climate hazard indicator over region  $j$ , and  $X_i^{MIN}$  is the minimum value of the climate hazard indicator over region  $j$ . A similar standardization method is used by the UNDP to calculate the Human Development Index.

Thirdly, we used the simple average of the five standardized climate hazard indicators, thus overlaying all five hazard maps onto one single multiple hazard map. Since we did not have knowledge of the degree of importance of each hazard in assessing the vulnerability, we assumed equal weights for all.

Figure 2 is the overall climate hazard map showing the combination of climate-related hazards (tropical cyclones, floods, landslides, droughts, and sea level rise) and the hotspots in Southeast Asia. The latter includes the north-western and Mekong region of Vietnam, the coastal regions of Vietnam facing the South China Sea, Bangkok and its surrounding areas in Thailand, practically all the regions of the Philippines, and the western and eastern parts of Java Island, Indonesia. Table 1 lists the climate hazard hot spots and their dominant hazards.

**Figure 2. Multiple Climate Hazard Map of Southeast Asia**



Note: For the legend, the scale used is 0-1 indicating the lowest vulnerability level (0) to the highest vulnerability level (1).

**Table 1. Climate Hazard Hot Spots and Dominant Hazards**

Climate Hazard Hot Spots	Dominant Hazards
Northwestern Vietnam	Droughts
Eastern coastal areas of Vietnam	Cyclones, droughts
Mekong region of Vietnam	Sea-level rise
Bangkok and its surrounding area in Thailand	Sea-level rise, floods
Southern regions of Thailand	Droughts, floods
The Philippines	Cyclones, landslides, floods, droughts
Sabah state in Malaysia	Droughts
Western and eastern area of Java Island, Indonesia	Droughts, floods, landslides, sea-level rise

## Human and ecological sensitivity maps

We obtained the population density maps from the Urban Extent Database (GRUMP version 1) of the Center for International Earth Science Information Network (CIESIN), which showed the number of people per square kilometer in 30-arc-second (1-km) resolution. We converted the unit of observation from the 1-km resolution into province/district by averaging across administrative boundaries. This produced maps of average population density for each of the provinces/districts in the region. These were used as indicators of human sensitivity.

The ecological sensitivity map was obtained using data on protected areas from the Terrestrial Ecoregions GIS Database of the World Wildlife Fund (WWF). We calculated the share of area within each province/district designated as protected areas over the total land area of the province/district.

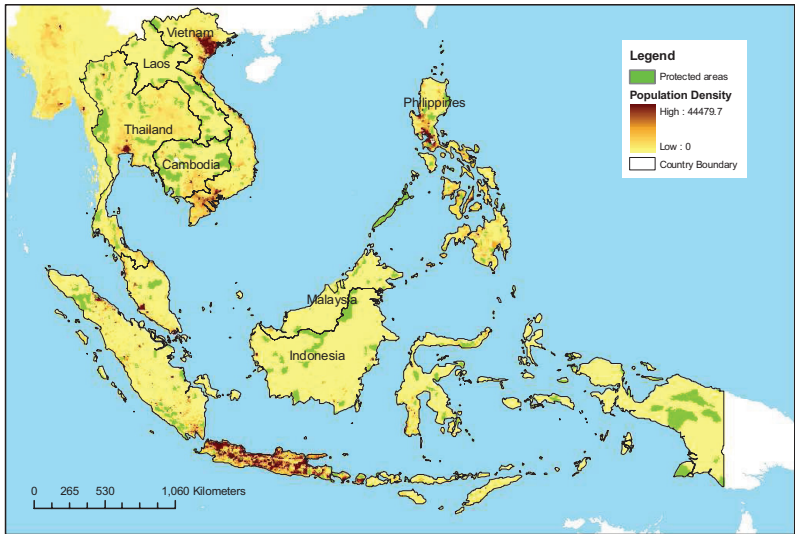
The overall sensitivity map encompassing both human and ecological factors was derived using the weighted averages of the standardized values of population density and protected area (as a share of total area) for each of the provinces/districts. We chose to use a higher weight of 0.70 for population density (with 0.30 for protected areas) because of the higher importance we attached to human sensitivity.

Figure 3 shows the map of population density and protected areas. The figure shows that Java is the most densely populated island in the region. Other highly populated areas are northeastern Vietnam (around the capital), Bangkok, and around the national capital of the Philippines.

Thailand, Cambodia, and Lao PDR have relatively more protected areas compared to other countries in the region. The largest protected areas in Southeast Asia are the Foga region in Papua island, Mount Leuser National Park in northern Sumatra, the Sungai Kayan-Sungai Mentarai

Nature Reserve in North Kalimantan, the Thung Yai Naresuan Wildlife Sanctuary in eastern Thailand, Palawan Island of the Philippines, the Nakai-Nam Theun National Biodiversity Conservation Park of Lao PDR, and the Mondulkiri Protected Forest of Cambodia.

**Figure 3. Human (Population Density) and Ecological (Protected Areas) Sensitivity Map of Southeast Asia (2000)**



### Adaptive capacity map

Adaptive capacity is defined as the degree to which adjustments in practices, processes, or structures can moderate or offset potential damage or take advantage of opportunities (from climate change). It can be written in equation form as follows:

$$\text{Adaptive Capacity} = f(\text{socio-economic factors, technology, infrastructure})^3$$

The Climate Change Experts Consultation Meeting held in Bangkok in mid-2008 resulted in an operational framework to measure adaptive capacity, using selected indicators. We used ‘expert opinion polling’ to arrive at the weights assigned to the various climate change indicators shown in Figure 4.

<sup>3</sup> Initially included in the function of adaptive capacity was “policy and institutions”. However, due to lack of data availability across subnational areas in SEA, the variable was dropped from this analysis.



Figure 4. Adaptive Capacity Assessment

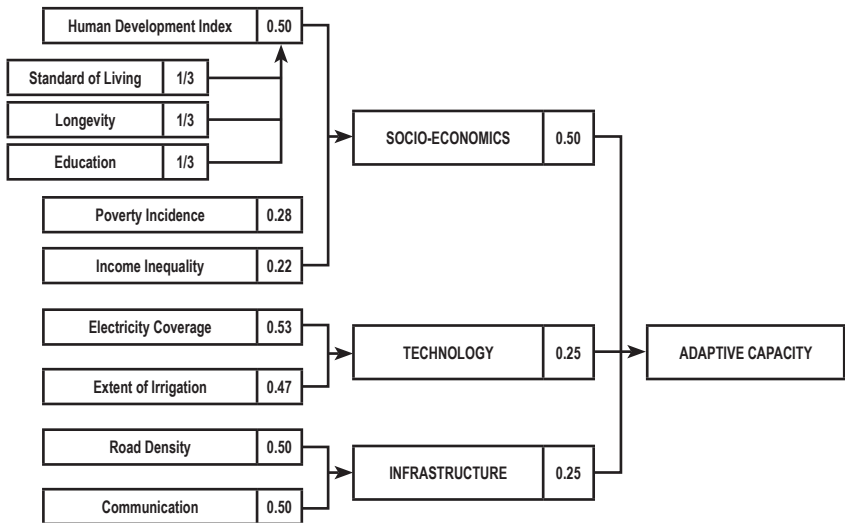
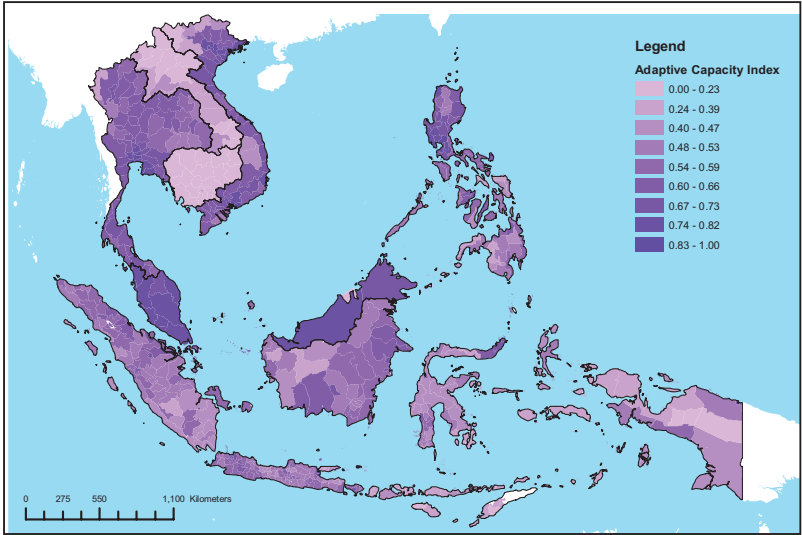


Figure 5 below is a map showing the adaptive capacity of Southeast Asia<sup>4</sup>. Overall, areas with relatively high adaptive capacity lie in Thailand, Malaysia and Vietnam whereas areas with relatively low adaptive capacity are mostly found in Cambodia and Lao PDR.

Figure 5. Adaptive Capacity Map of Southeast Asia (2005)



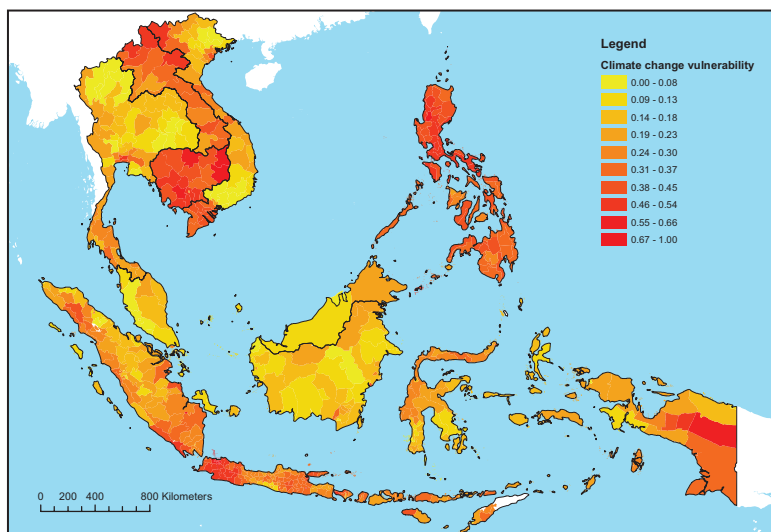
<sup>4</sup> See Appendix 1 for details on the adaptive capacity calculations.

## OVERALL CLIMATE CHANGE VULNERABILITY MAP OF SOUTHEAST ASIA

To obtain the overall index of climate change vulnerability, we averaged each of the normalized indicators of exposure (multiple hazard risk exposure), sensitivity (human and ecological), and adaptive capacity. To identify the vulnerable areas, we ranked the regions according to the index and divided the list into four equal parts. Those provinces/districts falling in the fourth quartile were considered the vulnerable areas and further classified as mildly vulnerable, moderately vulnerable, or highly vulnerable.

We used two different ways of ranking the areas: first, across the whole of Southeast Asia, and second, within each of the selected countries<sup>5</sup>. This was done simply to rank priority areas for adaptation interventions by different users of this mapping information. Figure 6 shows the map of climate change vulnerability in Southeast Asia while Figures 7 and 8 show

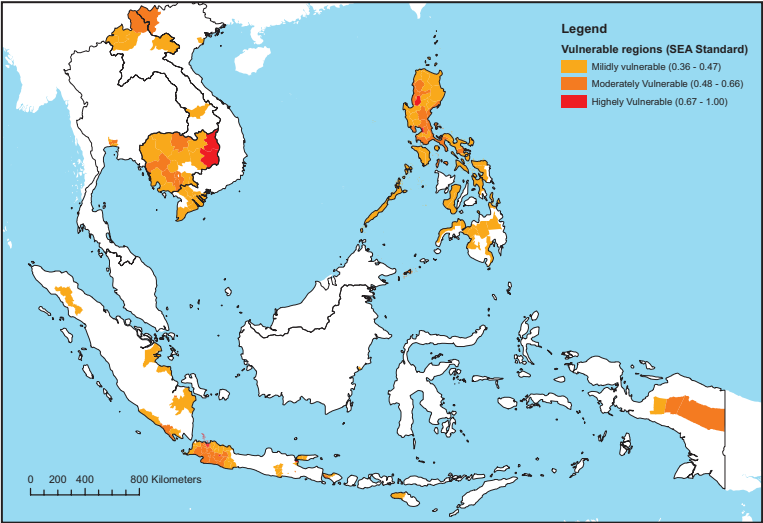
**Figure 6. Climate Change Vulnerability Map of Southeast Asia**



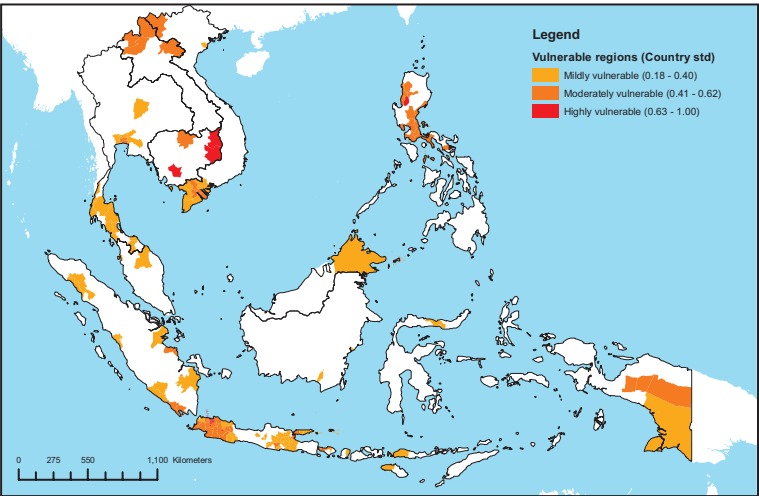
<sup>5</sup> For the Southeast Asia standard, the fourth quartile regions are further classified into three categories: mild vulnerability (with an index interval of 0.36-0.47), moderate vulnerability (0.48-0.66), and high vulnerability (0.68-1.00). For the country standard, the index intervals for the mild, moderate, and high vulnerability categories are 0.18-0.40, 0.41-0.62, and 0.63-1.00, respectively. These categories were set using ArcMap software which best groups similar values and identifies big jumps in dataset.

the vulnerable areas by region (SEA) and country standards, respectively. The two tables in Appendix 3 list the vulnerable areas, showing the vulnerability indices and components.

**Figure 7. Map of the Most Vulnerable Areas in Southeast Asia  
(Regional Standard)**



**Figure 8. Map of the Most Vulnerable Areas in Southeast Asia  
(Country Standard)**



As can be seen from Figure 7, we identified the most vulnerable areas using the Southeast Asian standard of those falling within the top fourth quartile. These areas include: Almost all the regions of the Philippines, the Mekong River Delta region of Vietnam; almost all the regions of Cambodia; North and East Lao PDR; the Bangkok region of Thailand; and the west and south of Sumatra, and western and eastern Java in Indonesia.

The Philippines, unlike other countries in Southeast Asia, is not only exposed to tropical cyclones, especially in the northern and eastern parts of the country, but also to many other climate-related hazards especially floods (such as in central Luzon and Southern Mindanao), landslides (due to the terrain of the country), and droughts.

Figure 8 reflects the most vulnerable regions within countries i.e., those in the top quartile relative to other areas within each country. Using this standard, we find that in Malaysia, the most vulnerable regions are the states of Kelantan and Sabah. The top 10 vulnerable provinces are located in Luzon in the north of the country. The top five are Manila, Benguet, Batanes, Ilocos Sur, and Rizal, all in the northeast. The National Capital Region of the Philippines, which is densely populated, is particularly susceptible to multiple climate hazards (especially cyclones and floods).

In general, these results provide no surprises as they confirm commonly-held suspicions that the most vulnerable regions in Southeast Asia include the Mekong River Delta in Vietnam and Bangkok due to their exposure to sea-level rise, as well as the northern part of the Philippines due to its exposure to tropical cyclones.

Notwithstanding this, some surprises did arise. Although most regions in Cambodia were relatively not highly exposed to climate hazards, except those sharing borders with the Mekong River Delta in northern Vietnam (which is susceptible to flooding and sea-level rise), almost all the provinces in Cambodia are vulnerable due to their low adaptive capacity.

In the overall assessment, however, the districts of Jakarta in Indonesia come out as the top most vulnerable regions in Southeast Asia (see Appendix 3). Moreover, the areas in western and eastern Java are also vulnerable using the regional standard. Central Jakarta ranks first in the overall vulnerability assessment even though it has the highest adaptive capacity index. This is because this district is the intersection of all the climate-related hazards, except tropical cyclones. It is frequently exposed to regular flooding but most importantly, it is highly sensitive because it is among the most densely-populated regions in Southeast Asia. Areas in western Java are also highly vulnerable due to exposure to multiple

hazards (namely, floods and landslides) as well as having high population densities.

Adaptive capacity seems to play important role in changing the spatial pattern of vulnerability. Low adaptive capacity has made Cambodia among the most vulnerable regions despite its relatively low exposure to climate hazards. On the other hand, the high adaptive capacity of the eastern coast of Vietnam, which is susceptible to cyclones, has managed to moderate its vulnerability, hence, it is not included among the most vulnerable areas of Southeast Asia. This is not generally true, however, for other areas where high adaptive capacity does not help to moderate exposure to climate risks. Bangkok and Jakarta are good examples. Their high adaptive capacities are not enough to moderate their extreme vulnerability brought about by their high population densities and significant exposure to climate hazards (in particular, sea-level rise and floods).

## CONCLUDING REMARKS

The identification of the areas most vulnerable to climate change risks in Southeast Asia is among the most urgent of policy needs. This assessment responds to this need by identifying which provinces/districts in Southeast Asian countries (namely, Thailand, Vietnam, Lao PDR, Cambodia, Indonesia, Malaysia, and the Philippines) are the most vulnerable to climate change, and producing a map to show climate change vulnerability in the region. We gathered data, at province and district levels, from various sources and integrated them in a consistent and meaningful manner to produce a map indicating the areas most vulnerable to climate change. Despite data limitations, it is expected that the output of this analysis will be useful to policymakers and donors in better targeting financial resources toward adaptation measures undertaken in Southeast Asia.

## REFERENCES

- Francisco, H. A. 2008. Adaptation to Climate Change: Needs and Opportunities in Southeast Asia. *Asean Economic Bulletin*. 25 (1).
- Intergovernmental Panel on Climate Change (IPCC). 2001. J. McCarthy; O. Canziani; N. Leary; D. Dokken; and K. White (eds.). In *Climate Change 2001: Impacts, Adaptation, and Vulnerability*. Cambridge University Press. Cambridge: Cambridge University Press.
- Peduzzi, P; H. Dao; and C. Herold. 2005. Mapping Disastrous Natural Hazards Using Global Datasets. *Natural Hazards*. 35 (2). 265-289.

# Appendices

## APPENDIX 1. SOURCES OF DATA

The data used in this vulnerability assessment came from different sources and in various formats such as the GIS map format (both grid/raster and SHP) and EXCEL data format. A detailed explanation of the sources of the data and how the figures were calculated is given below.

### ♦ Subnational Administrative Areas

Data on subnational administrative areas was available in ESRI SHP format. For subnational administrative areas (such as provinces), the data came from the GEODATA portal (the Environmental Database; <http://geodata.grid.unep.ch/extras/datasetlist.php>). Since Indonesia was the biggest country in terms of area, instead of using provinces as the unit of analysis, we used districts instead. The data on district administrative boundaries for Indonesia was obtained from BAKOSURTANAL (or the National Coordinating Body for Land Surveys).

In all, there were 590 subnational areas/units in this assessment that were made up of 341 districts (*kabupaten/kota*) in Indonesia, 19 provinces (*khét*) in Cambodia, 17 provinces (*khoueng*) in Lao PDR, 14 states (*negeri*) in Malaysia, 74 provinces in the Philippines, 72 provinces (*changwat*) in Thailand, and 53 provinces (*tinhh/thanh pho*) in Vietnam.

### ♦ Climate Hazards

*Frequency of tropical cyclones, floods, and droughts, and exposure to landslides*

The frequency of tropical cyclones, floods, and droughts was measured in terms of number of events per year. The cells in the maps indicate the number of events, divided by the number of available years (between 1980-2000 for droughts, 1980-2001 for floods, and 1980 and 2003 for cyclones). Details on the construction of this map can be obtained from Peduzzi, Dao and Herold (2005). The data in grid map format is available from the PREVIEW website at:

[http://www.grid.unep.ch/activities/earlywarning/preview/data/preview/index\\_about.php](http://www.grid.unep.ch/activities/earlywarning/preview/data/preview/index_about.php).

The map of exposure to landslides is based upon the dataset from the Norwegian Geotechnical Institute (NGI). The hazards mapping of NGI incorporates a range of data including slope, soil, soil moisture conditions, precipitation, seismicity, and temperature. Shuttle Radar Topography Mission (SRTM) elevation data at 30-arc-second resolution is incorporated. Hazard values 4 and below are considered negligible and only values from 5–9 are utilized for analysis. To ensure compatibility with other datasets, 1 is added to each of the values to produce a hazard ranking ranging from 6–10. This dataset is the result of the collaboration among the Center for Hazards and Risk Research (CHRR), the Norwegian Geotechnical Institute (NGI), and the Columbia University Center for International Earth Science and Information Network (CIESIN).

#### *Sea-level rise*

The inundation zone map of a five-meter sea-level rise was obtained from the Centers for the Remote Sensing of Ice Sheets (CReSIS) at the University of Kansas, USA, and Haskell Indian Nations University, India. Sea-level rise or inundation zones were determined from the Global Land One-km Base Elevation (GLOBE) digital elevation model (DEM) ([https://www.cresis.ku.edu/research/data/sea\\_level\\_rise](https://www.cresis.ku.edu/research/data/sea_level_rise)).

#### ♦ **Population Density**

The population density map was obtained from the Urban Extent Database (GRUMP version 1) of the Center for International Earth Science Information Network (CIESIN), Columbia University (<http://sedac.ciesin.columbia.edu/gpw>); the International Food Policy Research Institute (IFPRI); the World Bank; and Centro Internacional de Agricultura Tropical (CIAT). The data is in geographic coordinates of decimal degrees based on the World Geodetic System spheroid of 1984 (WGS84) in 30- arc-second (1-km) resolution.

#### ♦ **Biodiversity: Areas Declared as National/Protected Parks**

Data on national/protected parks as well as maps were obtained from the Terrestrial Ecoregions GIS Database of the World Wildlife Fund (WWF) at <http://www.worldwildlife.org/science/data/item1875.html>.

#### ♦ **Adaptive Capacity**

##### *Human Development Index*

The Human Development Index (HDI) was calculated using the following formula:

$$\begin{aligned} \text{HDI} = & (1/3)*[\text{Standard of Living Index}] \\ & + (1/3)*[\text{Life Expectancy at Birth Index}] \\ & + (1/3)*[\text{Education Index}] \end{aligned}$$

The Standard of Living Index was calculated using the Gross Domestic Regional Product (GDRP) per population (per capita), standardized using Purchasing Power Parity (PPP) for the year 2005. The GDRP data was obtained from different sources, while the PPP exchange rate was obtained from the World Bank's World Development Indicators (WDI).

The Life Expectancy at Birth data was obtained from various sources, such as country reports on the Human Development Index of the United Nations Development Program (UNDP).

Education was measured using literacy rates, the data of which was obtained from various sources, such as the UNDP's country reports on the HDI.

The index of each of the three components of the HDI was calculated following the methods used by the UNDP.

#### *Poverty incidences and inequality (Gini coefficient)*

Poverty incidences and the Gini coefficients for each of the provinces/districts of Vietnam, Malaysia, Cambodia, the Philippines, and Thailand were obtained from various sources such as the UNDP's country reports on the HDI and the Asian Development Bank (ADB). For Indonesia and Lao PDR, their poverty incidences and Gini coefficients were calculated directly using the Indonesian Socio-economic Survey (SUSENAS) and the Lao Socio-economic Survey (LECS3) data, respectively.

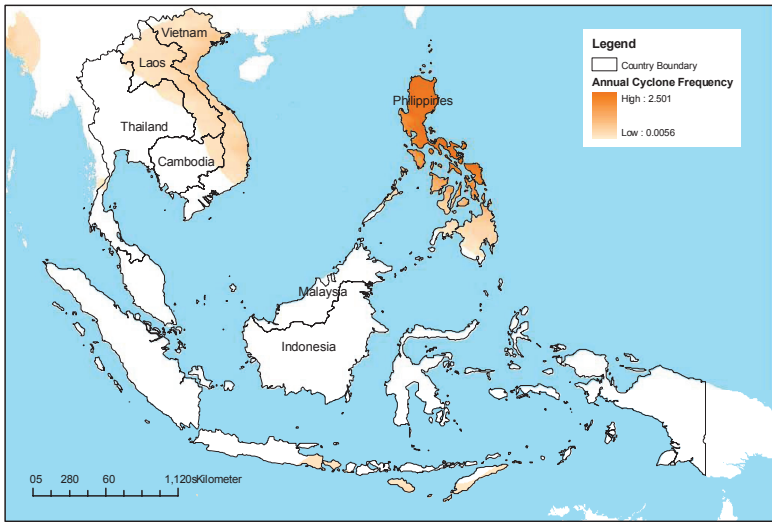
#### *Technology and infrastructure*

We defined electricity coverage as the percentage of household with access to electricity, and the extent of irrigation as the percentage of irrigated agricultural land. Road density was defined as the length of road per square kilometer. Communication was defined as the number of fixed phone lines per person. The data for all these came from various sources including the websites of the national statistics offices of the different Southeast Asian countries.

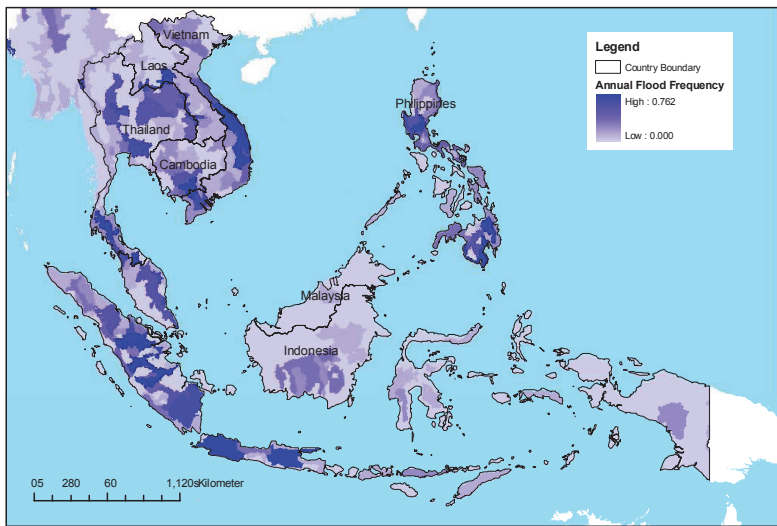


# APPENDIX 2. CLIMATE HAZARD MAPS OF SOUTHEAST ASIA

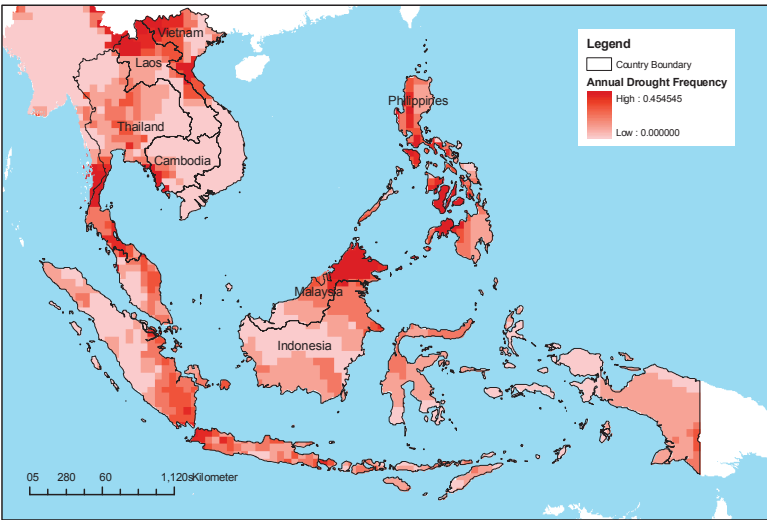
**Appendix 2A. Tropical Cyclone Frequency  
(Event Per Year from 1980-2003)**



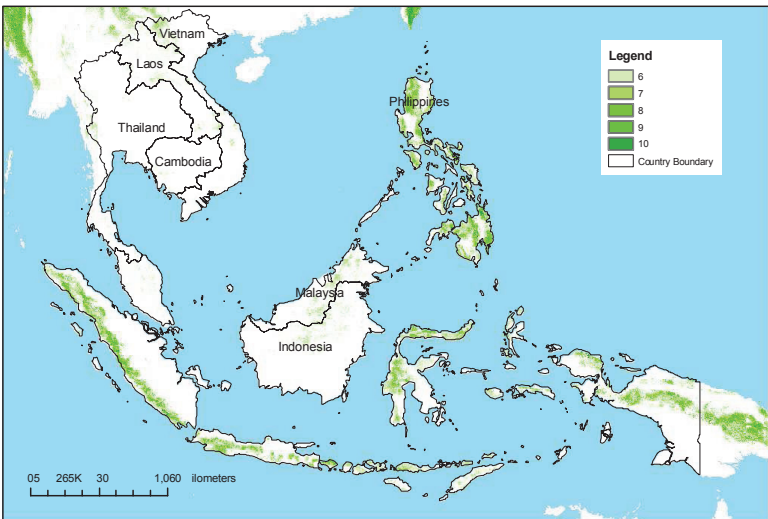
**Appendix 2B. Flood Frequency (Event Per Year from 1980-2001)**



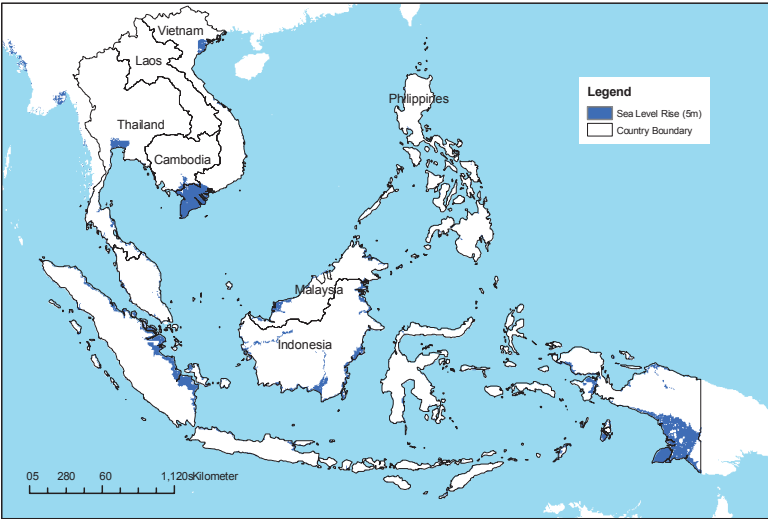
**Appendix 2C. Drought Frequency (Event Per Year from 1980-2000)**



**Appendix 2D. Landslide Exposure (2005)**



Appendix 2E. Sea-level Rise (5-m Inundation Zone)



## APPENDIX 3.

### LIST OF VULNERABLE PROVINCES/DISTRICTS IN SOUTHEAST ASIA

**Appendix 3A. List of Vulnerable Provinces/Districts  
(Southeast Asia Standard)**

Province/District	Vulnerability	Country Rank	SEA Rank	Exposure	Sensitivity	Adaptive Capacity
<b>CAMBODIA</b>						
Mondulkiri	0.75	1	9	0.02	0.24	0.00
Rattanakiri	0.72	2	11	0.05	0.16	0.00
Kompong Speu	0.63	3	14	0.22	0.11	0.05
Preah Vihear	0.59	4	20	0.01	0.16	0.04
Takeo	0.51	5	33	0.37	0.01	0.14
Kandal	0.51	6	36	0.40	0.02	0.17
Pursat	0.50	7	39	0.17	0.18	0.13
Kampot	0.47	8	55	0.22	0.12	0.16
Kompong Chhnang	0.46	9	56	0.14	0.04	0.09
Prey Veng	0.46	10	58	0.29	0.01	0.14
Koh Kong	0.43	11	83	0.18	0.19	0.21
Svay Rieng	0.42	12	89	0.23	0.01	0.15
Stung Treng	0.42	13	92	0.02	0.04	0.08
Kompong Thom	0.41	14	98	0.04	0.06	0.09
Battambang	0.41	15	100	0.06	0.11	0.12
Siem Reap	0.40	16	103	0.05	0.09	0.11
Kratie	0.36	17	138	0.01	0.02	0.09
Kampong Cham	0.34	18	171	0.08	0.01	0.14
Phnum Penh	0.23	19	314	0.12	0.17	0.50
<b>INDONESIA</b>						
Central Jakarta	1.00	1	1	0.65	1.00	0.99
North Jakarta	1.00	2	2	1.00	0.61	0.79
West Jakarta	0.86	3	3	0.77	0.61	0.78
East Jakarta	0.79	4	4	0.65	0.64	0.84
South Jakarta	0.78	5	5	0.65	0.60	0.78
Kota Bandung	0.77	6	6	0.58	0.65	0.70
Kota Surabaya	0.75	7	8	0.70	0.53	0.84
Kota Bekasi	0.66	8	12	0.64	0.40	0.71
Kota Bogor	0.63	9	13	0.65	0.33	0.61
Kota Depok	0.63	10	15	0.65	0.34	0.66
Kota Palembang	0.61	11	17	0.72	0.25	0.72
Tangerang	0.61	12	18	0.78	0.13	0.56
Kota Tangerang	0.61	13	19	0.65	0.33	0.76
Kota Malang	0.58	14	21	0.49	0.45	0.74
Jayawijaya	0.57	15	22	0.20	0.15	0.09
Kota Sukabumi	0.56	16	23	0.62	0.26	0.66
Bogor*	0.54	17	24	0.72	0.10	0.59
Puncak Jaya	0.54	18	25	0.20	0.18	0.12
Garut	0.53	19	26	0.73	0.06	0.54
West Lampung	0.52	20	28	0.45	0.25	0.40
Lebak	0.51	21	34	0.69	0.04	0.50
Bandung	0.50	22	37	0.69	0.08	0.61
Sumedang	0.50	23	40	0.69	0.06	0.59
Jembrana	0.48	24	48	0.48	0.25	0.62

## Appendix 3A (continued)

Province/District	Vulnerability	Country Rank	SEA Rank	Exposure	Sensitivity	Adaptive Capacity
Cianjur	0.47	25	52	0.64	0.05	0.55
Sukabumi	0.47	26	53	0.62	0.08	0.54
Karawang	0.46	27	62	0.63	0.05	0.55
Bekasi	0.45	28	66	0.62	0.09	0.70
Bangkalan	0.44	29	72	0.52	0.03	0.38
Pandeglang	0.43	30	78	0.52	0.11	0.54
Sidoarjo	0.43	31	81	0.51	0.16	0.67
Purwakarta	0.43	32	84	0.60	0.05	0.60
Paniai*	0.43	33	85	0.26	0.09	0.20
Majalengka	0.43	34	86	0.57	0.04	0.52
Buleleng	0.43	35	87	0.50	0.13	0.58
East Tanjung Jabung	0.42	36	88	0.47	0.12	0.49
Ponorogo	0.42	37	91	0.54	0.04	0.49
Tanggaman	0.41	38	95	0.49	0.07	0.45
Kota Blitar	0.40	39	102	0.49	0.13	0.63
Tasik Malaya	0.40	40	109	0.54	0.03	0.54
South Bengkulu	0.39	41	110	0.37	0.13	0.42
Kota Madiun	0.39	42	117	0.47	0.13	0.66
Sampang	0.38	43	119	0.39	0.03	0.33
Kota Balikpapan	0.38	44	120	0.40	0.21	0.70
Serang*	0.38	45	124	0.46	0.08	0.51
West Sumba	0.38	46	125	0.10	0.02	0.12
South East Aceh	0.38	47	126	0.33	0.22	0.56
Indramayu	0.38	48	128	0.46	0.04	0.48
Magetan	0.38	49	129	0.51	0.04	0.57
Madiun	0.37	50	131	0.49	0.04	0.52
Dairi	0.37	51	132	0.48	0.05	0.53
Ogan Komering Hilir	0.37	52	135	0.47	0.01	0.45
Ciamis	0.37	53	136	0.49	0.04	0.57
Indragiri Hilir	0.36	54	140	0.48	0.02	0.49
Trenggalek	0.36	55	143	0.47	0.03	0.51
Subang	0.36	56	145	0.48	0.04	0.57
Kota Banjarmasin	0.35	57	148	0.51	0.06	0.74
Nganjuk	0.35	58	149	0.46	0.03	0.52
Malang	0.35	59	151	0.44	0.06	0.54
Kediri	0.35	60	152	0.45	0.05	0.54
Lamongan	0.35	61	153	0.46	0.03	0.52
Gorontalo*	0.35	62	155	0.30	0.10	0.37
Ngawi	0.35	63	161	0.44	0.03	0.49
Manggarai	0.34	64	163	0.27	0.05	0.29
Jombang	0.34	65	164	0.43	0.06	0.53
Kota Kediri	0.34	66	165	0.43	0.17	0.93
East Lombok	0.34	67	167	0.23	0.13	0.34
Merauke	0.34	68	168	0.37	0.06	0.43
Sumenep	0.34	69	172	0.39	0.02	0.42
Bojonegoro	0.34	70	174	0.43	0.02	0.50
Pamekasan	0.33	71	175	0.38	0.04	0.45
Kota Padang	0.33	72	177	0.45	0.07	0.69
Lahat	0.33	73	178	0.31	0.12	0.47
South Aceh*	0.33	74	180	0.29	0.18	0.54
Blitar	0.33	75	181	0.43	0.04	0.54
Temanggung	0.33	76	182	0.42	0.04	0.55
Bangli	0.33	77	183	0.47	0.02	0.60
Padang Pariaman*	0.33	78	185	0.42	0.05	0.56
Kota Padang Panjang	0.33	79	186	0.47	0.04	0.68
Boyolali	0.33	80	187	0.36	0.10	0.55
Mojokerto	0.32	81	189	0.42	0.06	0.59
Wonogiri	0.32	82	191	0.40	0.03	0.49

## Appendix 3A (continued)

Province/District	Vulnerability	Country Rank	SEA Rank	Exposure	Sensitivity	Adaptive Capacity
Agam	0.32	83	192	0.39	0.07	0.57
Pasuruan	0.32	84	193	0.36	0.06	0.49
Barito Kuala	0.32	85	194	0.45	0.00	0.54
Tulungagung	0.32	86	195	0.42	0.04	0.58
Ogan Komering Ulu	0.32	87	196	0.38	0.07	0.56
Karanganyar	0.32	88	198	0.40	0.05	0.56
Kota Surakarta	0.31	89	199	0.26	0.25	0.74
Gresik	0.31	90	200	0.42	0.05	0.62
Wonosobo	0.31	91	201	0.36	0.04	0.46
Tabanan	0.31	92	202	0.40	0.07	0.63
Blora	0.31	93	203	0.41	0.02	0.51
Kota Bitung	0.31	94	204	0.33	0.16	0.68
Southern Central Timor	0.31	95	210	0.18	0.02	0.23
Sragen	0.31	96	211	0.35	0.05	0.48
Kota Ternate	0.31	97	212	0.45	0.01	0.63
West Lombok	0.30	98	217	0.18	0.11	0.33
Kota Pasuruan	0.30	99	218	0.17	0.29	0.64
Alor	0.30	100	219	0.27	0.01	0.32
Tulang Bawang	0.30	101	221	0.36	0.01	0.44
Way Kanan	0.30	102	222	0.32	0.02	0.40
Karo	0.30	103	223	0.43	0.02	0.63
Langkat	0.29	104	227	0.27	0.15	0.57
North Lampung*	0.29	105	228	0.34	0.03	0.46
Toba Samosir	0.29	106	232	0.37	0.05	0.59
Pasaman	0.29	107	233	0.36	0.00	0.48
Kota Samarinda	0.29	108	234	0.40	0.05	0.68
Bolaang Mongondow	0.28	109	235	0.32	0.10	0.60
Kuningan	0.28	110	238	0.34	0.05	0.54
Kota Mojokerto	0.28	111	239	0.40	0.05	0.70
Musi Banyuasin	0.28	112	241	0.31	0.04	0.47
Tuban	0.28	113	242	0.33	0.03	0.49
Kota Medan	0.28	114	243	0.23	0.26	0.92
Tana Toraja	0.28	115	244	0.34	0.01	0.46
Grobogan	0.28	116	245	0.31	0.03	0.47
Brebes	0.28	117	246	0.28	0.05	0.44
Tegal	0.28	118	247	0.26	0.09	0.47
Kota Jambi	0.27	119	249	0.30	0.12	0.66
South Lampung*	0.27	120	250	0.30	0.03	0.45
Donggala	0.27	121	251	0.27	0.03	0.41
East Lampung	0.27	122	252	0.20	0.14	0.47
Majene	0.27	123	253	0.33	0.01	0.47
Klaten	0.27	124	254	0.28	0.08	0.50
Kendal	0.27	125	256	0.31	0.04	0.51
Purbalingga	0.27	126	257	0.28	0.05	0.47
Nabire	0.27	127	258	0.18	0.04	0.31
Banjarnegara	0.27	128	259	0.30	0.04	0.48
Sukoharjo	0.26	129	260	0.28	0.10	0.58
Semarang	0.26	130	261	0.34	0.04	0.60
Jember	0.26	131	264	0.22	0.11	0.48
Solok	0.26	132	265	0.36	0.00	0.55
Kota Cilegon	0.26	133	266	0.35	0.08	0.74
Central Lampung*	0.26	134	267	0.31	0.03	0.51
Mandailing Natal	0.26	135	268	0.31	0.00	0.45
Pekalongan	0.26	136	269	0.30	0.05	0.53
Kota Yogyakarta	0.26	137	270	0.00	0.41	0.70
Pemalang	0.26	138	271	0.26	0.06	0.46
Banyuwangi	0.26	139	272	0.28	0.08	0.56
Dompu	0.26	140	273	0.23	0.02	0.36

## Appendix 3A (continued)

Province/District	Vulnerability	Country Rank	SEA Rank	Exposure	Sensitivity	Adaptive Capacity
Central Tapanuli	0.26	141	275	0.30	0.01	0.46
Rejang Lebong	0.26	142	276	0.31	0.04	0.54
North Tapanuli*	0.26	143	277	0.34	0.00	0.54
Karangasem	0.25	144	278	0.31	0.02	0.51
Central Lombok	0.25	145	279	0.14	0.09	0.34
Northern Central Timor	0.25	146	281	0.13	0.00	0.25
Demak	0.25	147	282	0.27	0.06	0.51
Central Aceh	0.25	148	283	0.29	0.06	0.57
Belu	0.25	149	284	0.17	0.02	0.30
Kerinci	0.25	150	285	0.34	0.00	0.57
South-East Maluku*	0.25	151	288	0.27	0.01	0.43
South Pesisir	0.25	152	289	0.32	0.00	0.51
Magelang	0.25	153	290	0.29	0.05	0.56
Toli-Toli/Buol Toli-toli	0.25	154	291	0.30	0.01	0.48
Mamuju	0.24	155	292	0.28	0.00	0.44
Ngada	0.24	156	293	0.24	0.00	0.38
Cilacap	0.24	157	294	0.29	0.05	0.55
Enrekang	0.24	158	295	0.27	0.05	0.51
Boalemo	0.24	159	296	0.23	0.03	0.41
Sikka	0.24	160	297	0.24	0.01	0.40
Polewali Mamasa	0.24	161	298	0.27	0.01	0.44
Aceh Singkil	0.24	162	299	0.25	0.04	0.48
Kudus	0.24	163	300	0.30	0.06	0.66
Muara Enim (Liot)	0.24	164	301	0.30	0.02	0.55
Bima	0.24	165	303	0.23	0.01	0.39
Cirebon	0.24	166	304	0.22	0.09	0.51
Pacitan	0.24	167	306	0.27	0.02	0.48
Lumajang	0.23	168	307	0.19	0.11	0.52
Limapuluh Koto	0.23	169	308	0.30	0.03	0.58
Sumbawa	0.23	170	310	0.23	0.03	0.43
East Sumba	0.23	171	311	0.11	0.00	0.26
Kota Semarang	0.23	172	312	0.18	0.20	0.74
Kota Sibolga	0.23	173	313	0.28	0.07	0.64
Bondowoso	0.23	174	315	0.22	0.03	0.43
Tapin	0.23	175	317	0.30	0.00	0.53
Gianyar	0.23	176	318	0.30	0.05	0.66
Ende	0.23	177	320	0.23	0.00	0.40
Jepara	0.23	178	321	0.25	0.06	0.56
Pelalawan	0.22	179	324	0.25	0.02	0.49
South Hulu Sungai	0.22	180	325	0.27	0.00	0.48
Kota Bontang	0.22	181	326	0.07	0.28	0.67
Batang	0.22	182	327	0.23	0.06	0.52
Kota Magelang	0.22	183	328	0.29	0.05	0.65
Merangin	0.22	184	329	0.28	0.00	0.51
Nunukan	0.22	185	330	0.19	0.09	0.52
Kota Sabang	0.22	186	331	0.29	0.01	0.55
Central Maluku*	0.22	187	333	0.15	0.06	0.38
Kupang	0.22	188	338	0.12	0.02	0.30
North Luwu	0.22	189	339	0.20	0.05	0.46
Luwu*	0.22	190	340	0.24	0.03	0.50
Bantaeng	0.22	191	341	0.19	0.05	0.44
West South-East Maluku	0.22	192	342	0.14	0.00	0.31
Buol	0.22	193	343	0.22	0.00	0.41
Kota Solok	0.22	194	344	0.33	0.01	0.69
Probolinggo	0.22	195	348	0.20	0.05	0.46
Kota Bandar Lampung	0.21	196	349	0.21	0.12	0.67
Musi Rawas	0.21	197	350	0.18	0.00	0.37
Lembata	0.21	198	351	0.13	0.00	0.31

## Appendix 3A (continued)

Province/District	Vulnerability	Country Rank	SEA Rank	Exposure	Sensitivity	Adaptive Capacity
Poso*	0.21	199	352	0.19	0.05	0.46
Banyumas	0.21	200	353	0.22	0.05	0.51
Yapen Waropen	0.21	201	355	0.10	0.05	0.33
Manokwari	0.21	202	356	0.14	0.02	0.33
Klungkung	0.21	203	357	0.27	0.03	0.60
Kota Denpasar	0.21	204	359	0.18	0.16	0.72
Mimika	0.21	205	360	0.15	0.13	0.54
Biak Numfor	0.21	206	361	0.17	0.06	0.46
Muara Jambi	0.21	207	363	0.24	0.02	0.52
Situbondo	0.20	208	364	0.15	0.08	0.47
Kota Gorontalo	0.20	209	365	0.28	0.03	0.67
Minahasa	0.20	210	367	0.28	0.03	0.66
Kota Ujung Pandang	0.20	211	368	0.08	0.27	0.83
Rembang	0.20	212	369	0.21	0.04	0.51
Badung	0.20	213	372	0.23	0.07	0.66
Morowali	0.20	214	374	0.11	0.06	0.39
Kota Pontianak	0.20	215	376	0.25	0.07	0.75
Sarolangun*	0.20	216	378	0.22	0.00	0.48
Kota Cirebon	0.20	217	379	0.13	0.18	0.73
Kapuas Hulu	0.19	218	381	0.06	0.14	0.45
South Tapanuli*	0.19	219	382	0.25	0.01	0.54
Piddie	0.19	220	383	0.23	0.01	0.51
Bengkalis*	0.19	221	384	0.26	0.00	0.58
East Flores*	0.19	222	386	0.14	0.02	0.40
Kota Pekalongan	0.19	223	387	0.13	0.16	0.68
Pati	0.19	224	389	0.21	0.04	0.55
Kota Salatiga	0.19	225	390	0.18	0.11	0.67
Malinau	0.19	226	392	0.11	0.11	0.50
Tebo/Bungo Tebo	0.19	227	393	0.22	0.00	0.51
Indragiri Hulu*	0.19	228	394	0.18	0.04	0.50
Kota Manado	0.18	229	398	0.20	0.10	0.71
West Aceh*	0.18	230	400	0.21	0.00	0.50
Sorong	0.18	231	401	0.09	0.04	0.37
Gowa	0.18	232	402	0.17	0.04	0.48
Sawah Lunto/Sijunjung	0.18	233	403	0.18	0.03	0.49
Bantul	0.18	234	408	0.13	0.09	0.52
Kota Pekanbaru	0.17	235	409	0.24	0.03	0.69
Barru	0.17	236	411	0.20	0.01	0.51
Aceh Besar	0.17	237	412	0.22	0.00	0.57
Natuna	0.17	238	414	0.21	0.01	0.56
Maros	0.17	239	416	0.16	0.03	0.49
Banjar*	0.17	240	417	0.11	0.11	0.57
Muna	0.17	241	418	0.04	0.08	0.37
Siak	0.17	242	419	0.24	0.00	0.62
South Barito	0.17	243	420	0.20	0.00	0.53
Batanghari*	0.17	244	422	0.19	0.00	0.51
Buru	0.17	245	423	0.12	0.00	0.38
North Bengkulu	0.17	246	424	0.16	0.01	0.47
Kota Metro	0.17	247	426	0.17	0.06	0.60
Belitung	0.16	248	427	0.22	0.00	0.58
North Hulu Sungai	0.16	249	429	0.19	0.00	0.53
Bulukumba	0.16	250	432	0.12	0.06	0.50
Sangihe Talaud	0.16	251	434	0.08	0.13	0.57
Kota Tegal	0.16	252	436	0.18	0.05	0.63
Jeneponto	0.16	253	437	0.08	0.02	0.37
Landak	0.16	254	438	0.01	0.05	0.33
Kota Batam	0.16	255	439	0.12	0.13	0.72
Jayapura	0.16	256	440	0.07	0.10	0.48



## Appendix 3A (continued)

Province/District	Vulnerability	Country Rank	SEA Rank	Exposure	Sensitivity	Adaptive Capacity
Tanah Datar	0.16	257	441	0.15	0.07	0.61
Kota Mataram	0.16	258	442	0.00	0.22	0.62
Central Hulu Sungai	0.16	259	443	0.18	0.01	0.52
Labuhan Batu	0.16	260	444	0.21	0.01	0.60
Pinrang	0.15	261	445	0.20	0.01	0.60
Kota Ambon	0.15	262	447	0.21	0.03	0.67
Wajo	0.15	263	449	0.18	0.01	0.53
West Tanjung Jabung	0.15	264	450	0.18	0.00	0.54
Kota Palu	0.15	265	451	0.20	0.02	0.64
Kota Baru	0.15	266	453	0.16	0.02	0.55
Banggai*	0.15	267	454	0.11	0.06	0.51
Kampar*	0.15	268	455	0.20	0.00	0.59
North Maluku*	0.15	269	456	0.12	0.01	0.43
Asahan	0.15	270	458	0.19	0.01	0.60
Rokan Hilir	0.15	271	459	0.15	0.00	0.49
Kapuas	0.15	272	461	0.15	0.00	0.50
Buton	0.14	273	463	0.01	0.05	0.35
Sinjai	0.14	274	465	0.11	0.04	0.49
Kepulauan Mentawai	0.14	275	466	0.05	0.06	0.43
Bulongan*	0.14	276	467	0.18	0.00	0.57
Kebumen	0.14	277	469	0.10	0.04	0.49
Banggai Kepulauan	0.14	278	471	0.07	0.00	0.37
Rokan Hulu	0.14	279	472	0.14	0.00	0.50
Bone	0.14	280	473	0.12	0.01	0.47
Takalar	0.14	281	474	0.09	0.05	0.48
Sintang	0.14	282	475	0.03	0.05	0.38
East Aceh	0.14	283	478	0.16	0.01	0.57
Tanah Laut	0.14	284	479	0.13	0.05	0.58
Kutai*	0.13	285	482	0.14	0.03	0.58
Kulon Progo	0.13	286	483	0.12	0.03	0.53
Ketapang	0.13	287	484	0.07	0.04	0.44
Nias	0.13	288	487	0.11	0.01	0.48
Fak Fak*	0.13	289	488	0.13	0.00	0.51
Kuantan Sengingi	0.13	290	489	0.11	0.00	0.47
Pontianak*	0.13	291	491	0.15	0.00	0.56
Kendari	0.13	292	492	0.06	0.03	0.43
Soppeng	0.13	293	493	0.15	0.01	0.56
Gunung Kidul	0.12	294	495	0.10	0.03	0.51
Tabalong	0.12	295	496	0.14	0.00	0.56
Bangka	0.12	296	498	0.15	0.00	0.58
East Kotawaringin	0.12	297	499	0.13	0.03	0.60
Kota Bengkulu	0.12	298	500	0.13	0.06	0.70
Purworejo	0.12	299	501	0.09	0.03	0.51
Kota Tebing Tinggi	0.12	300	502	0.03	0.15	0.65
Kota Tarakan	0.12	301	504	0.16	0.03	0.70
Sidenreng Rappang	0.12	302	506	0.10	0.04	0.56
Kota Probolinggo	0.12	303	507	0.08	0.08	0.62
West Kotawaringin	0.11	304	510	0.11	0.04	0.63
Kota Dumai	0.11	305	511	0.14	0.00	0.60
Kota Binjai	0.11	306	512	0.08	0.11	0.73
Sleman	0.11	307	514	0.04	0.09	0.57
Deli Serdang	0.11	308	515	0.11	0.04	0.64
North Aceh*	0.11	309	516	0.10	0.00	0.50
Karimun	0.11	310	517	0.13	0.00	0.57
Kota Tanjung Balai	0.11	311	518	0.15	0.04	0.77
Berau	0.11	312	519	0.14	0.00	0.62
Simeulue	0.10	313	524	0.05	0.00	0.43
Kepulauan Riau*	0.10	314	525	0.12	0.01	0.61

## Appendix 3A (continued)

Province/District	Vulnerability	Country Rank	SEA Rank	Exposure	Sensitivity	Adaptive Capacity
Kolaka	0.10	315	527	0.07	0.01	0.49
Central Halmahera	0.10	316	528	0.07	0.00	0.48
Sanggau	0.09	317	532	0.05	0.03	0.52
Bungo	0.09	318	538	0.06	0.00	0.49
Bireuen	0.09	319	539	0.10	0.00	0.59
Kota Jayapura	0.09	320	540	0.06	0.05	0.62
Bengkayang	0.09	321	541	0.01	0.05	0.47
Kota Palangka Raya	0.09	322	543	0.13	0.01	0.71
East Kutai	0.09	323	544	0.10	0.02	0.63
North Barito	0.09	324	545	0.08	0.00	0.56
Pasir	0.09	325	546	0.10	0.00	0.59
Pangkajene Kepulauan	0.08	326	548	0.05	0.01	0.52
Selayar	0.08	327	549	0.01	0.00	0.43
Simalungun	0.08	328	550	0.08	0.01	0.58
Kota Kupang	0.08	329	554	0.05	0.08	0.71
Kota Sorong	0.07	330	555	0.02	0.01	0.46
Sambas*	0.07	331	559	0.04	0.00	0.50
West Kutai	0.07	332	561	0.05	0.00	0.55
Kota Pangkal Pinang	0.07	333	562	0.09	0.01	0.68
Kota Pare Pare	0.07	334	564	0.05	0.04	0.64
Kota Banda Aceh	0.07	335	566	0.08	0.04	0.72
Kota Bukit Tinggi	0.07	336	567	0.05	0.07	0.75
Kota Banjar Baru	0.05	337	577	0.05	0.01	0.61
Kota Kendari	0.05	338	579	0.03	0.02	0.61
Kota Pematang Siantar	0.02	339	586	0.03	0.01	0.72
Kota Sawah Lunto	0.02	340	589	0.00	0.01	0.63
Kota Payakumbuh	0.00	341	590	0.00	0.03	0.84
LAO PDR						
Phongsali	0.49	1	43	0.28	0.06	0.14
Houaphan	0.46	2	59	0.22	0.11	0.16
Louang Namtha	0.46	3	61	0.38	0.04	0.22
Oudomxai	0.45	4	67	0.30	0.00	0.15
Saravan	0.39	5	115	0.10	0.11	0.15
Bokeo	0.37	6	133	0.32	0.01	0.26
Khammouan	0.35	7	156	0.18	0.18	0.33
Louangphrabang	0.35	8	160	0.14	0.01	0.16
Attapeu	0.33	9	184	0.07	0.10	0.19
Xekong	0.31	10	205	0.11	0.07	0.21
Borikhamxai	0.31	11	206	0.20	0.09	0.31
Xiangkhoang	0.31	12	209	0.15	0.00	0.20
Savannakhet	0.27	13	255	0.10	0.07	0.26
Viangchan	0.25	14	287	0.16	0.07	0.36
Xaignabouri	0.24	15	305	0.10	0.05	0.28
Vientiane	0.19	16	380	0.14	0.05	0.41
Champasak	0.18	17	404	0.05	0.10	0.40
PHILIPPINES						
Manila	0.76	1	7	0.54	0.73	1.00
Benguet	0.73	2	10	0.92	0.24	0.72
Batanes	0.62	3	16	0.54	0.43	0.69
Ilocos Sur	0.53	4	27	0.82	0.03	0.72
Rizal	0.52	5	29	0.69	0.16	0.78
Bataan	0.52	6	30	0.73	0.14	0.85
Batangas	0.51	7	31	0.70	0.12	0.73
Bulacan	0.51	8	32	0.70	0.15	0.83
Abra	0.50	9	38	0.74	0.01	0.57
Albay	0.50	10	41	0.70	0.04	0.57
Quezon	0.50	11	42	0.74	0.01	0.58
Nueva Ecija	0.49	12	44	0.67	0.11	0.71

## Appendix 3A (continued)

Province/District	Vulnerability	Country Rank	SEA Rank	Exposure	Sensitivity	Adaptive Capacity
La Union	0.49	13	45	0.76	0.02	0.72
Aurora	0.48	14	46	0.68	0.07	0.66
Mountain	0.48	15	49	0.68	0.01	0.53
Tawi-Tawi	0.48	16	50	0.44	0.01	0.22
Romblon	0.48	17	51	0.51	0.18	0.53
Laguna	0.47	18	54	0.65	0.11	0.74
Camarines Sur	0.46	19	57	0.66	0.02	0.56
Sorsogon	0.46	20	60	0.65	0.03	0.55
Nueva Vizcaya	0.46	21	63	0.60	0.11	0.66
Cavite	0.45	22	64	0.60	0.13	0.77
Occidental Mindoro	0.45	23	65	0.59	0.07	0.55
Ilocos Norte	0.45	24	68	0.72	0.01	0.78
Kalinga-Apayao	0.45	25	70	0.64	0.00	0.53
Isabela	0.44	26	71	0.55	0.14	0.67
Zambales	0.44	27	73	0.70	0.01	0.74
Davao Del Sur	0.44	28	74	0.59	0.05	0.55
Camarines Norte	0.44	29	75	0.62	0.03	0.57
Catanduanes	0.44	30	76	0.52	0.14	0.60
Surigao Del Norte	0.43	31	80	0.51	0.10	0.51
Misamis Occidental	0.43	32	82	0.61	0.01	0.52
Pampanga	0.42	33	90	0.64	0.05	0.81
Lanao Del Sur	0.42	34	94	0.50	0.02	0.38
Lanao Del Norte	0.41	35	97	0.55	0.01	0.49
Northern Samar	0.41	36	99	0.49	0.01	0.38
Oriental Mindoro	0.40	37	104	0.55	0.04	0.56
Ifugao	0.40	38	105	0.54	0.02	0.48
Pangasinan	0.40	39	106	0.60	0.03	0.69
Leyte	0.39	40	111	0.54	0.02	0.53
Negros Oriental	0.39	41	112	0.51	0.02	0.47
Bukidnon	0.39	42	116	0.52	0.04	0.53
Quirino	0.39	43	118	0.57	0.02	0.65
Zamboanga Del Norte	0.38	44	121	0.44	0.01	0.37
Tarlac	0.38	45	122	0.59	0.02	0.73
Negros Occidental	0.38	46	123	0.48	0.08	0.56
Marinduque	0.37	47	130	0.55	0.01	0.60
Western Samar	0.37	48	134	0.48	0.01	0.45
Cagayan	0.37	49	137	0.54	0.02	0.65
Masbate	0.36	50	139	0.41	0.01	0.36
Camiguin	0.36	51	141	0.49	0.01	0.52
Palawan	0.36	52	142	0.13	0.36	0.49
Agusan Del Sur	0.36	53	144	0.43	0.03	0.44
Maguindanao	0.36	54	147	0.37	0.02	0.34
Antique	0.35	55	150	0.47	0.02	0.52
South Cotabato	0.35	56	154	0.44	0.05	0.53
Zamboanga Del Sur	0.35	57	157	0.47	0.02	0.51
Agusan Del Norte	0.35	58	158	0.49	0.02	0.60
Misamis Oriental	0.34	59	169	0.47	0.01	0.55
Cebu	0.34	60	170	0.46	0.05	0.61
Davao Oriental	0.34	61	173	0.47	0.00	0.54
Southern Leyte	0.33	62	176	0.47	0.01	0.56
Sulu	0.32	63	188	0.29	0.02	0.31
Sultan Kudarat	0.32	64	190	0.38	0.03	0.46
Surigao Del Sur	0.32	65	197	0.45	0.01	0.56
Eastern Samar	0.31	66	207	0.36	0.02	0.44
Siquijor	0.31	67	208	0.45	0.01	0.62
Davao Del Norte	0.30	68	214	0.41	0.01	0.52
North Cotabato	0.29	69	224	0.35	0.05	0.53
Capiz	0.29	70	225	0.41	0.02	0.60

## Appendix 3A (continued)

Province/District	Vulnerability	Country Rank	SEA Rank	Exposure	Sensitivity	Adaptive Capacity
Iloilo	0.28	71	237	0.39	0.03	0.63
Bohol	0.28	72	248	0.36	0.04	0.59
Basilan	0.23	73	309	0.24	0.02	0.45
Aklan	0.22	74	346	0.28	0.01	0.57
THAILAND						
Krung Thep	0.48	1	47	0.61	0.20	0.92
Samut Prakan	0.42	2	93	0.59	0.09	0.77
Nonthaburi	0.40	3	107	0.59	0.05	0.74
Samut Sakhon	0.35	4	159	0.54	0.03	0.78
Trang	0.33	5	179	0.41	0.09	0.63
Chachoengsao	0.30	6	216	0.43	0.05	0.72
Nakhon Si Thammarat	0.29	7	226	0.40	0.05	0.64
Surat Thani	0.29	8	231	0.35	0.10	0.66
Satun	0.28	9	240	0.35	0.07	0.63
Pattani	0.26	10	263	0.36	0.02	0.58
Ranong	0.26	11	274	0.33	0.06	0.64
Nakhon Nayok	0.25	12	280	0.26	0.13	0.68
Nakhon Pathom	0.25	13	286	0.39	0.02	0.74
Phatthalung	0.23	14	316	0.24	0.11	0.63
Yala	0.23	15	322	0.34	0.00	0.64
Chaiyaphum	0.22	16	332	0.21	0.09	0.56
Phangnga	0.22	17	336	0.25	0.07	0.61
Pathum Thani	0.22	18	337	0.33	0.03	0.75
Chumphon	0.21	19	354	0.27	0.04	0.61
Uthai Thani	0.21	20	358	0.11	0.17	0.56
Kamphaeng Phet	0.20	21	366	0.20	0.10	0.61
Phetchaburi	0.20	22	370	0.14	0.17	0.69
Tak	0.20	23	371	0.08	0.17	0.53
Trat	0.20	24	375	0.25	0.05	0.64
Prachuap Khiri Khan	0.19	25	385	0.28	0.01	0.66
Kanchanaburi	0.19	26	391	0.09	0.18	0.63
Narathiwat	0.19	27	395	0.21	0.03	0.55
Mae Hong Son	0.19	28	396	0.05	0.09	0.37
Prachin Buri	0.19	29	397	0.20	0.09	0.68
Songkhla	0.18	30	399	0.26	0.03	0.71
Krabi	0.18	31	407	0.24	0.01	0.59
Sukhothai	0.17	32	415	0.20	0.03	0.58
Loei	0.16	33	430	0.16	0.06	0.59
Phichit	0.16	34	431	0.23	0.01	0.64
Sakon Nakhon	0.16	35	433	0.16	0.05	0.57
Saraburi	0.16	36	435	0.22	0.03	0.71
Nakhon Sawan	0.15	37	446	0.19	0.03	0.62
Khon Kaen	0.15	38	448	0.18	0.04	0.62
Nakhon Phanom	0.15	39	452	0.13	0.04	0.53
Phrae	0.15	40	457	0.16	0.05	0.64
Phitsanulok	0.14	41	464	0.11	0.09	0.62
Chanthaburi	0.14	42	468	0.12	0.09	0.65
Phra Nakhon Si Ayutthaya	0.14	43	470	0.23	0.01	0.79
Udon Thani	0.14	44	476	0.17	0.01	0.60
Nong Khai	0.14	45	481	0.17	0.02	0.62
Phuket	0.13	46	485	0.12	0.09	0.69
Ubon Ratchathani	0.13	47	490	0.11	0.04	0.53
Kalasin	0.13	48	494	0.14	0.02	0.57
Chai Nat	0.12	49	505	0.17	0.01	0.65
Phetchabun	0.11	50	509	0.12	0.04	0.66
Lop Buri	0.10	51	522	0.14	0.01	0.63
Chon Buri	0.10	52	523	0.15	0.03	0.77
Maha Sarakham	0.10	53	529	0.11	0.01	0.60

## Appendix 3A (continued)

Province/District	Vulnerability	Country Rank	SEA Rank	Exposure	Sensitivity	Adaptive Capacity
Nakhon Ratchasima	0.10	54	530	0.06	0.05	0.57
Sing Buri	0.10	55	531	0.14	0.01	0.70
Ang Thong	0.09	56	533	0.13	0.01	0.68
Ratchaburi	0.09	57	536	0.09	0.05	0.68
Sisaket	0.09	58	542	0.04	0.04	0.52
Nan	0.08	59	552	0.07	0.01	0.57
Roi Et	0.08	60	553	0.08	0.01	0.58
Lampang	0.07	61	556	0.04	0.06	0.64
Suphan Buri	0.07	62	558	0.09	0.01	0.65
Chiang Mai	0.07	63	560	0.01	0.08	0.65
Buriram	0.07	64	563	0.02	0.01	0.49
Lamphun	0.06	65	570	0.01	0.09	0.71
Chiang Rai	0.06	66	571	0.03	0.02	0.58
Samut Songkhram	0.06	67	572	0.07	0.02	0.70
Uttaradit	0.06	68	573	0.06	0.01	0.63
Surin	0.05	69	575	0.02	0.01	0.53
Phayao	0.05	70	578	0.01	0.05	0.62
Rayong	0.04	71	580	0.08	0.02	0.81
Yasothon	0.04	72	583	0.02	0.01	0.60
VIETNAM						
Lai Chau	0.51	1	35	0.42	0.10	0.23
Dong Thap	0.45	2	69	0.65	0.03	0.61
Vinh Long	0.43	3	77	0.64	0.03	0.63
Can Tho	0.43	4	79	0.64	0.03	0.64
Tra Vinh	0.41	5	96	0.55	0.02	0.49
Soc Trang	0.40	6	101	0.54	0.02	0.48
An Giang	0.40	7	108	0.57	0.04	0.64
Tien Giang	0.39	8	113	0.59	0.04	0.70
Ben Tre	0.39	9	114	0.55	0.03	0.57
Thai Binh	0.38	10	127	0.57	0.06	0.81
Minh Hai	0.36	11	146	0.52	0.03	0.66
Long An	0.34	12	162	0.53	0.02	0.69
Kien Giang	0.34	13	166	0.49	0.02	0.63
Thua Thien Hue	0.30	14	213	0.42	0.04	0.61
Son La	0.30	15	215	0.31	0.03	0.39
Ha Tinh	0.30	16	220	0.40	0.07	0.71
Lao Cai	0.29	17	229	0.32	0.02	0.41
Hai Phong	0.29	18	230	0.39	0.09	0.81
Nam Ha	0.28	19	236	0.39	0.06	0.71
Quang Binh	0.26	20	262	0.35	0.03	0.58
Hai Hung	0.24	21	302	0.35	0.06	0.82
Ho Chi Minh	0.23	22	319	0.23	0.16	0.82
Ha Giang	0.23	23	323	0.19	0.01	0.36
Quang Tri	0.22	24	335	0.31	0.00	0.60
Gia Lai	0.22	25	345	0.21	0.01	0.43
Quang Nam-Da Nang	0.22	26	347	0.30	0.03	0.65
Quang Ngai	0.21	27	362	0.28	0.02	0.60
Nghe An	0.20	28	373	0.28	0.03	0.70
Phu Yen	0.20	29	377	0.25	0.04	0.66
Ninh Binh	0.19	30	388	0.27	0.05	0.77
Binh Dinh	0.17	31	410	0.27	0.01	0.72
Yen Bai	0.17	32	413	0.23	0.01	0.61
Kon Tum	0.16	33	428	0.14	0.03	0.47
Thanh Hoa	0.15	34	460	0.20	0.03	0.67
Tuyen Quang	0.14	35	462	0.19	0.01	0.62
Cao Bang	0.14	36	480	0.07	0.05	0.46
Hoa Binh	0.13	37	486	0.15	0.04	0.65
Ninh Thuan	0.12	38	497	0.13	0.02	0.59

## Appendix 3A (continued)

Province/District	Vulnerability	Country Rank	SEA Rank	Exposure	Sensitivity	Adaptive Capacity
Dac Lac	0.12	39	508	0.12	0.04	0.62
Ha Noi	0.11	40	513	0.10	0.12	0.89
Vinh Phu	0.11	41	520	0.14	0.05	0.78
Ha Tay	0.10	42	521	0.12	0.07	0.79
Quang Ninh	0.10	43	526	0.16	0.01	0.74
Khanh Hoa	0.09	44	537	0.15	0.01	0.76
Bac Thai	0.08	45	551	0.08	0.02	0.61
Ha Bac	0.07	46	557	0.07	0.03	0.64
Lang Son	0.07	47	565	0.07	0.01	0.61
Binh Thuan	0.07	48	568	0.06	0.03	0.64
Tay Ninh	0.07	49	569	0.04	0.06	0.69
Lam Dong	0.05	50	576	0.07	0.01	0.67
Song Be	0.04	51	584	0.03	0.01	0.64
Ba Ria-Vung Tau	0.02	52	587	0.02	0.05	0.84
Dong Nai	0.02	53	588	0.04	0.01	0.76
Sabah	0.22	1	334	0.31	0.03	0.67
Pulau Pinang	0.18	2	405	0.25	0.06	0.79
Kelantan	0.18	3	406	0.25	0.04	0.69
Terengganu	0.17	4	421	0.25	0.03	0.76
Perlis	0.17	5	425	0.26	0.01	0.72
Pahang	0.14	6	477	0.18	0.05	0.74
Kedah	0.12	7	503	0.19	0.01	0.75
Kuala Lumpur	0.09	8	534	0.00	0.17	0.80
Johor	0.09	9	535	0.15	0.01	0.77
Sarawak	0.08	10	547	0.13	0.01	0.74
Perak	0.06	11	574	0.09	0.01	0.74
Selangor	0.04	12	581	0.05	0.03	0.78
Melaka	0.04	13	582	0.06	0.02	0.77
Negeri Sembilan	0.03	14	585	0.05	0.01	0.76

### Appendix 3B. List of Vulnerable Provinces/Districts (Country Standard)

PROV	VUL	RNK	CHAZ	SENS	ADAP	PDEN	PROT	POP	INC	POV	HDI
Mondol Kiri	0.83	1	0.02	0.37	0.99	3	0.56	42	1,409	52.0	0.43
Rotanokiri	0.78	2	0.05	0.25	1.00	9	0.37	121	1,409	52.0	0.42
Kampong Spoe	0.67	3	0.22	0.16	0.75	91	0.24	730	1,029	52.0	0.51
Preah Vihear	0.64	4	0.01	0.26	0.82	11	0.38	152	1,409	52.0	0.49
Central Jakarta	1.00	1	0.65	1.00	0.00	20,419	0.00	889	21,708	3.2	0.89
North Jakarta	1.00	2	1.00	0.61	0.04	12,400	0.00	1446	9,822	6.3	0.85
West Jakarta	0.90	3	0.77	0.68	0.04	9,993	0.29	2093	7,841	2.7	0.83
East Jakarta	0.79	4	0.65	0.64	0.03	13,116	0.00	2391	5,371	3.0	0.82
South Jakarta	0.77	5	0.65	0.60	0.04	12,282	0.00	2001	8,375	3.2	0.84
Kota Bandung	0.77	6	0.58	0.65	0.06	13,298	0.00	2289	2,374	3.7	0.75
Kota Surabaya	0.75	7	0.70	0.53	0.03	10,729	0.00	2612	5,761	7.5	0.79
Kota Bekasi	0.65	8	0.64	0.40	0.06	8,260	0.00	1993	1,496	3.6	0.72
Kota Bogor	0.63	9	0.65	0.33	0.08	6,664	0.00	891	1,017	8.9	0.70
Kota Depo	0.63	10	0.65	0.34	0.07	6,959	0.00	1375	876	2.9	0.71
Kota Palembang	0.60	11	0.72	0.25	0.05	5,012	0.00	1342	2,112	9.4	0.74
Kota Tangerang	0.60	12	0.65	0.33	0.04	6,638	0.00	1452	3,679	4.7	0.76
Tangerang	0.60	13	0.78	0.13	0.10	2,459	0.02	3259	1,262	7.7	0.68
West Lampung	0.60	14	0.45	0.39	0.18	74	0.58	378	833	25.6	0.65
Jayawijaya	0.58	15	0.20	0.23	0.56	7	0.34	210	677	50.3	0.44
Kota Malang	0.58	16	0.49	0.45	0.05	9,106	0.00	790	3,211	6.9	0.75
Puncak Jaya	0.57	17	0.20	0.27	0.49	6	0.41	111	520	53.8	0.61
Jembrana	0.56	18	0.48	0.38	0.08	299	0.55	247	1,414	9.3	0.69
Bogor*	0.55	19	0.72	0.11	0.09	1,366	0.07	3829	1,562	12.4	0.70
Garut	0.53	20	0.73	0.07	0.11	678	0.06	2196	1,015	17.6	0.67
Lebak	0.51	21	0.69	0.06	0.12	356	0.06	1155	724	12.2	0.63
Bandung	0.50	22	0.69	0.09	0.08	1,438	0.03	4037	1,302	13.6	0.71
Sumedang	0.50	23	0.69	0.08	0.09	692	0.07	1014	1,189	13.6	0.69
Sukabumi	0.49	24	0.62	0.11	0.11	567	0.12	2169	936	16.8	0.67
Cianjur	0.48	25	0.64	0.07	0.11	568	0.06	2080	834	17.8	0.66
Buleleng	0.46	26	0.50	0.19	0.10	437	0.26	600	1,106	9.3	0.67
Pandeglang	0.46	27	0.52	0.16	0.11	455	0.20	1063	805	14.6	0.64
Tanjung Jabung	0.45	28	0.47	0.18	0.13	43	0.27	204	1,081	13.6	0.68
Karawang	0.45	29	0.63	0.05	0.11	983	0.00	1926	1,661	14.8	0.67
South East Aceh	0.45	30	0.33	0.34	0.10	20	0.50	168	1,002	25.3	0.70

## Appendix 3B (continued)

PROV	VUL	RNK	CHAZ	SENS	ADAP	PDEN	PROT	POP	INC	POV	HDI
Kota Balikpapan	0.45	31	0.40	0.31	0.06	468	0.44	470	3,939	3.7	0.79
Bekasi	0.45	32	0.62	0.09	0.06	1,891	0.00	1984	5,058	6.9	0.77
Paniai*	0.44	33	0.26	0.14	0.36	10	0.21	114	596	51.8	0.54
South Bengkulu	0.43	34	0.37	0.21	0.17	56	0.30	130	855	38.0	0.67
Bangkalan	0.43	35	0.52	0.03	0.19	618	0.00	890	769	32.2	0.57
Purwakarta	0.43	36	0.60	0.05	0.09	731	0.03	753	1,790	14.7	0.70
Sidoarjo	0.43	37	0.51	0.16	0.07	3,321	0.00	1697	3,100	14.1	0.76
Tanggamus	0.42	38	0.49	0.10	0.15	216	0.13	821	865	20.4	0.66
Majalengka	0.42	39	0.57	0.04	0.12	848	0.00	1168	725	19.5	0.64
Ponorogo	0.41	40	0.54	0.04	0.13	608	0.02	870	751	17.3	0.62
Kota Blitar	0.40	41	0.49	0.13	0.08	2,587	0.00	127	1,187	11.2	0.71
Tasik Malaya	0.39	42	0.54	0.03	0.11	682	0.00	1619	679	18.3	0.67
South Aceh*	0.39	43	0.29	0.28	0.11	30	0.41	189	1,572	27.7	0.70
Kota Madiun	0.39	44	0.47	0.13	0.07	2,724	0.00	171	1,322	9.2	0.71
Serang*	0.38	45	0.46	0.09	0.12	945	0.07	1755	1,154	11.2	0.65
Dairi	0.38	46	0.48	0.07	0.11	99	0.10	265	1,567	19.6	0.70
Gorontalo*	0.37	47	0.30	0.15	0.20	100	0.22	422	465	32.8	0.63
Sampang	0.37	48	0.39	0.03	0.23	604	0.00	835	636	39.0	0.50
Magetan	0.37	49	0.51	0.04	0.10	833	0.00	617	1,031	16.9	0.68
Indramayu	0.37	50	0.46	0.04	0.14	916	0.00	1689	873	18.5	0.60
Ciamis	0.37	51	0.49	0.05	0.10	573	0.03	1512	969	15.1	0.68
Madiun	0.37	52	0.49	0.04	0.12	737	0.00	642	851	21.4	0.63
Lahat	0.36	53	0.31	0.18	0.14	98	0.27	547	1,174	29.7	0.69
East Lombok	0.36	54	0.23	0.19	0.21	675	0.24	1039	563	28.4	0.54
Ogan Komering Hilir	0.36	55	0.47	0.01	0.15	56	0.01	660	964	24.5	0.67
Kota Bitung	0.36	56	0.33	0.24	0.06	283	0.33	164	2,557	9.2	0.76
Indragiri Hilir	0.36	57	0.48	0.02	0.13	45	0.03	631	1,876	16.9	0.74
Malang	0.35	58	0.44	0.07	0.11	776	0.05	2336	1,194	16.0	0.65
Subang	0.35	59	0.48	0.04	0.10	699	0.01	1380	981	16.9	0.66
Trenggalek	0.35	60	0.47	0.03	0.12	539	0.00	665	662	22.9	0.66
Kota Banjarmasin	0.35	61	0.51	0.06	0.05	1,248	0.00	589	1,539	2.9	0.70
Merauke	0.35	62	0.37	0.09	0.16	2	0.13	156	1,834	33.9	0.65
West Sumba	0.35	63	0.10	0.03	0.48	96	0.05	400	382	42.1	0.53
Nganjuk	0.35	64	0.46	0.03	0.12	703	0.00	990	949	23.8	0.65
Kediri	0.35	65	0.45	0.05	0.11	953	0.00	1429	860	17.9	0.66



## Appendix 3B (continued)

PROV	VUL	RNK	CHAZ	SENS	ADAP	PDEN	PROT	POP	INC	POV	HDI
Lamongan	0.35	66	0.46	0.03	0.12	706	0.00	1187	830	23.7	0.64
Kota Kediri	0.34	67	0.43	0.17	0.01	3,457	0.00	249	18,983	13.5	0.86
Manggarai	0.34	68	0.27	0.07	0.26	99	0.10	484	396	32.1	0.61
Boyolali	0.34	69	0.36	0.13	0.11	844	0.13	923	952	17.5	0.66
Ngawi	0.34	70	0.44	0.03	0.13	592	0.00	828	727	23.4	0.62
Agam	0.34	71	0.39	0.11	0.10	189	0.15	425	1,391	13.2	0.71
Langkat	0.34	72	0.27	0.23	0.10	160	0.33	996	1,326	20.8	0.71
Jombang	0.34	73	0.43	0.06	0.11	1,142	0.00	1222	991	22.8	0.67
Ogan Komering Ulu	0.33	74	0.38	0.11	0.10	112	0.15	255	1,673	17.7	0.72
Padang Pariaman*	0.33	75	0.42	0.06	0.10	295	0.07	378	1,325	14.2	0.69
Bojonegoro	0.33	76	0.43	0.02	0.13	482	0.00	1229	921	26.4	0.63
Kota Padang	0.33	77	0.45	0.07	0.06	1,511	0.00	800	2,895	4.3	0.77
Sumenep	0.33	78	0.39	0.02	0.17	483	0.00	1005	1,027	33.0	0.59
Pamekasan	0.33	79	0.38	0.04	0.15	881	0.00	763	537	31.1	0.57
Tabanan	0.33	80	0.40	0.10	0.08	400	0.12	398	1,210	9.3	0.71
Temanggung	0.32	81	0.42	0.04	0.11	900	0.00	688	737	14.7	0.68
Blitar	0.32	82	0.43	0.04	0.11	727	0.00	1066	1,056	16.5	0.67
Kota Padang Panjang	0.32	83	0.47	0.04	0.06	921	0.00	45	1,741	4.4	0.74
Bangli	0.32	84	0.47	0.02	0.09	423	0.00	209	1,059	6.8	0.66
Phongsali	0.49	1	0.28	0.09	0.47	12	0.13	166	973	44.3	0.48
Houaphan	0.48	2	0.22	0.17	0.43	18	0.25	281	1,113	45.4	0.50
Louang Namtha	0.45	3	0.38	0.06	0.33	14	0.10	145	1,511	20.2	0.49
Oudomxai	0.42	4	0.30	0.00	0.44	19	0.00	265	962	42.5	0.50
Sabah	0.23	1	0.31	0.04	0.07	33	0.06	2932	6,964	16.1	0.80
Kelantan	0.20	2	0.25	0.05	0.07	72	0.08	1506	4,358	12.5	0.81
Pulau Pinang	0.18	3	0.25	0.06	0.04	1,212	0.00	1469	15,682	1.9	0.88
National Capital Region	0.78	1	0.54	0.71	0.05	14,495	0.00	11600	6,205	4.3	0.81
Cordillera Adm. Region	0.51	2	0.70	0.05	0.13	78	0.07	1521	3,111	14.5	0.71
Central Luzon	0.50	3	0.67	0.11	0.09	541	0.12	9721	1,934	13.4	0.73
Krung Thep	0.47	1	0.61	0.20	0.00	4,162	0.00	1232	18,710	0.5	0.88
Samut Prakan	0.41	2	0.59	0.09	0.03	1,853	0.00	1078	24,321	9.8	0.89
Nonthaburi	0.39	3	0.59	0.05	0.03	1,061	0.00	896	5,236	0.3	0.80
Trang	0.34	4	0.41	0.14	0.06	123	0.20	602	4,781	0.7	0.80
Samut Sakhon	0.34	5	0.54	0.03	0.03	538	0.00	452	31,051	0.8	0.90

## Appendix 3B (continued)

PROV	VUL	RNK	CHAZ	SENS	ADAP	PDEN	PROT	POP	INC	POV	HDI
Chachoengsao	0.31	6	0.43	0.08	0.04	134	0.11	648	14,963	4.9	0.86
Surat Thani	0.31	7	0.35	0.15	0.05	69	0.22	947	6,377	0.8	0.82
Nakhon Si Thammarat	0.29	8	0.40	0.07	0.06	153	0.10	1504	4,080	2.8	0.79
Satun	0.29	9	0.35	0.11	0.06	94	0.16	278	4,584	6.5	0.80
Nakhon Nayok	0.28	10	0.26	0.20	0.05	118	0.29	251	4,014	1.0	0.79
Ranong	0.26	11	0.33	0.10	0.06	47	0.14	178	4,950	0.3	0.80
Uthai Thani	0.25	12	0.11	0.27	0.08	44	0.40	327	2,899	8.7	0.76
Phatthalung	0.25	13	0.24	0.16	0.06	155	0.23	815	3,205	3.3	0.78
Phetchaburi	0.25	14	0.14	0.26	0.04	70	0.39	501	5,907	2.2	0.80
Pattani	0.24	15	0.36	0.02	0.07	309	0.00	21300	3,642	16.3	0.76
Kanchanaburi	0.24	16	0.09	0.29	0.06	40	0.43	826	4,074	8.8	0.79
Nakhon Pathom	0.24	17	0.39	0.02	0.03	381	0.00	809	8,029	0.5	0.83
Tak	0.24	18	0.08	0.26	0.09	29	0.39	522	3,506	20.9	0.75
Lai Chau	0.47	1	0.42	0.15	0.23	33	0.22	506	1,313	41.0	0.43
Dong Thap	0.43	2	0.65	0.03	0.06	498	0.01	1494	2,975	19.3	0.72
Vinh Long	0.42	3	0.64	0.03	0.05	586	0.00	1066	1,903	16.5	0.74
Can Tho	0.41	4	0.64	0.03	0.05	578	0.00	1814	2,123	14.9	0.72
Tra Vinh	0.38	5	0.55	0.02	0.10	443	0.00	958	1,841	30.7	0.68
An Giang	0.38	6	0.57	0.04	0.05	604	0.02	1976	2,084	13.6	0.69
Tien Giang	0.38	7	0.59	0.04	0.04	748	0.00	1657	1,839	17.4	0.73
Soc Trang	0.38	8	0.54	0.02	0.10	372	0.00	1194	1,393	29.8	0.68
Ben Tre	0.37	9	0.55	0.03	0.07	650	0.00	1340	1,663	31.7	0.72
Thai Binh	0.37	10	0.57	0.06	0.02	1,179	0.00	1813	1,493	9.9	0.77
Minh Hai	0.35	11	0.52	0.05	0.05	267	0.05	1752	2,034	21.4	0.72
Long An	0.33	12	0.53	0.02	0.04	334	0.00	1248	1,695	10.9	0.73
Kien Giang	0.33	13	0.49	0.03	0.05	251	0.03	1351	3,413	15.9	0.74

## Notes:

1. VUL: Climate change vulnerability index; RANK: Rank of climate change vulnerability index (across SEA); CHAZ: Multiple climate hazard index; SENS: Sensitivity index; ADAP: Index of inverse adaptive capacity; PDEN: Population density in 2000 (population/km<sup>2</sup>); PROT: Protected area (% of total area); POP: population (thousand); INC: per capita income in 2005 (US\$PPP); POV: Poverty incidence; HDI: Human Development Index.
2. Color coding: High vulnerability: red bold; moderate vulnerability: black bold; mild vulnerability: black.

# Institutional Dynamics of Climate Change Adaptation at the Local Level

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Linda M. Peñalba and Dulce D. Elazegui<sup>1</sup>

## ABSTRACT

Typhoons are the most common natural hazards in the Philippines, causing billions of pesos in losses and damages. Records show that the intensity of these typhoons has been increasing, especially since the 1990s. Local government units (LGUs) are in the forefront of disaster and climate risk management but collective action is essential for effective climate change adaptation. It is therefore imperative for people and institutions to enhance their capacity to adapt and improve resilience to typhoon-related risks. This paper aims to examine the institutional dynamics of climate change adaptation and the adaptive capacity of LGUs and community organizations in two municipalities of Batangas province. Data were generated through key informant interviews and focus group discussions with selected members of the local and provincial disaster coordinating councils in March to August 2009.

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The LGUs were found to have low adaptive capacity, thus limiting their preparedness and coping mechanisms. Being used to seasonal typhoons, they have been taking routinely reactive measures and have not considered innovative and sustainable adaptation measures. The LGUs' usual response was essentially "relief, rescue and rehabilitation" and their risk management frameworks were not attuned to adaptive capacity enhancement. The adaptation measures taken by the LGUs before and after typhoon Milenyo were not effective in reducing impacts nor in enhancing resilience to future extreme events. As the frontliners in disaster risk management, the LGUs must have a critical role in enhancing their adaptive capacity and in creating the enabling environment for developing the culture of preparedness and innovative and sustainable adaptation options. Decisionmakers and policymakers should realize the need to shift to more effective adaptation options considering the increasing frequency of occurrence of intense typhoons.

## INTRODUCTION

### Rationale

Records show that about 70 percent of natural disasters experienced in the Philippines are due to hydrometeorological hazards (Hilario 2009). Tropical cyclone is the most common hazard occurring at an average of 20 per year. Analysis of the 59-year data revealed that the intensity of typhoons has been getting stronger, especially in the 1990s (PAGASA 2008). Tropical cyclones also account for around 47 percent of the average annual rainfall in the country and are usually associated with flooding. Thus, it is important for people, communities, and institutions to develop adaptive capacity to minimize risks and enhance resilience to typhoon events.

In 2006, five of the 20 typhoons that hit the Philippines were considered severe. These include typhoon Milenyo, which stayed in the Philippine area of responsibility for five days, from September 25-29, 2006. Classified as Category 4 with a maximum wind of 230 kilometers per hour (kph), this typhoon is reportedly the worst typhoon to hit the Philippines in a decade. It recorded the highest number of municipalities (277) affected and the highest cost of damages worth PhP6.6 billion (US\$0.1375 billion).

Local government institutions are mandated to be in the forefront of disaster risk management (DRM) and climate risk management (CRM). Response to climate-induced events largely depends on the LGU's capability, resources, and priorities. However, responding to climate events should not be the sole responsibility of the government but also of community organizations (COs) and individual households.

In this light, this paper focuses on LGUs and COs as they respond to typhoon events in the Philippines, particularly to typhoon Milenyo in 2006. It discusses the adaptive capacity of local institutions, particularly the LGUs and COs, and the impacts of typhoon Milenyo. It also examines other adaptation possibilities and constraints to adaptation, and recommends courses of actions.

## **Objectives**

This paper presents the highlights of the findings of the research funded by the Economy and Environment Program for Southeast Asia of the International Development Research Centre. The research aimed to

- 1) assess the adaptive capacity of LGUs and COs vis-a-vis the adaptation strategies adopted to deal with typhoon Milenyo,
- 2) identify the factors constraining adaptation, and
- 3) draw lessons from the typhoon Milenyo experience and recommend measures that could overcome adaptation barriers and enhance resilience.

## **METHODOLOGY**

### **Theoretical Framework**

Adaptive capacity is the property of a system to adjust its characteristics or behavior in order to expand its coping range under existing climate variability, or future climate conditions (Brooks and Adger 2005). Adaptive capacity can be translated into adaptation actions, and thereby reduce vulnerability to climate hazards. Factors that influence adaptive capacity include economic and natural resources, social networks, institutions and governance, human resources, and technology (IPCC Working Group II cited in Adger et al. 2007).

There are two types of adaptation—proactive and reactive. A proactive approach aims to reduce exposure to future risks while a reactive approach aims only to alleviate impacts once the risks have

occurred (Burton et al. 2006). A reactive response that perpetuates or exacerbates exposure to climate risks is “maladaptation” because it increases vulnerability to climate change-related hazards. Maladaptive actions and processes often include development policies and measures that deliver short-term gains or economic benefits but exacerbate vulnerability in the medium- to long-term (UNDP 2009). As a general rule, adaptation decisions should give priority to proactive actions that reduce future risks, but should provide as well for reactive approaches to help vulnerable populations recover from unavoidable impacts and remaining risks.

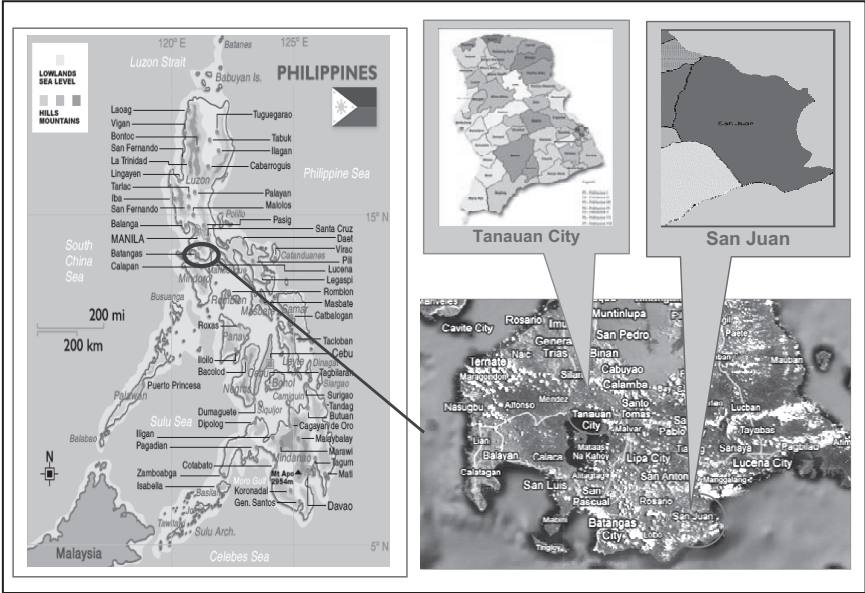
Global awareness of climate change has constantly increased but this has not been translated to individual actions largely because people are confused over climate change causes and solutions. This “green gap” in public attitudes partly stems from how climate science is communicated and how people (mis)understand climate dynamics. An added challenge to environmental behavior modification is how a person perceives the problem. It has also been shown that understanding a problem does not always lead to action. Knowledge is mediated through value systems shaped by psychological, cultural, and economic factors that determine whether to act or not. Knowledge about climate change is not always expected to lead to action because people prioritize between a set of needs and assess both the market and nonmarket implications of their decisions. The slow-changing quality of climate change and the delayed, intangible, and statistical nature of its risks simply do not “move people.” Behavioral economics shows that features of human decision-making under uncertainty tend to constrain man’s instinct to adapt. People are particularly good at acting upon threats that present themselves as unexpected, dramatic, and immediate, rather than problems that emerge and develop slowly and gradually. Individuals, communities, and policymakers facing adaptation choices need to be aware of barriers to action, and treat options accordingly. The multi-stakeholder nature of adaptation to climate change implies that the solution rests not on a single actor but is a concern of all affected sectors (Liverani 2009).

## Study Sites Selection

The selection of study sites was based on the extent of damages caused by typhoon Milenyo. Based on the National Disaster Coordinating Council (NDCC) records, Southern Luzon region was among the hardest hit, particularly the provinces of Laguna, Cavite, and Batangas. The municipality of San Juan and Tanauan City (Figure 1) in the province of

Batangas were chosen because they have records of damages down to the barangay level. From these two study areas, two lowland and two coastal barangays—barangays Tipas and Ticalan in San Juan, and barangays Altura Bata and Ambulong in Tanauan City—were selected since they suffered the heaviest losses from typhoon Milenyo.

**Figure 1. Map of the Philippines Showing Tanauan City and San Juan, Batangas**



Sources of Photos: [www.dadomontano.com](http://www.dadomontano.com); [www.mapladia.com](http://www.mapladia.com); [www.dbmp.philrice.gov.ph](http://www.dbmp.philrice.gov.ph) and [www.tanauancity.gov.ph](http://www.tanauancity.gov.ph)

## Data Collection and Analysis

Qualitative data were gathered from primary and secondary sources. For the institutional adaptive capacity analysis, primary data were collected through key informant interviews (KIIs) and focus group discussions (FGDs) using pre-tested questionnaires and interview guides. A total of 20 key informants were interviewed and 11 FGD with a total of 100 participants were conducted. These include barangay officials, members of local disaster coordinating councils, and some community residents who were affected by the typhoon event.

Key informants from the LGUs were asked to rate their adaptive capacity using various indicators. The rating by key informants revealed how they perceived their performance. To verify and qualify the ratings, follow-up questions on the detailed activities that LGUs undertook were asked. The technical, institutional, social, and economic contexts within which the

LGU, community, and COs operated were taken into consideration in the analysis.

Secondary data were collected from local government and disaster coordinating council reports. These included sociodemographic and economic profiles, biophysical and geographic characteristics, impacts experienced from typhoon, adaptation strategies and reasons for adoption, and policies and programs adopted by concerned institutions.

## PROFILE OF STUDY SITES

The municipality of San Juan is the second biggest municipality in the province of Batangas with a land area of 27,340 hectares (ha). Its population is 87,276 as of 2007 census, with farming and fishing as the major sources of livelihood. The study areas are the coastal barangay of Ticalan along the coast of Tayabas Bay and the lowland barangay of Tipas, which is traversed by a big river system. Barangay Ticalan has a total land area of 459 ha and a population of 1,773 (2007 census). Barangay Tipas is smaller in terms of land area (197.87 ha) but has a bigger population at 2,867 (2007 census).

Tanauan City is strategically located near major growth centers such as Metro Manila and Batangas City, which have influenced its urbanization. It has a total land area of 10,716 ha with 48 barangays and a total of 142,537 residents as of 2007 census. The major sources of income are farming and fishing. There are also industrial and commercial establishments. The study areas in Tanauan City are Barangay Altura and Barangay Ambulong. Barangay Altura is a lowland barangay located at the foot of Tagaytay Highlands and traversed by a big river. It has a total land area of 216 ha and a total population of 1,203 in 239 households. Ambulong is a coastal barangay located along Taal Lake. It is almost the same size as Barangay Altura (220 ha) but has a bigger population of 5,461 as of 2007 census.

The geophysical condition of the municipality and the city exposes them to hydrometeorological hazards. Several river systems traverse the inland barangays while the coastal barangays along San Juan River and Taal Lake are exposed to heavy windstorm and storm surges. Settlement sites located in these areas are also vulnerable. Lowland barangays located along river systems and urban centers are exposed to flooding due to typhoons and heavy rainfall. Agricultural lands in upland and rainfed areas are also sensitive to climate variability and its associated water and temperature stresses.



## INSTITUTIONAL ANALYSIS

### **Adaptive Capacity of Local Government Units**

The indicators used to assess the adaptive capacity of local government units were

- 1) institutions and governance;
- 2) risk assessment, monitoring, and warning;
- 3) knowledge, education and information;
- 4) climate change adaptation technology and infrastructure; and
- 5) underlying risk factors.

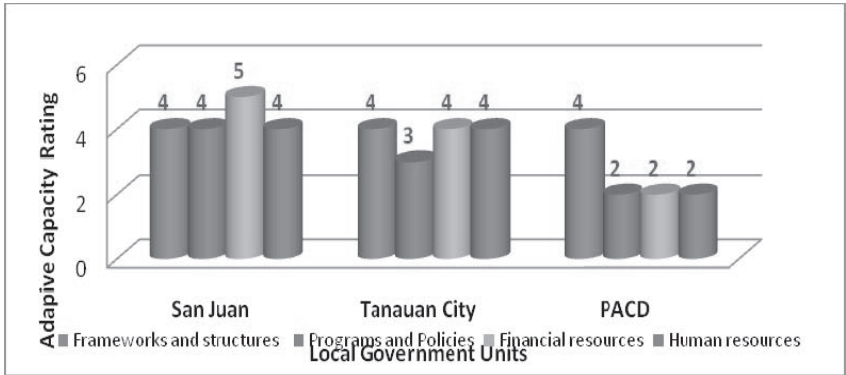
The local government officials involved in disaster risk management (DRM) were asked to assess the LGU's adaptive capacity to climate change impacts. Not surprisingly, the municipal officials ranked themselves high (i.e., 4 or 5) in many aspects as they think they have done appropriate response actions. On the other hand, the staff of the Provincial Assistance for Community Development (PACD) who had greater exposure to DRM protocols generally gave the two LGUs lower adaptive capacity rating.

### ***Institutions and Governance***

Institutions and governance capability was assessed using several indicators, namely: frameworks and structures, programs and policies, financial capability, and human resource capability.

San Juan's rating (4–5) of its capacity indicators of institutions and governance was relatively higher than that of Tanauan City (3–4). San Juan recognized that it has some limitations in most indicators but has adequate financial capability, and also has satisfactory, sustainable, and effective resource-generation measures in place. On the other hand, the key informants of Tanauan City recognized that, while they have some climate risk management (CRM) programs and policies, significant efforts were required to improve their responsiveness (Figure 2).

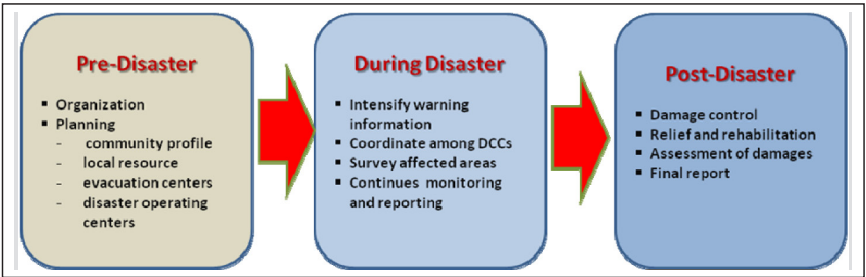
Figure 2. Adaptive Capacity in Terms of Institutions and Governance



PACD = Provincial Assistance for Community Development Provincial Assistance for Community Development  
Source: Key informant interviews of LGU officials in the study sites

The PACD staff also recognized that the CRM frameworks and structures in the two study areas were quite effective but they still have serious limitations in the other indicators. LGUs have also crafted a Disaster Management Plan (DMP) consistent with the Batangas Provincial Disaster Preparedness and Mitigation Manual. This is consistent with the disaster risk management procedures and structures of the Philippines as per Presidential Decree (PD) 1566, which follow the “Preparedness–Prevention–Mitigation” pattern illustrated in Figure 3.

Figure 3. Pattern of Adaptation Strategies Recommended to Be Pursued in Study Sites



Source: Batangas Provincial Disaster Coordinating Council

The key informants rated themselves high in this aspect because they have the local disaster coordinating councils (LDCCs). LDCC is composed of 10 task units that include:

- 1) communication and warning,
- 2) transportation,
- 3) evacuation,
- 4) rescue and engineering,
- 5) health,
- 6) fire,
- 7) police,
- 8) relief,
- 9) rehabilitation, and
- 10) public information.

Other social and civic organizations, nongovernment organizations, and the private sector also assisted the LDCCs in times of disaster.

Both San Juan and Tanauan City key informants also rated their LGUs high (4) in terms of human resource capability. Each of the task units is composed of three personnel, and the Barangay Disaster Coordinating Council (BDCC) with its full complement of barangay councilors and police could also be mobilized. However, the level of awareness and technical skills of the LDCC members and that of the community was quite low. Of the 64 LDCC members, only 10 or 15.6 percent have attended DRM seminars. Tanauan City's Social Welfare and Development Office (SWDO), in turn, conducted DRM seminars for barangay officials and volunteers and the general public on disaster preparedness and management and disaster response action.

The disaster operation center in both San Juan and Tanauan City is housed under the local SWDO. This office is more identified with reactive, relief, and rescue operations rather than with proactive and preparedness activities.

In San Juan, the factors that are perceived to enhance LDCCs' effectiveness are adequate funds, skilled manpower, full administrative support from the LGU, and good coordination among teams. In Tanauan City, the adequacy of funds was perceived to have enhanced the LDCCs' effectiveness, while the PACD staff considered that good community cooperation and coordination helped facilitate disaster information dissemination, timely evacuation, and minimized casualties and damages to properties.

The factors constraining the effectiveness of San Juan's Disaster Coordinating Council (DCC) include lack of equipment for risk monitoring

and relief operations. Tanauan City's key informants, on the other hand, pointed to the lack of coordination among the task units. PACD's key informants considered lack of funds and inadequate preparedness against strong typhoons like Milenyo as the major constraints.

Tanauan City's programs and policies got a rating of 3 because the creation of a distinct DRM office with full-time staff and budget has not yet been approved by the local legislature. San Juan's key informants gave a relatively higher rating (4), claiming that adaptation programs have already been integrated in their development plan. But PACD's key informants believed that in both LGUs, integration was done to a very limited extent.

Other DRM programs concern information, education and communication (IEC) not only of the LDCC members but also of the community. The Department of the Interior and Local Government (DILG) issued memorandum circulars to raise climate change awareness and enhance CRM capability of LGUs.

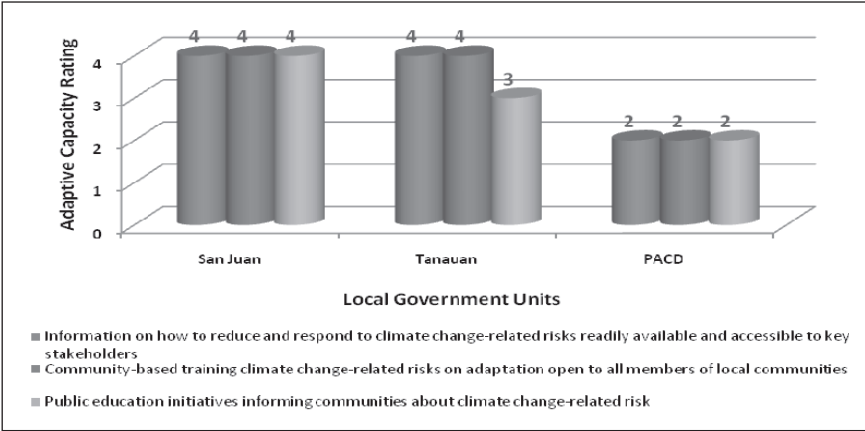
The key informants rated their LGU's financial capability as high. San Juan's key informants believed that they were able to meet their financial requirements in 2006, even though four typhoons have hit their municipality. Tanauan City has a slightly lower rating (4) because it encountered some financial problems in responding to typhoon Milenyo. The LGUs' limited financial capability was also confirmed by the low rating (2) given by the PACD staff. However, utilization of "calamity fund" was facilitated by the transfer from the President to the LGU of authority to declare an area under a "state of calamity." Moreover, a joint Memorandum Circular issued by the Department of Budget and Management (DBM) and DILG in 2003 allowed the use of local calamity fund for disaster preparedness and other pre-disaster activities provided that the local legislative body shall declare an imminent danger of calamity. This body also has the authority to allocate supplemental calamity fund. The LGU can also request the provincial and national governments for additional financial assistance.

### ***Risk Assessment, Monitoring, and Warning***

Key informants again differed in rating their capability in risk assessment, monitoring, and warning (Figure 4). San Juan was rated relatively higher (4) than Tanauan City (3) and the PACD maintained its low rating (2) of the LGUs. The LGUs do not have a hazard map or a localized risk monitoring system to determine vulnerable areas and the necessary adaptation strategies and adaptive capacity. The San Juan LGU claimed that it has effective early warning systems in place and has carried out

climate change-related risk assessments. But it still has to enhance its risk management systems to regularly monitor hazards and risks as its early warning system is limited to information from the mass media.

**Figure 4. Risk Assessment, Monitoring, and Warning Capability of LGUs**



PACD = Provincial Assistance for Community Development Provincial Assistance for Community Development

Source: Key informant interviews of LGU officials in the study sites

On the other hand, Tanauan City reported serious constraints in all the three components of this adaptive capacity indicator. It is aware of the vulnerable areas and sectors in its municipality based on past experiences. However, this information is used only for auditing calamity fund disbursement and not kept for future reference. Data on losses/damages caused by typhoon Milenyo, for example, are stored in the LGU's storeroom and are not easily retrievable.

The LGUs also have limited access to climatological and hydrometeorological data. The Philippine Atmospheric, Geophysical, and Astronomical Services Administration (PAGASA) has a synoptic station in Tanauan City but weather observations (atmospheric pressure, wind direction and speed, air temperature, humidity, clouds, precipitation) are not directly available to the LGU as they are transmitted to the central office in Manila for analysis. It is the central office that issues weather forecast bulletins and information to various government agencies.

The LGUs monitor the progress of the typhoon through the radio, television, and the Provincial Disaster Coordinating Council (PDCC); they warn the population at risk in different barangays through a public address

system using off-road vehicles. The LDCCs also hold monthly meetings and communicate regularly with the BDCCs, particularly during extreme typhoon events.

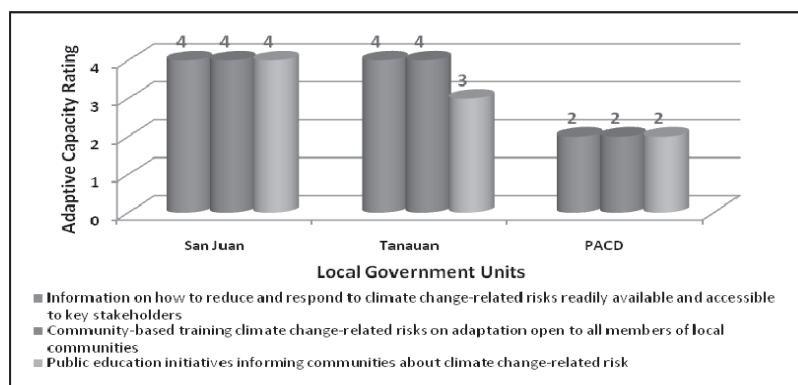
Technically, risk assessment would require information on the vulnerable areas and sectors. The local government of San Juan claims that it keeps records of climate-related impacts and a list of indigent/vulnerable sectors such as farmers, senior citizens, fisherfolk, and children. Vulnerability is roughly determined based on geographic location and poverty situation. In Tanauan City, children, the elderly, and people living in river banks are considered the vulnerable sectors.

Risk monitoring by the LGUs should not only focus on the general intensity of the typhoon but also on the potential impact of the event on the locality. This can be done by measuring and monitoring the amount of rainfall and the consequent flooding that it may cause in the locality. It should also monitor the decision points—when to start evacuation due to possible flooding, what is the expected flood level, and how this information can be communicated to all concerned. This information can become available only if an early warning system has been established and understood by the community. But due to the lack of localized information, many past predictions of typhoon impacts did not materialize. As a consequence, the community residents have doubted the reliability of national forecast and evacuation warnings by LGU officials. In recent years, the people would wait for visual signs of danger (e.g., flood waters rising) before they would respond to evacuation warnings.

### *Knowledge, Education, and Information System*

San Juan again got a relatively higher rating than Tanauan City in knowledge, education, and information system. Both study areas claimed that they provide information on how to respond to climate change-related risks and make this readily available to key stakeholders. Their community-based training on climate change-related risks and adaptation is claimed to be open to the local communities although with limitations in capacities and resources (Figure 5). San Juan has the same high (4) rating in terms of public education initiatives about climate change-related risks. Tanauan City recognized that it has not done much on this aspect and, therefore, has a relatively low rating. The PACD staff gave both LGUs a consistently low (2) rating on this indicator.

**Figure 5. Knowledge, Education and Information Programs of LGUs**



PACD = Provincial Assistance for Community Development Provincial Assistance for Community Development

Source: Key informant interviews of LGU officials in the study sites

Information about the typhoon—intensity and general direction—is provided by PAGASA through national television and radio stations regularly. Typhoon bulletins are issued four times a day during typhoon events. The LDCC also gets regular updates from the PDCC and the Regional Disaster Coordinating Council (RDCC). The LDCCs mobilize the Philippine National Police (PNP) and the barangay police to disseminate information, mainly about typhoon intensity and the need for those living in flood-prone areas to evacuate to safer grounds. As noted earlier, people usually doubt the accuracy of such warnings. LGUs should install a community-based early warning system that would reflect local impacts (e.g., flooding) of climatic events and would help people decide for themselves the response actions they should take.

Tanauan City continues its information dissemination on disaster and contingency planning. However, the lecture materials are quite limited in scope, barely describing disaster preparedness and focusing more on landslide. Attendance of community residents to contingency planning seminars is low. In San Juan, this activity is not sustained due to lack of institutional support. Some BDCC members have not yet attended such seminar/training. Other than the attempt of San Juan's SWDO to promote DRM to elementary students through art contest, there is no other public education initiative about climate change.

### ***Climate Change Adaptation Technology and Infrastructure***

Technologies related to DRM pertain mainly to risks monitoring and warning, communication, and transportation. Risk monitoring and warning technology refers to rain gauge, flood indicator, and information dissemination instruments. Communication devices include landline phone and telefax, mobile phone, two-way radio, and internet. LGUs have fire trucks, dump trucks, and service vehicles for information dissemination, evacuation, rescue, and relief operations. They also use heavy equipment such as grader for clearing operations. They also use electric power generator to provide emergency power supply to public offices during typhoons.

This indicates that the two study areas are not very conscious of the technology and infrastructure requirements to address typhoon-induced impacts. Both LGUs do not have the necessary rain gauge or a flood indicator device and do not prioritize the acquisition of this equipment. Tanauan City LGU has no plan to link with PAGASA synoptic station. Both LGUs believe that they are not vulnerable to climate change-induced events even if flooding and windstorms have caused severe damages to their people and livelihood.

Recognition by the LDCC of their technology needs depends on their perception of risks and necessary adaptation measures. Lack of additional technological requirements to enhance LGUs' adaptive capacity reflects their low level of appreciation for this.

### ***Underlying Risk Factors***

On average, the three sets of key informants were in agreement that significant improvements in addressing underlying risk factors were needed. However, their opinions varied considerably as to the status of their LGU's efforts along this line. For instance, the San Juan LGU claims that it is effective in its protection of critical public facilities against major hazards and in its adaptation to climate change and in land use planning. On the other hand, the Tanauan City LGU rated itself relatively high (4) on various social aspects, low (3) in terms of environmental concerns, and very low (2) in its capability to enforce the building code (Table 1).



**Table 1. Rating of the LGU’s Capability to Address Underlying Risk Factors**

Indicator	Rating			
	San Juan	Tanauan City	PACD	Average
Local policies support environmental and natural resource management	3	3	3	3
LGU supports communities to adapt to climate change	3	4	3	3.33
LGU strengthens food security in vulnerable communities	3	4	3	3.33
Social protection available to vulnerable groups	3	4	3	3.33
LGU provides economic protection against unsafe livelihoods	3	4	3	3.33
Land use planning incorporates adaptation to climate change (CC)	4	3	2	3
Urban planning includes the issue of informal settling in vulnerable areas.	3	3	3	3
Overall planning addresses CC adaptation	4	3	4	3.67
Building codes and standards applicable to informal settlers	3	2	3	2.67
LGU has the capacity to implement building codes and standards	3	2	4	3
Protection of critical public facilities against major hazard threats	5	4	3	4
LGU initiates public-private partnerships in CC adaptation	3	4	2	3

*Source: Key informant interviews of LGU officials in the study sites*

LGUs’ concerns to reduce climate change-related risks may be expressed through other local initiatives, such as protection of environment and natural resources, socioeconomic measures to improve the communities’ social and economic resilience, and public-private partnership. They also have the Comprehensive Land Use Plan (CLUP) that should guide local development planning and take CRM into consideration. The LGUs also have the Building Code that they can use to regulate the construction of infrastructure and ensure building safety and standards, particularly in flood-prone areas to mitigate potential losses and damages. The key informants also believe that much should still be done in DRM implementation such as relocation of people living on river banks and enforcement of the Building Code. LGUs also have the Solid Waste Management Program to abate the problem of flooding.

To address the squatting problem, Tanauan City also has designated areas for socialized housing where riverbank residents can be relocated. Through the seed distribution program, the food stock, and livelihood training programs, food security can also be addressed. Tanauan City also has a crop insurance system, which was executed through a Memorandum of Agreement between the LGU and the farmers. As discussed earlier, the LGUs were able to harness the participation of the private and business sectors in climate-event-related activities.

Development in surrounding municipalities and provinces may exacerbate climate change impact on the study barangays despite the

LGUs' mitigation and adaptation efforts. For instance, the settlement development in a neighboring town has allegedly caused increased surface runoff and flooding that adversely affected the lowland barangays of Tanauan City, including those barangays covered by the study.

## ADAPTATION STRATEGIES OF LOCAL GOVERNMENT UNITS FOR TYPHOON MILENYO

The activities undertaken by the LGUs in response to typhoon Milenyo are in accordance with the DRM manual and the established protocol. This explains why the adaptation strategies of the two LGUs before and during the typhoon are basically the same. The strategies are classified as structural, institutional, and technological (Table 2).

As expected, most strategies before, during, and after typhoon Milenyo were institutional in nature as the LGUs mobilized the resources needed and spearheaded the undertaking of activities. During the typhoon, LDCC members could not do more than monitor its progress because of the strong winds. Rescue of residents in flooded areas was only possible during the lull but had to be suspended when strong winds hit again.

The post-typhoon activities of the LDCCs were focused on the rehabilitation of damaged public infrastructures and the provision of assistance to facilitate the recovery of affected community residents. LDCC task units inspected affected areas and estimated damages. Due to the extent of damage in San Juan, the municipal council declared a state of calamity in the municipality.

Both LGUs provided financial assistance of PhP2,000 (US\$41) to PhP5,000 (US\$104) in the form of building materials to those whose houses were damaged, depending on the extent of damage. Starter seeds were also provided to farmers whose crops were damaged. Additional help from other groups and individuals were also distributed to different sectors. For instance, the congressman of San Juan donated PhP12,000 (US\$250) worth of seeds and PhP200,000 (US\$4,166) in cash for relief and rehabilitation.

In Tanauan City, the LGU implemented a Self-Employment Assistance Program. Ten families with *sari-sari* (variety) stores were provided a loan of PhP5,000 (US\$104) each, payable within one year. Financial assistance of PhP1,000 (US\$20) per family was also provided to 50 families. The LGU spent about PhP800,000 (US\$16,666) for the various relief, rescue, and rehabilitation activities in connection with typhoon Milenyo.

The LGUs were able to resume normal functions within one week after typhoon Milenyo. Availability of calamity fund enabled the LGUs to extend financial assistance to affected residents and allocate funds for rehabilitation. The systems and procedures for restoring damaged facilities and utility services have been in place and community residents are already aware of the processes in seeking LGU support for relief and rehabilitation. Evacuees in Tanauan City stayed in school buildings, which were converted to evacuation centers for only one day as classes resumed after the typhoon signal was lowered. Electric power and water supply were also restored immediately after typhoon Milenyo.

**Table 2. Adaptation Strategies Done by LGUs for Typhoon Milenyo, 2006**

Time	Adaptation Strategies
Pre-Typhoon Milenyo	<ul style="list-style-type: none"> <li>– Set up/checked evacuation centers</li> <li>– Checked if the rural health units are ready</li> <li>– Prepared rescue equipment</li> <li>– Inventoried resources such as transport for relief operations</li> <li>– Inventoried medicine and emergency supplies</li> <li>– Stockpiled basic necessities</li> <li>– Mobilized city/barangay disaster coordinating councils (DCCs)</li> <li>– Monitored progress of typhoons from PAGASA announcements and media reports</li> <li>– Conducted Disaster Operation Seminars</li> <li>– Announced warning signals</li> <li>– Made an initial report on standing crop and livestock</li> <li>– Held meeting of health units and social welfare staff</li> <li>– Prepared report forms</li> <li>– Advised fieldmen to warn farmers</li> </ul>
During Typhoon Milenyo	<ul style="list-style-type: none"> <li>– Monitored the weather situation and conditions in the community</li> <li>– DCCs inspected and monitored flood-prone areas</li> <li>– Evacuated residents affected by flood</li> <li>– Submitted reports to higher authorities, e.g., PDCC</li> </ul>
Post-Typhoon Milenyo	<ul style="list-style-type: none"> <li>– Evaluated situation in evacuation centers</li> <li>– Repaired public physical facilities</li> <li>– Conducted clearing activities</li> <li>– Provided construction materials (such as galvanized iron sheets) for house repair</li> <li>– Provided fishing nets to fisherfolk</li> <li>– Implemented Self-employment Assistance Program</li> <li>– Provided financial assistance</li> <li>– Assessed crop damages and paid crop insurance</li> <li>– Distributed pails (donated by the Regional Social Welfare and Development office)</li> <li>– Distributed relief goods</li> <li>– Provided livelihood assistance</li> <li>– Inspected affected areas and estimated damages</li> <li>– Monitored incidence of diseases, determined number of injured people, sanitation situation in the community, hospitals</li> <li>– Local council declared the area under a state of calamity</li> </ul>

Source: Key informant interviews of LGU officials in the study sites

## GAPS AND WEAKNESSES IN THE LGUS' ADAPTATION TO TYPHOON MILENYO

Based on the long experience of the LGUs in dealing with typhoon and flooding using the DRM protocol, the LGU key informants feel confident that their current adaptive capacity and adaptation strategies are adequate and effective. In the context of CRM and “preparedness” principles, however, there are apparent gaps in their typhoon response mechanisms.

The stakeholders’ misperception about climate change phenomena and the associated climate risk limits activities for preparedness, which should be proactive and long-term in nature. Misperceived level of the adaptive capacity of LGUs, communities, and local community organizations (LCOs) arises from the lack of comprehension or misconception about appropriate climate risk management mechanisms as they do not have a clear idea of their deficiencies (e.g., rain gauge and flood-level measuring device). There is also a lack of appropriate information materials as examples used in lectures are not directly related to typhoon and flooding.

Policymakers should have adequate basis for making decisions on the best and most effective adaptation strategy. Accurate information on vulnerable areas and degree of vulnerability of various sectors is needed in preparing appropriate adaptation strategies. However, these are not available in the two study LGUs. The LGUs do not generate local-level data that would indicate threats to local residents and there is no monitoring and evaluation system to assess the effectiveness of adaptation strategies.

Local government officials involved in LDCC work are seconded by staff working full-time in other departments. The LDCC is activated when there are typhoon warnings and implementation of DRM activities depends largely on the initiatives of the designated disaster coordinator.

Community and resource mobilization systems are not institutionalized. LCOs only volunteer in relief and rescue operations but there is no formal link among LDCCs, LCOs, and private sectors. Different groups separately do their program planning and implementation.

## THE ROLE OF COMMUNITY ORGANIZATIONS

The community organizations interviewed for this study included barangay-based and/or municipality- or city-based fisherfolk organizations, farmers’ associations, civic organizations, women, men, and youth groups. The LCOs’ response actions differ considerably from each other, primarily because DRM is not part of their mission. Three LCOs in San Juan and eight in Tanauan City were covered by the study.

## **Adaptive Capacity of Local Community Organizations**

The local community organizations vary significantly in terms of their level of economic or financial resource capability, although most of them have limited resources and sourced their funds from their own members' annual dues and membership fees. Community organization members contribute cash and/or material support to other community members in case of emergencies. The values of sharing and "bayanihan" are quite strong in these communities.

All the LCOs are organized mainly for social and civic purposes but members help LGUs in relief and rescue operations during times of calamity. Among the LCOs, only the Knights of Columbus (KC) and the Rotary Club (RC) set aside funds for disaster relief assistance in the amount of Php20,000 (US\$416) and Php30,000 (US\$625), respectively.

To some extent, these organizations have human resource capability, the biggest organization being KC with 200 members. Leaders of KC and RC have an average of 14 years of education but the leader of one small organization has an average of only six years of education. Many of the KC and RC members learned about DRM from their schools and business associations while members of a barangay-based association (KALIPI) have attended training on disaster management.

The KC and RC conduct meetings regularly in accordance with their charters, but disaster preparedness is not among their agenda. The KC conducts an average of two meetings per month while the RC conducts an average of four meetings per month. Among barangay-based organizations, only the KALIPI in Tanauan City conducts regular meetings but members of other LCOs are generally easy to mobilize particularly during emergency situations.

The LCOs interviewed do not have an evacuation center to use in case of a climate change-induced event or disaster, but the KC in San Juan has a clubhouse near the church that can be used as evacuation center.

## **Adaptation Strategies Undertaken by Community Organizations**

Community organizations (COs) in the study areas do not have mandates explicitly related to climate-related disaster management. However, with the general mission of providing service to the community, some COs get involved particularly in relief operations in times of calamity.

In Tanauan City, members of KALIPI participated in the early warning campaign of barangay officials before typhoon Milenyo occurred. The Ambulong Fisherfolks' Association helped in evacuating people to safer

places and in reinforcing neighbors' houses. It also monitored the situation of families living along the shore of Taal Lake. Some members of Empowerment and Re-affirmation of Paternal Abilities Training (ERPAT) helped in emergency cases like bringing injured persons to the hospital. In San Juan, some KC and RC members communicated with other members about the status of typhoon Milenyo in their locality. KALIPi helped barangay officials in warning people at risk from typhoon Milenyo while KC and RC helped in relief operations and disseminated information about climate change events through text messaging.

COs helped in relief operations after the typhoon. KC and RC distributed relief goods to affected families of San Juan. They funded their relief operation out of their own budget. KC also contributed about PhP15,000 (US\$312) to typhoon Milenyo victims in other provinces. As socio-civic organizations, these COs plan to carry out similar activities should similar typhoon events happen again and if the situation calls for such assistance.

The failure factor that COs consider is the lack of information about a climate change event. KC and RC key informants believe that the information dissemination conducted by LGUs was not enough and was constrained by lack of funds. Information campaign must, therefore, be enhanced and financial support is needed to achieve this. The COs recommend the conduct of massive information, education, and communication, particularly on disaster preparedness and training/lecture on preventive health measures.

## CONCLUSIONS AND RECOMMENDATIONS

The LGUs generally have low adaptive capacity and are more reactive rather than proactive in responding to extreme climate events. Having been used to seasonal typhoon and flooding, they saw no need for innovative and sustainable adaptation measures.

As the frontliner in disaster risk management, the LGU has a critical role in providing an enabling environment for the community and households to develop the culture of preparedness and to adopt more sustainable adaptation options. However, based on the case of typhoon Milenyo, the LGUs' usual response to typhoon and flooding was essentially "relief, rescue, and rehabilitation." Their existing risk management frameworks and structures are not attuned to adaptive capacity enhancement. Institutional weaknesses are largely due to

- 1) lack of awareness and clear understanding by policymakers about climate change phenomena,

- 2) lack of relevant programs and policies,
- 3) limited human resource and financial capability, and
- 4) lack of necessary climate change adaptation technology and infrastructure to monitor and mitigate typhoon impacts.

Significant lessons can be drawn from the experiences of San Juan and Tanauan City with typhoon Milenyo that caused severe damages in recent years. Households and institutions exposed to climate risks should 1) understand and realize that climate change is inevitable and traditional response strategies are no longer effective to address climate change impacts, and 2) begin to change their adaptation behavior and shift to more innovative and sustainable adaptation measures. Exposure to risks may be reduced by transferring residence or business operations, changing cropping calendar, installing community-based early warning system, and building flood control structures. Economic resilience may be improved through diversification of income sources and adoption of appropriate adaptation technologies. As pointed out by Liverani (2009), relevant policy areas include: communications, institutional measures, and social norms.

The following innovations to climate risks management are recommended by the study<sup>2</sup>:

1. A Disaster/Climate Risk Management Office should be instituted at the LGU to set the direction, development, implementation, and coordination of disaster risk management programs. LGUs need to review their usual “relief, rescue, and evacuation” strategies, which are purely reactive, and to institute more effective and sustainable adaptation strategies to increase their communities’ level of resilience.
- 2) IEC programs for communicating climate change and associated risks must be strengthened. Both LGU officials and the public have yet to fully comprehend the climate change phenomenon

<sup>2</sup> Much of these recommendations (e.g., 1, 2, 4, 5, 6, 8) have already been integrated in the Climate Change Act of 2009 (Republic Act or RA 9729), the Disaster Risk Reduction and Management Act of 2010 (RA 10121), and the National Framework Strategy on Climate Change. Recommendation no. 7 is being considered for inclusion in the national framework strategy that is currently being revised. The National Climate Change Commission and the Department of the Interior and Local Government, through the Local Government Academy, is planning to conduct awareness-raising and capacity-building activities for climate change action planning. The realization of their plans and programs and the improvement in the adaptive capacity of households, communities, and local institutions largely depend on the response of the LGUs.

and associated risks. The people's awareness of climate risks and the level of response needed could motivate people to improve their adaptation behavior.

- 3) Community-based early warning and risk monitoring systems should be installed. A localized early warning system could help inform the people and decision makers in making timely decisions and in improving their preparedness.
- 4) LGUs should conduct a science-based vulnerability analysis to identify vulnerable sectors and areas. Policymakers need to address the barriers to actions, enhance their adaptive capacity, and reorient current adaptation strategies to minimize exposure to risks.
- 5) LGUs should maintain a knowledge/database management system wherein historical climate-related data could be used in hazard and vulnerability assessment and adaptation planning.
- 6) LGUs should encourage multisectoral participation in responding to climate change. Climate adaptation rests not on a single actor but on a network of various stakeholders.
- 7) Other financial schemes, such as weather index-based insurance, should be explored to facilitate recovery of affected households.
- 8) CRM should be mainstreamed in local development planning and processes. Activities addressing preparedness, adaptive capacity enhancement and adaptation strategies improvement, monitoring, and evaluation must be integrated into the local development plan.



## REFERENCES

- Adger, W.N., S. Agrawala, M.M.Q. Mirza, C. Conde, K. O'Brien, J. Pulhin, R. Pulwarty, B. Smit, and K. Takahashi. 2007. Assessment of Adaptation Practices, Options, Constraints and Capacity. Climate Change 2007: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change. Edited by M.L. Parry, O.F. Canziani, J.P. Palutikof, P.J. van der Linden, and C.E. Hanson. Cambridge University Press, Cambridge, UK. pp. 717–743.
- Brooks, N. and W. N. Adger. 2005. Assessing and Enhancing Adaptive Capacity. In B. Lim and E. Spanger-Siegfried, eds. *Adaptation Policy Frameworks for Climate Change: Developing Strategies, Policies and Measures*. Cambridge University Press: United Nations Development Programme (UNDP)–Global Environment Facility (GEF). pp 165–181.
- Burton, I., E. Diringer, and J. Smith. 2006. *Adaptation to Climate Change: International Policy Options. Advancing the International Effort Against Climate Change*. Pew Centre on Global Climate Change, Arlington, VA. November 2006.
- Hilario, F. 2009. Lecture on Climate Forecast Applications. Indicative Climate Change Adaptation Presentation, IARDS-APN Capable Project, Los Baños, Laguna, March 24, 2009.
- International Panel on Climate Change. 2001. *Climate Change 2001: The Scientific Basis*. Cambridge, UK: Cambridge University Press.
- Liverani, A. 2009. Climate Change and Individual Behavior. Considerations for Policy. *Policy Research Working Paper* 5058. The World Bank.
- Patchen, M. 2006. Public Attitudes and Behavior about Climate Change. What Shapes Them and How to Influence Them. *PCCRC Outreach Publication* 0601. Purdue Climate Change Research Center. October. [www.purdue.edu/climate](http://www.purdue.edu/climate).
- Swanson, D.A., J.C. Hiley, and H. Venema. 2007. Indicators of Adaptive Capacity to Climate Change for Agriculture in the Prairie Region of Canada: An Analysis Based on Statistics Canada's Census of Agriculture. *Working Paper for the Prairie Climate Resilience Project*. Winnipeg: International Institute for Sustainable Development.
- United Nations Development Programme (UNDP). 2009. *Adaptation to Climate Change. Adaptation Definitions and Levels*. Available at: [www.undp.org](http://www.undp.org).



# The Use of CBMS in Disaster Risk Reduction and Climate Change Adaptation Planning and Management

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Sol F. Matugas and Arturo Cruje<sup>1</sup>

Ladies and gentlemen, good morning.

Before I begin my presentation on the use of community-based monitoring system (CBMS) in disaster risk reduction and climate change adaptation planning and management, I would like to give a brief perspective on the Province of Surigao del Norte.

Surigao del Norte, being a poor province, is highly vulnerable to disasters. Disasters hit poor people the most, affecting their lives, properties, and livelihood. The prevalence of malnutrition, high incidence of maternal deaths, school dropout rates, and unemployment make the province all the more vulnerable. The increasing mining activities, urban migration and human congestion, and the growing tourism industry contribute to the complexity of the problem.

## SURIGAO DEL NORTE PROFILE

Surigao del Norte is located in the northeastern tip of Mindanao. It is bounded on the east by the vast Pacific Ocean, on the north and west by the Mindanao Sea, and on the south by the provinces of Surigao del Sur and Agusan del Norte.

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<sup>1</sup> Governor and Provincial Planning and Development Coordinator (PPDC), respectively, of the province of Surigao del Norte

It is considered the gateway to Mindanao because of its strategic location. It is the entry point of the Japan-Philippines Friendship Highway connecting Mindanao to the rest of the Visayas and Luzon. Its geographic location puts it near the deepest parts of the world, the Philippine Deep and the Marianas Trench.

## FAST FACTS

The province has a land area of 201,710 hectares with Surigao City as its capital. It has 20 municipalities, one city, and 335 barangays. Surigao del Norte's population in 2007 was 409,468, with 1.24 percent growth rate and population density of 203 persons per square kilometer. The province experiences maximum rainfall throughout the year with no pronounced dry season. It is classified as a second-class province in terms of income.

## SURIGAO DEL NORTE'S ADVANTAGES

The province is blessed with the bounties of the land and seas. It is a haven of opportunities for business, leisure, and adventure.

We have the following investment areas:

**AQUACULTURE** — We supply our marine products to the provinces in Mindanao. Our lobsters, prawns, and sea cucumber reach Cebu and Manila.

**TOURISM** — We are a tourism destination in this part of Mindanao. We have long stretches of fine white beaches, submarine caves, waterfalls, and barrel-shaped surfs. We host annually two international events—the International Game Fishing Tournament in Pilar and the International Surfing Competition in General Luna, Siargao Island. We are a destination of eco-tourists and water sports enthusiasts.

**MINING** — We are also blessed with large mineral deposits, one of the largest in the Philippines, if not in Asia. Mining is a major industry and an economic growth driver.

## DEVELOPMENT CHALLENGES

Yet, in spite of these rich natural blessings and potentials, we remain a poor province. We are confronted with the following:

1. High poverty incidence, especially in remote areas;
2. Low agricultural productivity in both food and commercial crops;
3. Low school participation rate in hard-to-reach areas;
4. High malnutrition incidence among 0–5 year old and 6–12 year old children;
5. Rapid denudation and degradation of natural resources due to deforestation and small-scale mining;
6. Insufficient infrastructure support like farm-to-market roads, irrigation, and postharvest facilities; and
7. Frequent occurrence of natural calamities like floods, landslides, and storm surges that are becoming more intense because of the impacts of climate change.

## BACKGROUND OF THE PROJECT

In 2008, the province was chosen by the National Economic and Development Authority (NEDA), as a pilot area of the Disaster Risk Reduction and Climate Change Adaptation (DRR-CCA) Program, with funds from the United Nations Development Programme (UNDP). The output of the program is a Disaster Risk Reduction-Climate Change Adaptation (DRR-CCA) Enhanced Provincial Development and Physical Framework Plan (PDPFP). In the same year, the CBMS program also started.

## PROJECT ISSUES AND CONCERNS

- While the formulation of the DRR-CCA Enhanced PDPFP was being funded by NEDA and UNDP, the CBMS implementation required counterpart funds from the provincial and municipal governments. Some municipalities could not implement the program that year due to fund constraints.
- The dearth of technical manpower in the local government units (LGUs) is also another concern.
- In the conduct of household surveys, the geographical configuration of the province made surveys quite difficult.

The Project on DRR-CCA Mainstreaming has taught us risk analysis and assessment. We were able to identify the province's natural hazard vulnerabilities like flood, rain-induced landslide, storm surge, tropical cyclone, earthquake-induced landslide, liquefaction, ground rupture, and tsunami.

The said project facilitated the preparation of risk maps and identification of areas prone to flooding, rain-induced landslide, storm surge, earthquake-induced landslide, and liquefaction.

Considering these vulnerabilities, we were able to identify which of the areas are most vulnerable to all hazards.

The municipalities, at present are in various levels of data analysis and integration. Table 1 below presents a partial report on six out of the 14 CBMS Core Indicators:

**Table 1. Selected Poverty Indicators**

Indicator	Average (%)
Malnourished children 0–5 years old	18.43
Households with access to safe water	89.50
Households with access to sanitary toilets	76.53
Households that are informal settlers	9.16
Households with makeshift housing	2.06
Households victimized by crime	0.48

*Source: CBMS Surveys, 2008-2009*

Of the 20 municipalities, the following scored low in these indicators:

- |              |                  |
|--------------|------------------|
| 1. Pilar     | 7. San Francisco |
| 2. Malimono  | 8. Tubod         |
| 3. Gigaquit  | 9. Alegria       |
| 4. Burgos    | 10. Mainit       |
| 5. Gen. Luna | 11. San Benito   |
| 6. Sison     | 12. Bacuag       |

## CBMS APPLICATION IN DRR-CCA PLANNING AND MANAGEMENT

- DRR-CCA Planning and Management has been successful in promoting convergence of planning processes at the provincial, municipal, and community levels—through the use of CBMS data.
- CBMS was used in the identification and prioritization of areas most vulnerable to disaster risk and climate change.
- CBMS was used in the formulation of some DRR and CCA policies, as follows:
  1. Priority assistance should be given to municipalities that scored low in the CBMS indicator survey in order to strengthen their coping mechanisms to disasters.
  2. Disaster risk reduction and climate change adaptation should be inculcated among all stakeholders especially to those identified as poor and vulnerable.
  3. More investments should be made in areas and sectors identified as poor and vulnerable.
  4. Government should provide resettlement areas for informal settlers located in identified environmentally dangerous zones.
  5. Public information and education should be intensified in vulnerable areas to help people avoid risk, protect their communities, and respond correctly when disaster strikes.
- CBMS was used in the formulation of some DRR and CCA strategies, as follows:
  1. Strengthening of disaster-coping mechanisms through the HEALS program of the provincial government that stands for:
    - H* - Health
    - E* - Education and Environment
    - A* - Agriculture and Aquaculture
    - L* - Livelihood
    - S* - Spiritual Renewal, Senior Citizen, and Social Welfare Security
  2. Reactivation of the Local Disaster Risk Reduction and Management Councils and Emergency Response Groups, especially in hard-to-reach and vulnerable areas.

3. Mainstreaming of disaster risk reduction and climate change adaptation concerns in the local planning systems and processes of the following municipalities identified as highly vulnerable:

- |             |                  |
|-------------|------------------|
| 1. Malimono | 7. Tubod         |
| 2. Gigaquit | 8. Sison         |
| 3. Bacuag   | 9. Placer        |
| 4. Mainit   | 10. Gen. Luna    |
| 5. Alegria  | 11. Socorro      |
| 6. Claver   | 12. Surigao City |

4. Prioritization of projects in the Annual Investment Plan that would address disaster risk reduction and climate change adaptation issues in vulnerable communities. These projects include:

- ☐ Construction of potable water system
- ☐ Establishment of supplemental feeding program
- ☐ Livelihood and employment program
- ☐ Waste management program
- ☐ Socialized housing program

## BEST PRACTICES

1. Counterparting scheme was used in CBMS implementation. The provincial government's counterpart included the venue, accommodation, and supplies for the trainings and the printing of the survey questionnaires.
2. Provision of computers to the LGUs from UNDP through the National Anti-Poverty Commission.
3. Outsourcing of funds from other donor agencies like the Australian Agency for International Development (AusAID), UNDP, United States Agency for International Development (USAID), and the World Bank strengthens project complementation and pooling of resources.



## CONCLUSION

Disaster, environment, and development are closely linked to each other. The provincial government places importance on building its capacity to mitigate the risks.

Improving service delivery on health, food and nutrition, water and sanitation, shelter, peace and order, education, income, and employment will reduce the vulnerabilities of our communities.

Strengthening the coping mechanisms of the communities will not only save lives but also protect assets, livelihoods, and prevent people from becoming poorer than they already are.



*Part 3*

# **National Poverty Reduction Agenda**

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# 4Ps and the National Poverty Reduction Agenda

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Florita R. Villar<sup>1</sup>

The Pantawid Pamilyang Pilipino Program (4Ps) is one of the core poverty reduction programs of the government administered by the Department of Social Welfare and Development (DSWD). It is a poverty reduction strategy that provides cash grants to poor households with pregnant women and/or children who are 0–14 years old on the condition that they comply with specific conditionalities on health, nutrition, and education.

The program promotes and supports the country's commitment to the UN Convention on the Rights of the Child (CRC) through provision of health, education, and other services as basic rights of children since the country is one of the signatories of the CRC. It also contributes toward the attainment of the following Millennium Development Goals (MDGs): Eradicating Extreme Poverty and Hunger, Achieving Universal Primary Education, Promoting Gender Equality and Empowering Women, Reducing Child Mortality, and Improving Maternal Health.

The 4Ps has twin goals. First is social assistance, which is providing cash assistance to the poor to alleviate their needs, and is considered short term. Second, is the the long-term goal, which is promoting social development by breaking the intergenerational poverty cycle through investment in human capital, that is health, nutrition, and education.

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<sup>1</sup> Assistant Secretary, Department of Social Welfare and Development (DSWD)

Specifically, the program has five objectives:

1. To **improve preventive health care** among pregnant women and young children.
2. To **increase the enrollment and attendance rate** of children in school.
3. To **reduce the incidence of child labor**.
4. To **raise the average consumption rate in food expenditure** of poor households.
5. To encourage parents to invest in their children's (and their own) **human capital** through investments in their health and nutrition, education, and participation in community activities.

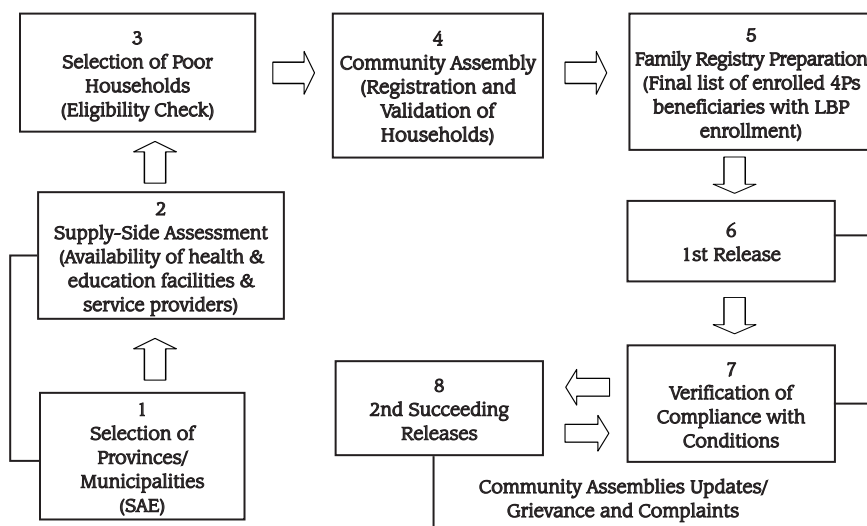
I would like also to share the conditions required by the program as co-responsibilities of the beneficiaries. In terms of health and nutrition, pregnant women should avail of pre- and post-natal care and childbirth should be supervised by a health professional. Children 0–5 years old should avail of complete immunization, weight monitoring, nutrition counseling, and preventive health services. Children 6–14 years old should avail of deworming pills twice a year.

For education, children 3–5 years old should enroll in day care schools and should have 85 percent class attendance per month. Children 6–14 years old should be enrolled in elementary and high school and should also have 85 percent class attendance per month.

In terms of parenting education, parents should attend the Family Development Sessions once a month, conducted by municipal and local government workers.

Very briefly, I would like to share with you the program cycle of the Pantawid Pamilya Program.

**Figure 1. Program Cycle and Processes**



In the selection of municipalities and provinces, we use the Small Area Estimates (SAE) from the National Statistical Coordination Board (NSCB), as well as NSCB's list of poor provinces. In the next stage, we conduct the supply-side assessment to know the availability of health and education facilities, as well as the presence of service providers. The third stage leads us to the selection of poor households. The 4Ps uses the list provided by the National Household Targeting System for Poverty Reduction (NHTS-PR) and is also applied later on for eligibility check. Although the program caters to poor households, only those with children 0-14 years old are included, which means that not all poor households in the locality can be covered by the program. Other appropriate services will be provided to those not considered under the program.

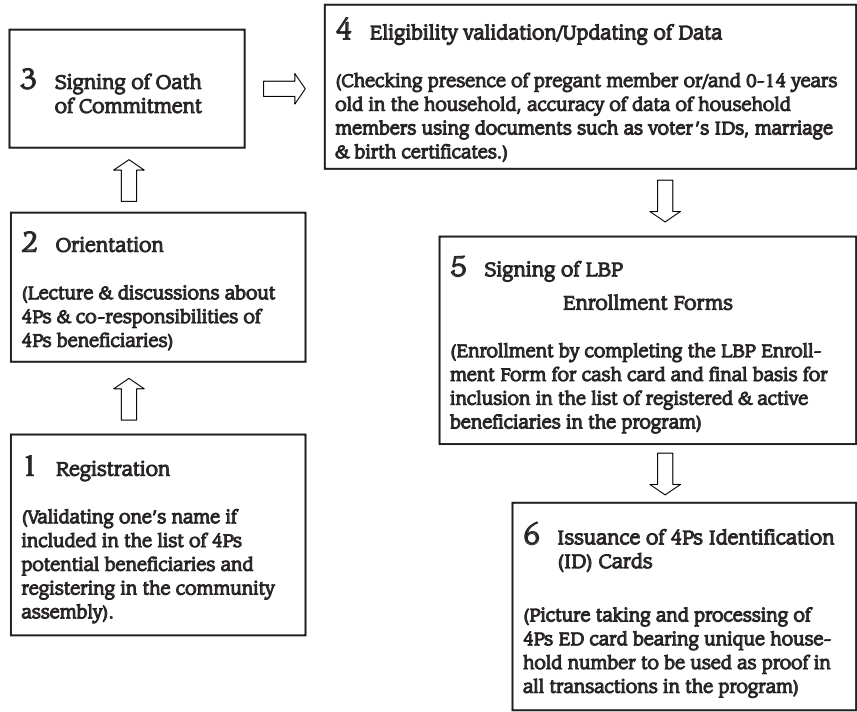
The next stage is the conduct of the Community Assembly, the purpose of which is for registration and for validation of household beneficiaries. This leads to the next step—Family Registry Preparation—wherein the final list of enrolled beneficiaries will also be enrolled in the Land Bank of the Philippines (LBP), which is the servicing bank of the program. You may note that no individual from the DSWD or from the local government unit (LGU) handles the funds. It will not be handled or disbursed by any social worker but will be withdrawn by the beneficiaries from the LBP; for areas with no ATM machines,

it is withdrawn over the counter. But the DSWD is now working on other schemes to minimize the costs of going to the banks for the beneficiaries.

The next step will lead to the release of the first grant. After that, the next step is the verification of compliance with the conditions. You will note that the program operates on the provision that families comply with the conditions that were set, hence, one of the systems created was the Verification of Compliance with Conditions. Such verification leads to the succeeding releases of the cash grant. It is the intention of the program to enroll them for five years unless, for some reasons, their income suddenly becomes high, their resources increase, and they voluntarily graduate from the program.

Of course, within this process, the community assemblies, the updating of grievance and complaints are also installed. I would like to share with you what happens during a community assembly.

Figure 2. Community Assembly





The first stage is the registration wherein the beneficiary's name is validated if it is included in the Pantawid Pamilya Program's list of potential beneficiaries. Once registered in the community assemblies, they then proceed to the orientation, which includes a lecture and discussion about the program and co-responsibilities of the beneficiaries. Early on, there was already a signing of oath and commitment. The next stage is eligibility validation and updating of data that includes checking the presence of a pregnant member and/or child/children 0–14 years old in the household, accuracy of data of household members using documents such as voter's IDs, and marriage and birth certificates. This will lead to the signing of LBP enrolment forms for cash card and this is the final basis for inclusion in the list of registered and active beneficiaries in the program. During the community assembly, aside from the social worker who is always present, municipal government officials are also invited to the assembly. Why do we hold it right at the community? We think that they know more about each other at the barangay level, and we can ask the officials why a certain individual was made beneficiary even if that person is not poor. We also look into those kinds of complaints for verification.

As of January 31, 2011, the program covers 79 provinces in 17 regions of the country. We have not included Batanes because the poverty level is low in that province. We cover 74 cities out of 137, and 936 municipalities out of 1,497 or 62.5 percent.

To date, the total beneficiaries are 1,042,823 households, and to highlight, 209,522 of these are from indigenous peoples group.

For the program benefits, I would like to reiterate some of those mentioned earlier. The 4Ps provides conditional cash grants to beneficiaries, through LBP cash card. The grant is broken down as follows:

- Health and Nutrition Grant: PhP6,000 per year or PhP500 per month per household
- Education: PhP3,000 per year or PhP300 per month per child for 10 months a year, to a maximum of 3 children per household

A household with three qualified children receives a subsidy of PhP1,400/month during the school year or PhP15,000 annually as long as they comply with the conditionalities.

This program would not function as expected if we had not employed the following systems: the Beneficiary Update System, the Compliance Verification System, the Grievance Redress System, and the Supply Side Assessment.

The Beneficiary Update System gathers, validates, reports, and records the changes that have occurred in the status or condition of a grantee: children 0–14 years old and/or a pregnant woman while under the program.

The Compliance Verification System (CVS) is a combined manual and automated procedure that verifies the compliance of beneficiaries to set conditions as basis for payment of grants. The CVS forms include a masterlist of beneficiaries, compliance on health, compliance on education, and compliance to family development sessions by household grantees. For education, these are filled up by the schoolteachers and principals using the school register and attendance records; by the municipal health officers or personnel for compliance on health; and by the Municipal Links for family development sessions.

The Grievance Redress System is a mechanism or a set of procedures and processes to be used as a means to address and resolve issues and complaints related to project implementation. Its primary objective is to facilitate due process in resolving grievances related to project implementation and serve as a feedback to system vulnerabilities.

The Supply Side Assessment (SSA) assesses the readiness of basic health and education services in a locality; defines the gaps, needs and the corresponding solutions; and secures the commitments of LGUs and key partner agencies on supply-side concerns. This is very basic and very vital to the program. We will not be able to implement the program without our partners such as the Department of Education (DepEd), the Department of Health (DOH), and our Civil Society Organization (CSO) partners.

And now to continue the discussion on the NHTS-PR. This is one of the attempts of the government to give a human face to the poverty statistics in the country. The steps undertaken are as follows:

**Step 1** includes geographical targeting. We have stratified selection where initially, the DSWD utilizes the NSCB's Small Area Estimates of 2003 to determine areas where poverty incidence is ranked by provinces, municipalities, and cities. The selection starts from the poorest provinces (FIES 2006) and then the municipalities (SAEs 2003). This gives us the "WHERE" of the poor upon which we select barangays. In selecting the poorest provinces, we use the FIES; for municipalities and barangays, the SAE is used. If Poverty Incidence (PI) of a municipality is higher than 50 percent, all barangays are to be assessed. If PI is lower than 50 percent, barangays are selected based on local socioeconomic indicators through pockets of poverty.

**Step 2** involves household assessment. After we have identified the LGUs to be covered, we now proceed to select poor households by way of household assessment and data processing using proxy means test (PMT) where we determine the estimated household income using variables that are readily verifiable by enumerators, such as basic service facilities (that include source of water, availability of electricity, toilet facility); appliances, housing materials used (roof, wall, etc.). Assessments are done by using a paper and pencil approach, which means that the actual data gathering is done by administering a 2-page Household Assessment Form (HAF) for each household.

The household assessments are done either through complete saturation (i.e., all households in a locality are enumerated), or through pockets of poverty (which only covers a segment or portion of the community identified as pockets of poverty based on a 10-point indicator/variable). On-demand application shall apply to these pockets of poverty areas to cover households that may be left out by the pockets of poverty identification phase. We then collect information from the HAF, which is a 2-page questionnaire with 34 variables.

The PMT is the processing of all data of an LGU that will eventually identify who the poor are in each LGU. The process estimates or predicts the household income using observable variables that are significant to the assessment.

The methodology used for assessment is through interviews using **proxy means variables**. That means that instead of asking about income or expenditure of the households, they are assessed through observable and verifiable variables that represent their socioeconomic conditions. Some of the variables in the HAF are household size, education of household members, occupation, housing structure, access to basic services, ownership of assets, tenure status of housing, as well as the regional variables or the difference in costs of living.

**Step 3** is the validation and finalization phase. The validation and finalization of the list of poor households are done through creation of the Local Verification Committee that will assist in managing complaints and grievance in terms of possible exclusion and inclusion errors after posting the list. Once complaints are resolved, the final list shall be prepared for data sharing. It involves two steps: On-Demand Application (ODA) and validation by the Local Verification Committee.

The ODA is a process of ensuring complete coverage of enumerating the poor households through request for assessments by contacting the representative (area supervisor) of the NHTS-PR at the LGU level.

1. Information dissemination is conducted through orientation with the barangay chairpersons, which will in turn post and distribute advocacy materials in conspicuous places; and
2. Receipt of applications and database matching.

The applicant should have one legally considered ID card such as a voter's ID, PhilHealth ID, or Social Security System (SSS) ID to verify complete name and address. He or she should certify that the household has not been interviewed by the enumerator hired by the region and agree to an unannounced visit to the home to have the interview. The local NHTS-PR coordinator will review the listing and prepare a plan of interviews within the month. The local NHTS-PR area coordinator or area supervisor conducts the interviews and enters data into the system to follow the verification process established previously. This shall follow the same process as regular household assessments.

What is the validation? It is the process that assesses the accuracy of the list of poor and non-poor households within the community; it is implemented in all the 1,492 municipalities and 132 cities. The process is as follows:

1. Organizing Local Verification Committee and orientation (4 days)
2. Posting of the list of poor households (5 days)
3. Receipt of complaints (10 days)
4. Local Verification Committee Resolution (5 days)
5. Household assessments (5 days)
6. Terminal Report generation (1 day)

After we have identified the LGUs to be covered, we proceed to share the information generated from the system.

- Data requisition and clearance—the phase where data from the targeting system is requested by a user for purposes of establishing and verifying targets for their service delivery.
- Report generation—the phase that includes preparation of the requested data in electronic form.
- Information sharing—the phase wherein the report is shared online.
- Feedback reporting and tracking of services delivered to the household—the phase where users provide feedback and updates on the data shared.

**Step 4** involves data generation and data sharing. It involves making the final list of poor household along with other information available online. We also sign a memorandum of agreement with the beneficiaries.

For updates, as of 2011, 10.5 million prospective beneficiaries have been enumerated, 10.23 million have been encoded, 9.9 million have been subjected to PMT, and 4.7 already have PMT results.

We hope that the information we shared is useful and we hope that NHTS-PR would complement CBMS.



# CBMS-Identified Poor and the 4Ps Beneficiaries: The Case of Northern Samar

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Augusto Rodriguez<sup>1</sup>

I am going to share with you the community-based monitoring system (CBMS) and the Pantawid Pamilyang Pilipino Program (4Ps) in Northern Samar. I was here the first day and there was a lot of discussion as early as the plenary about how to reconcile CBMS with the proxy means test that was done to identify the beneficiaries of the 4Ps.

Northern Samar, the subject of this case study, is one of the 24 focus areas of the 5th and 6th UNICEF Country Programme for Children since 1998 to present. The province started its first CBMS data gathering in 2006. The process was quite long and it was completed in 2010 costing PhP844,371.

This study was commissioned by the Social Policy Section of UNICEF, in support of strengthening the 4Ps implementation in the province. The objective is to determine the strategic role that provincial local government units (LGUs) can contribute to the successful implementation of 4Ps. We very well know that 4Ps is implemented from the national level, to the regional down to the municipality. The province, at the initial level of implementation, was not part really of the 4Ps. In this particular project, we wanted to know the critical role of provincial LGUs in supporting the 4Ps implementation because we know that the province will play a significant role there. Hence, we are engaging the

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<sup>1</sup> Social Policy Specialist, United Nations Children's Fund (UNICEF) Philippines

province in support of 4Ps and we have to put on board the province as part of the system.

The objective of this paper is simply to determine the extent of CBMS-identified poor households covered under 4Ps, and in line with the United Nations Children's Fund (UNICEF) advocacy for children's welfare, determine the extent of families with children 0-12 years old not included in the 4Ps. Why am I interested here? One of the conditionalities in the 4Ps is that children 0-14 years old should be in school. For this particular case, data on children 0-12 years old are available for CBMS. But nevertheless, it still incorporates the number of children that should have been part of the 4Ps beneficiaries.

The methodology is simple. This is an ex-post study, meaning that the CBMS data is already there, the results are already there, and you just match the 4Ps household beneficiaries provided by the Department of Social Welfare and Development (DSWD). DevInfo, which was provided by the United Nations for free, was used for storage, analysis, and presentation. Once we have matched the data, we compared the number of 4Ps beneficiaries with the identified CBMS poor, extract the number of families with children less than 12 years old. So it is really that simple.

Table 1 shows data that was just released or "fresh from the oven" as they say. But this is the result of the Family Income and Expenditure Survey (FIES) 2009 and this is the new poverty estimates for Cluster 1. When you say Cluster 1, these are the provinces at the bottom level of poverty.

Poverty incidence for Northern Samar has remained the same from 2006 to 2009 at 32 percent. Ranking, however, improved from 5th to 10th similar to the 2003 ranking. The values from the National Statistical Coordination Board (NSCB) show the upper and lower limits of the 90 percent confidence interval. Northern Samar, for instance, improved its ranking but the poverty incidence is basically the same. In terms of poverty, most of the provinces just changed ranking, but ranking here is actually a misnomer. So it is the same and has not changed and has not moved statistically.

Table 2 shows the result of CBMS for Northern Samar in 2006. I will show you the data only for the 10 municipalities because the 4Ps only covers 10 municipalities of Northern Samar.



Table 1. Provinces in the Bottom Cluster: 2009, 2006, and 2003

Province	2009				2006				2003			
	Poverty Incidence	90% Confidence Interval		Province	Poverty Incidence	90% Confidence Interval		Province	Poverty Incidence	90% Confidence Interval		
		Lower Limit	Upper Limit			Lower Limit	Upper Limit			Lower Limit	Upper Limit	
1 Zamboanga del Norte	46.0	52.9	59.8	1 Zamboanga del Norte	46.4	54.1	61.7	1 Zamboanga del Norte	59.5	51.4	67.5	
2 Agusan del Sur	43.5	51.2	58.9	2 Agusan del Sur	38.2	45.5	52.9	2 Masbate	50.2	42.3	58.0	
3 Surigao Del Norte	43.1	47.9	52.8	3 Maguindanao	39.0	44.9	50.9	3 Agusan del Sur	48.5	41.3	55.6	
4 Eastern Samar	37.6	45.8	54.1	4 Bohol	35.8	43.7	51.6	4 Surigao Del Norte	42.3	35.2	49.4	
5 Maguindanao	37.7	44.6	51.6	5 Northern Samar	32.9	43.3	53.8	5 Maguindanao	41.9	34.4	49.5	
6 Zamboanga Sibugay	35.4	43.2	50.9	6 Masbate	33.9	42.9	51.8	6 Bohol	40.2	33.8	46.7	
7 Romblon	36.3	43.0	49.8	7 Surigao Del Norte	34.9	41.6	48.3	7 Zamboanga Sibugay	43.3	33.3	53.2	
8 Masbate	36.6	42.5	48.3	8 Romblon	34.7	40.6	46.6	8 Camarines Sur	38.3	32.5	44.1	
9 Davao Oriental	36.4	42.5	48.6	9 Davao Oriental	28.0	39.0	50.1	9 Sarangani	36.7	28.4	45.1	
10 Northern Samar	32.4	41.7	51.0	10 Eastern Samar	31.8	37.6	43.5	10 Northern Samar	37.4	27.9	47.0	
11 Bohol	33.6	41.0	48.4	11 Sulu	29.1	36.7	44.2	11 Romblon	35.8	27.9	43.7	
12 Sarangani	34.0	40.7	47.3	12 Camarines Sur	31.0	36.6	42.3	12 Lanao del Norte	35.6	27.0	44.1	
13 Sulu	33.0	39.3	45.5	13 Lanao del Norte	28.1	34.3	40.6	13 Davao Oriental	35.6	26.7	44.4	
14 Lanao del Norte	31.9	39.0	46.1	14 Zamboanga Sibugay	25.7	34.1	42.5	14 Eastern Samar	29.8	20.5	39.0	
15 Camarines Sur	33.8	38.7	43.6	15 Sarangani	29.2	34.0	38.8	15 Sulu	20.3	13.4	27.1	

Source: Family Income and Expenditure Survey (FIES) 2003, 2006, and 2009

**Table 2. CBMS Results, Northern Samar, 2006**

Municipality	CBMS			Total No. of 4Ps Beneficiaries	No. of 4Ps Beneficiaries who are also Poor in CBMS
	Total No. of HHs	No. of Poor HHs (or HHs living below the poverty threshold)	% of Poor HHs from the Total Number of HHs		
Lapinig	2,035	1,721	85	796	280
Las Navas	5,836	4,245	73	3,016	883
Lope De Vega	2,340	1,557	67	1,051	308
Mapanas	2,170	1,856	86	1,177	578
Palapag	4,978	4,060	82	2,792	513
San Roque	4,320	1,361	32	1,858	829
Silvino Lubos	2,400	2,206	92	997	329
Catubig	3,245	2,520	78	1,881	108
Mondragon	1,696	1,200	71	3,144	288
Pambujan	3,933	2,970	76	1,749	592
10 Municipalities	32,953	23,696	72	18,461	4,708

HHs = households.

Source: CBMS Survey, 2006

The 10 municipalities have a total of 32,593 households. For the municipalities of Catubig, Mondragon, and Pambujan, not all barangays are covered. Of the households, 23,696 are poor and this number represents 72 percent. The total number of beneficiaries under 4Ps is 18,461 and those that matched, meaning households that appear in both, is only 4,708 households. Table 3 shows the profile of the 4Ps beneficiaries.

There are 23,696 poor households in the CBMS data and about 20 percent of these households are both in the 4Ps and CBMS identified area. Only 20 percent of the CBMS poor is covered by the 4Ps, with 80 percent not covered by 4Ps. In the 4Ps data, 75 percent have not been classified as poor under the CBMS data. Those who are excluded, or those who are poor but were not included in the program are what we call exclusions. A leakage, on the other hand, is where households that are not poor become beneficiaries of the program. I cannot make a definite conclusion, all I am saying is that there is probably a leakage, as all variables have not been properly considered.

**Table 3. 4Ps Beneficiaries**

CMBS Poorest Municipalities		4Ps Recipient Barangay and Number of Beneficiaries			
Top Poor Municipalities	Magnitude of Population with Income Below Poverty Threshold	Number of Recipient Barangay	% of Barangays Covered	No. of Beneficiaries	% of Recipient Barangay Population
Silvino Lubos	12,631	26	88.4	998	7.9
Las Navas	12,642	53	100.0	3,016	12.4
Lope de Vega	9,433	22	100.0	1,051	11.1
Pambujan	17,053	26	100.0	1,749	10.3
San Roque	21,228	16	100.0	1,858	8.8
Mapanas	10,569	13	100.0	1,177	11.1
Catubig (lacking barangays)	No data	43	90.7	1,882	No data
Mondragon(lacking barangays)	No data	24	100.0	3144	No data
Palapag	21,348	32	100.0	2,792	13.0
Lapinig	7,054	14	100.0	796	11.3
Total	111,958	269	97.9	18,461	

There are many conditionalities in the 4Ps. But I am only focusing on the children 0-12 years old. So the total number of households is 32,953 as shown in Table 4. There are 23,696 households that are poor and about 19,000 are identified with children 0-12 years old. This amounts to 80 percent, hence, theoretically 80 percent of these households should qualify as 4Ps beneficiaries yet only 20 percent has been chosen. So if our programs are really meant to keep children in school, which is one of the conditionalities under 4Ps, then excluding about 80 percent of them would probably not speak well of how well we are achieving our target of getting our children to school, because out of the 19,000 only 4,000 plus are included in the 4Ps program.

**Table 4. Households with Children 0-12 Years Old**

Municipalities	Total # of Households	No. of Poor Households (living below the poverty threshold)	No. of Households with Children 0-12 Years Old	% of Households with Children 0-12 Years Old
Lapinig	2,035	1,721	1,306	75.9
Las Navas	5,836	4,245	3,712	87.4
Lope de Vega	2,340	1,557	1,313	84.3
Mapanas	2,170	1,856	1,458	78.6
Palapag	4,978	4,060	3,095	76.2
San Roque	4,320	1,361	1,105	81.2
Silvino Lubos	2,400	2,206	1,794	81.3
Catubig	3,245	2,520	1,957	77.7
Mondragon	1,696	1,200	950	79.2
Pambujan	3,933	2,970	2,386	80.3
10 Municipalities	32,953	23,696	19,076	80.5

So what are the conclusions and recommendations we can get from this simple study? First, that there is a need to reconcile proxy means test with CBMS to reduce exclusion and leakage in the 4Ps program. The CBMS methodology is an accurate way of identifying the poor and it is important that the 4Ps cover these excluded households in its expansion phase, if ever there will be one.

Second, the provincial LGUs can play a significant role to improve targeting. That is actually the critical role that the province should initiate and coordinate so that we can really know who the poor are. We can use a grievance mechanism in which we can streamline the process to address the concerns of these families.

Finally, 4Ps should cover all poor families in Cluster 1 provinces during its expansion. At least now that we have the FIES 2009 data, we can actually identify which provinces should be prioritized. Because if we really want to make a difference through our interventions, then we really have to focus on the Cluster 1 provinces.

*Part 4*

# **Developing Partnerships for Development**

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# Developing Partnerships through the Diaspora for National Development

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Imelda Nicolas<sup>1</sup>

I got to know the community-based monitoring system (CBMS) some six years ago, when I joined the National Anti-Poverty Commission (NAPC) as its Secretary and Lead Convenor in 2004. Even then, CBMS was already being scaled up to become one of the most favored tools among local government units (LGUs) to do poverty monitoring and evidence-based development planning.

At that time, attention was focused on how to encourage LGUs to invest in the CBMS, to implement the survey, and to set up the database that can permit them to design projects and programs with an eye for ensuring maximum impact on poverty.

In addition, NAPC's Special Concerns Unit, among other things, started work with the mining companies, under the Minerals Development Council, to promote the use of CBMS as a means to help corporations, specifically mining companies, guide their corporate social responsibility programs and promote transparency in the delivery of the mandated community projects in areas where they are operating.

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<sup>1</sup> Secretary, Commission on Filipinos Overseas (CFO)

Even then, I felt that CBMS has not reached its full potential. The CBMS has a lot of other potentials beyond its perceived use as a poverty planning technology and I was one of its advocates in expanding its nationwide use and in institutionalizing it in the planning process of the government. I was even working toward the capacity building of the staff of NAPC so they could eventually become CBMS trainers who will work side by side with the Department of the Interior and Local Government (DILG)/LGU trainers and those of the CBMS Network.

I knew that the funds at the DILG for CBMS was drying up thus the need for all true believers of CBMS to come to its rescue and that included NAPC. But as we might say, events have a way of overtaking us and the rest is history as I joined Hyatt 10 in July of 2005 and that was that.

Today, as I have taken on a new mantle of responsibility and governance on behalf of approximately nine million overseas Filipinos, and as chair of the Commission on Filipinos Overseas (CFO), I am pleased to inform you that we will again demonstrate the amazing flexibility and utility of CBMS, this time, to guide what we would call diaspora philanthropy.

Three months ago, when I assumed office as Chairperson and Cabinet Secretary of the CFO, I immediately saw that part of my work with CFO would be to strengthen the role of CFO in facilitating, rationalizing and synergizing the donations sent in by our Filipino compatriots abroad.

The CFO's program for this, called the *Lingkod sa Kapwa Pilipino* (Linkapil) has already achieved the transfer of some P2.47 billion in donations since the program's inception 20 years ago. In the light of a very strong goodwill from overseas Filipinos for President Aquino's administration, and with our efforts to "enhance" and "systematize" LINKAPIL, we anticipate the donations to grow even more dramatically this year and in the coming years.

But it has also become apparent to me that many of our overseas Filipinos donate without a clear idea of how best to maximize the impact of their donations. Their well-meaning initiative to donate to their hometowns have lead to an imbalance of sorts, some municipalities receiving much of the bounty, while others getting none, resulting in uneven growth and development.

In areas where many of the population have relatives overseas, donations and remittances have increased spending power, and created a higher standard of living. But these areas have become pockets of wealth amidst the sea of poverty.



What we seek to do now, in our current partnership with CBMS, is to utilize the CBMS poverty maps to inform and educate our donors on where best to put their donation to work. We immediately see the significant potential of CBMS—to inform donors on the needs of the communities, bringing to fore the areas that need donations the most, and permitting us to even out the rates of development across barangays, municipalities, and provinces.

With CBMS, we can generate more donations specifically targeted to waterless areas; direct medical missions to areas with higher reported rates of disease, infant and maternal mortality; increase school buildings or put up some where there are none; and grant scholarships to children in households that need them most.

This will also prod many of the LGUs to institutionalize CBMS in their planning procedures. Knowing that donors look at CBMS to guide their philanthropic work, this will prompt more and more LGUs to invest in the system, and in the process, increase their levels of transparency in local governance particularly in terms of development planning.

The CFO intends to make CBMS its centerpiece tool—a useful information tool that will be made available to our overseas constituencies to make them better and more empowered partners in national development.

Since there are now 62 provinces where CBMS have been conducted, 31 of these were done province-wide, we are going to upload these data in our website: [www.cfo.gov.ph](http://www.cfo.gov.ph) for easy access, not only for our donors but also for the public.

Moving forward from Diaspora Philanthropy, we hope to be able to use CBMS to provide potential investors with the background information they would need to make local investments in communities. Spurring economic activity, after all, requires some basic factors, and all these are measured within the CBMS process. Helping potential investors make sense of local economic conditions will be part of the work we intend to explore as part of our responsibilities to push local economic development forward.

Using CBMS will also help us contribute more effectively to the national effort to achieve the Millennium Development Goals, and other international commitments that we may be asked to monitor later. Even the simple presentation of waterless barangays will spur our overseas friends to provide funds and materials to set up water systems, thus promoting the achievement of this particular Millennium Development Goal.

Finally, CBMS, coupled with other information systems, such as the Shared Government Information Systems on Migration (SGISM) where CFO is also a major player and participant, will help us mainstream migration and development into local development planning, and will help LGUs take migration as a key development factor in their planning processes.

We were informed by CBMS Network Leader Dr. Celia Reyes that embedded among the survey questions of CBMS are data on migration in the community. These include, for example, data on how many in the immediate family are working abroad, what are their relationships to the household head, in what countries are they working, and what are their occupations. We understand that the next iteration of the CBMS will include demographic data of the migrant who is an immediate relative of the respondent(s). Extracting these data from the answered questionnaires could prove to be very significant in the development planning of LGUs by providing solid basis and guidance in their policies, programs and projects.

Eventually, we hope to upload the CBMS-based development plans of LGUs in our website for a deeper appreciation by the public especially by the overseas Filipinos of our systematic, rationalized, community-needs-driven diaspora philanthropy.

The Chinese had this saying that is both a curse and a blessing—depending on how one handles it: “May you live in interesting times.” So it is with CFO and with CBMS in these coming years. As we try to move out of the quagmire of poverty in many areas of our country, we move forward into a time of innovation, of forging new uses for CBMS while together, we strive to uplift the majority of our compatriots to a higher level of development and prosperity. I invite you to join us in this journey. It will be interesting. It will be exciting. It will be fun.

# CBMS and the Angelo King Foundation: Moving Communities Forward to Development

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Archimedes King<sup>1</sup>

It is my pleasure and privilege to be in the company of such a diverse yet so connected group of development workers who are gathered here today. As the proceedings in the last two days have shown, it is truly a gathering of people who are passionate about and who truly appreciate the value of the Community-Based Monitoring System (CBMS) in moving their communities forward to development. This National Convention has highlighted the many successful projects of the local government units (LGUs) that serve as examples of good governance, which we lack nowadays, and poverty alleviation, the two main concerns of the Angelo King Foundation.

The CBMS has truly become a systematic and effective way of gathering first-hand data or evidence that would serve as guideposts in charting development plans at the local level. Taken in this light, your group is an embodiment of the core value of the Angelo King Foundation, which is “helping people to help themselves.”

To put it in another way, the programs featured in this convention put into practice what we call our Foundation’s mantra, “give a man a fish and feed him for the day, teach

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<sup>1</sup> Chairman, Angelo King Foundation, Inc.

him how to fish and you feed him for life.” This is the reason why we consider it a rare privilege to be invited by our dear friend, Dr. Celia Reyes, to be part of this convention.

The Angelo King Foundation was begun by my father, Chairman Emeritus Dr. Angelo King, who institutionalized our cooperation with various partners that shared the common objective of improving the livelihood and living standards of our *kababayans* (countrymen).

As a nonstock, nonprofit organization, we are committed to support social development programs, poverty alleviation endeavors, and spiritual and moral upliftment, in partnership with well-established institutions such as the CBMS, nongovernment organizations, cooperatives, and people’s organizations. In more than three decades, we have silently done our share of providing much-needed support in achieving human development in the areas of education, health, spiritual and values development, and livelihood programs. An example is our partnership with the Philippine Business for Social Progress (PBSP). In the last 20 years, we have built, through PBSP, 204 multipurpose centers and supported 706 cooperatives, fisherfolk and peasant groups, urban poor associations and people’s organizations throughout the country benefitting close to 100,000 landless rural workers, sustenance fisherfolks and marginal upland farmers, urban poor and indigenous people.

The various infrastructures built in partnership with PBSP not only serve as venues for trade and livelihood education but also they have become a source of hope and confidence and a symbol of stability, cooperation, and better life ahead for the communities where they are located. Life-changing—that was how our beneficiaries have described the effect of the multipurpose centers. They said the complete structures boosted their self-confidence and determination in improving their standards of living.

Another project that we undertake with PBSP is the community-managed water facility, such as the water-impounding system comprising wells and overhead storage tanks in rural areas. This life-giving system provides clean and potable water and prevents the breakout of water-borne diseases.

In recent years, we have also partnered with Gawad Kalinga and Habitat for Humanity, both private-sector initiatives. Through these partnerships, we have built multipurpose centers where they are most needed. Again, we cannot overemphasize the impacts of the structures in the Gawad Kalinga and Habitat for Humanity communities where these are used as livelihood centers, office for cooperatives, warehouses, clinics, and day care centers.

Another example of good private sector partnership is our years of cooperation with the Federation of Filipino-Chinese Chamber of Commerce and Industry, the biggest organization of Filipino-Chinese businessmen in the country wherein we support the construction of various schools in the most remote barangays. Started in 1961, exactly half a century ago, the Federation's "Operation Barrio Schools" has built more than 4,000 classrooms and is considered the biggest and the most successful private-sector initiative in the country today.

In the fields of health and education, the partnership we are truly happy about is the long-standing collaboration with the De La Salle University. Our project with the university includes business and economic research leading to policy recommendation in the government and in health research, contributing to improvement in the country's health care.

On the other hand, partnership with the CBMS Network is anchored on our goal to help provide adequate support research and development to the country. The input of this research and development can help shape policies toward sustainable development. We believe that there can be no growing testament to the fruits of this partnership than the rich and meaningful sharing of experiences of LGUs all over the country in the past two days. The Angelo King Foundation and the CBMS share the common belief that when initial goals of development projects are achieved, the many who witness the success would follow suit and support the project as well. This is what we call at the Angelo King Foundation as the sparkplug effect. We started and there is an explosion wherein everybody gets involved. We try to initiate and support projects then empower the participants so they stay committed and sustain the undertaking. And so, to continue to support our partnership with CBMS, we have discussed with Dr. Celia Reyes the possibility of setting up the Angelo King Award for outstanding LGUs. The main basis shall be the LGU's success in alleviating poverty among its constituents. We still have to draw up the mechanics but we have agreed to start this year, the awarding to be held hopefully at the next national convention and the reward will take in the form of a multipurpose center for a barrio.

It is hoped that through this modest project, we can strengthen our partnership with CBMS and continue the work with you in achieving a more humane and morally upright society.



*Part 5*

**Finding Pathways Out of  
Poverty Through CBMS**

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# Improving Local Governance Through CBMS

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Jesse M. Robredo<sup>1</sup>

## INTRODUCTION

It is both an honor and a privilege to join you in this 7<sup>th</sup> Community-Based Monitoring System (CBMS) Philippines National Conference. Congratulations to PEP-Asia and the CBMS Network Coordinating Team and all its partner agencies and institutions for organizing this much-needed gathering.

Over the years, the CBMS conferences have promoted growing partnerships among national government agencies, including the Department of the Interior and Local Government (DILG) and local government units (LGUs), academe and research communities, nongovernment organizations (NGOs) and civil society, and other development partners on the use of CBMS data in scaling up poverty reduction efforts in the country.

This three-day conference is another welcome move. Convening all the stakeholders composed of local planners, policymakers and program implementers to share recent experiences, strategies and lessons learned will facilitate discussions on how the use of the CBMS tool can enhance program targeting and impact monitoring at the national and local levels.

I am pleased that we, at the Department of the Interior and Local Government (DILG), are involved in this undertaking. The DILG provides support for LGUs in generating reliable and credible information, which serve as basis for policymaking,

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<sup>1</sup> Secretary, Department of the Interior and Local Government (DILG)

program development, beneficiary identification and impact monitoring of programs that alleviate poverty and for improving the living conditions at the grassroots level.

## ISSUES AND CHALLENGES

Before we discuss the role of governance in achieving the Millennium Development Goals (MDGs), let us first review and assess some of the MDG issues and challenges we faced in the past.

We acknowledge that in the past decade since the Philippines signed the declaration, the country still has to continue to address the three areas that are most crucial to human development. These are poverty alleviation, health and education. The past administration had nine years to introduce several reforms that were aimed at these concerns.

We have five more years to achieve the MDGs.

With President Benigno C. Aquino, we hope to introduce long-term solutions instead of stopgap measures. The President is cognizant of the need to introduce reforms. He is deadset in seeing to it that we attain these development goals. The Department fully understands this and aggressively helps in guiding the LGUs.

## CBMS AS A TOOL FOR LOCALIZING THE MDGS

One of the Department's priority thrusts, in partnership with the LGUs themselves, is the use of CBMS for monitoring and fast tracking the localization of the MDGs.

The Community-Based Monitoring System has been adopted as DILG's MDG/Poverty Monitoring Tool.

We are committed to help our LGUs to be able to generate household information, which is essential in evidence-based planning and project prioritization.

I am happy to inform you that in partnership with the CBMS Network, there are now 62 provinces (32 province-wide), 44 cities, 740 municipalities and 18,706 barangays that are implementing CBMS.

By 2012, all the provinces and cities of the country should have implemented CBMS. It is our ardent desire to see other provinces and their component cities and municipalities adopting the CBMS and eventually enhancing local governance to provide a better quality of life to our people.

## IMPROVING LOCAL GOVERNANCE THROUGH CBMS

How can we improve local governance through CBMS? The importance of having accurate information becomes even more pronounced in view of the need to make the right investment given the limited resources of LGUs.

As CBMS implementation requires the coordination and participation of different levels of governments, the process facilitates the partnership and sharing of responsibilities and resources among different levels of local governments.

CBMS implementation has led to the empowerment of the community because of its involvement in data collection and results validation. The community is able to actively participate in planning at the local level. Armed with the information on its condition, it can recommend solutions to its problems and even demand accountability on the part of the government.

## THE ROLE OF GOOD GOVERNANCE

I want to stress that in achieving the MDGs, good governance should be one of the keys in resolving many of the problems confronting us today.

No less than Kofi Annan, former Secretary General of the United Nations, stressed that “good governance was perhaps the single most important factor in eradicating poverty and promoting development.”

Good governance has always been dubbed as the missing link in the country’s socio-political and economic development.

Because LGUs are closest to the people, they are on the frontline; they should assume the vital role of attaining our development goals.

Local leaders are expected to act as facilitators to address the concerns and problems that affect the living conditions of their constituents. I have always believed that good governance starts with the kind or quality of leaders—leaders who not only know but can address the needs of the people.

Yes, effective good governance heavily hinges on leadership. It is leadership that can make or break local governance.

All political leaders should embrace an ideology for leadership and must utilize effective leadership tools. They should set challenging objectives and not lose sight of them along the way.

Having been a city mayor for 19 years, I have always aligned my actions and decisions to the basic tenets of democracy, where government is of the people, by the people and for the people.

My collective experience over that long period has allowed me to develop a model of governance for the City of Naga. This model was built around three elements that I believe form the foundation of good governance. I want you to visualize a triangle and you will get to understand this concept much better and easier.

The first element is progressive perspective, and it lies at the apex of the triangle. A progressive perspective seeks to build prosperity for the community at large. And the goal of prosperity building is tempered by an enlightened perception of the poor whose upliftment is an end of governance.

The second element is functional partnership. This is the vehicle that enables the local government to tap community resources for priority undertakings, in the process multiplying its capacity and enabling it to overcome resource constraints that usually hamper the mission of governance.

The third element is participation. This mechanism ensures the long-term sustainability of an undertaking by generating broad-based stakeholder and community ownership of local undertakings.

We believe that leadership must not only be bold, inspiring and empowering; it must be inclusive, because the response of various constituencies will depend on how receptive the administration is to their participation in decisionmaking.

Leadership should be perceived and practiced as a shared responsibility. The government cannot do it alone. We need to rally the people to share with our vision. We have to engage people to contribute their share in the attainment of the MDGs. They should be made to realize and continually be reminded of this even as the partnership has already been forged.

The final test of leadership is whether the ordinary Filipinos have felt the impact of what the leader is doing. Have the lives of the poor been improved by the policies, programs and projects implemented? Were they sustained?

## CONCLUSION

In closing, I congratulate all of you who are participating in this conference. Let us seize the moment and take full advantage to learn from the wealth of knowledge and exemplary practices that are presented here, as well as to participate in the exchange of ideas in this conference.

We are in the midst of a very extraordinary stage that requires extraordinary efforts from all of us. Let us help each other so that we can continue with our mission of attaining the MDG targets.

We only have barely four years. But we are all optimistic that we can cope with and overcome the threats and challenges that serve as roadblocks in achieving these goals.

The challenge is for us to synchronize and scale up our efforts. Together, we will be able to achieve the MDGs and uplift the lives of the Filipino people especially the poor and marginalized.



# Albay Health Strategy: Toward a Safe and Shared Development

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Jose Ma. Clemente S. Salceda<sup>1</sup>

This is a great opportunity for me to share with you what the province of Albay had been doing to meet the challenges of the Millennium Development Goals (MDGs). As my presentation will show, the MDGs focus on achieving dignity, the dignity of persons. It is the duty of the state to help the poor especially at the local setting. The greater the poverty, the greater the rights of the poor and the greater are the duties of the state. I have two messages: One, that the MDGs are doable and that two, the way to do them is through local ownership of the targets. Every barangay, every municipality should have targets. I will show you now the broad strokes.

If you will look at our results, the only problems that we have are cohort survival and access to sanitary toilets. Of the 240,717 families in Albay, 72,556 households do not have sanitary toilets.

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<sup>1</sup> Governor, Province of Albay

**Table 1. Status of Achievability of the MDGs in Albay**

Goal	Indicator	Bicol Region	Albay
1	Poverty Incidence	M	H
	Subsistence Incidence	H	H
	Underweight (IRS)	H	H
2	Participation – Elementary	L	M
	Cohort survival – Elementary	M	L
3	Gender parity – Elementary	H	H
4	Under-five mortality	H	H
	Infant mortality	H	H
	Proportion of fully-immunized children	M	H
5	Maternal mortality rate	L	H
	Contraceptive prevalence rate	L	M
	Condom use rate	L	M
6	Death due to TB	L	H
	Malaria positive cases	H	H
7	Household with access to sanitary toilets	H	L
	Household with access to safe drinking water	H	H

Legend: L – low probability                      H – high probability  
M – medium probability

We do not have a province-wide community-based monitoring system (CBMS) but we are trying to have CBMS for all municipalities because I believe in the effectiveness and usefulness of the system for planning. What we use is the proxy means test to determine the degree of malnutrition. From 22 percent, it went down to 16 percent. Infant mortality rate went down from 33 percent to 12 percent; the proportion of facility-based deliveries went up from 11 percent to 88 percent. In the same way, the proportion of births attended by skilled health personnel went up to 90 percent from 29 percent. Contraceptive prevalence rate also went up from 8 percent to 29 percent while child mortality rate went down from 28 percent to 18 percent.

In general, we have achieved improvements in terms of health and nutrition. So how were we able to do that? Through the Albay MDG Strategy, as follows:

- Make MDG a goal
- Ordain a policy and give it a budget
- Execute programs and projects



- Build institutions
- Nurture partnerships

This is the vision of Albay—to become the most capable province and most liveable province known for good education, good health, and good environment, and that is able to secure safe and shared development. In terms of health, our vision is to have longer life expectancy for our constituents, achieve well-being in itself, and well-being for labor productivity. Our vision is to make the Albayanos healthy and happy, well-educated, and well-trained. We also promote the green development model, which means low-rise, low-carbon, low-energy intensity. Central to our vision is a shared and safe development. What do we mean by that? Shared development is operationally defined as compliance with MDG targets and improvement in the human development index (HDI). Safe development means that disaster risk reduction and climate action are built-in elements of the central economic strategy, not a contingency plan, where disaster risk reduction is guided by the Hyogo Framework for Action and climate action is guided by the United Nations Framework Convention on Climate Change (UNFCCC). Safe development will promote shared economic growth.

The rate of poverty incidence in Albay has greatly decreased. But while it is the lowest in region at present, it remains high. Every year in Albay we experience losses in infrastructure and agriculture and add to that the net resource outflow to cities from Albay.

Since our focus is on health, what we did was to increase our budget allocation for health. In fact, we allocated 24 percent of the provincial budget to health and nutrition. To ensure that we are meeting the challenges of the MDGs, we formed in 2009 the Albay Millennium Development Goals Office (AMDGO). It was created in 2009 by an ordinance with a regular provincial budget. It performs oversight functions to MDG performance and secretariat functions to the MDG Supercommittee.

So these are the initiatives that we have undertaken in terms of health:

- 2011—P178 million (excluding that for PhilHealth) for health PS and MOOE, essentially for hospital care and public health
- Universal health coverage at PhP59 million per annum
- Acquisition of 57 ambulances
- 19 Basic Emergency Obstetric and Newborn Care (BEmONC)
- Modernization of provincial hospitals: Ziga (80-bed capacity), and Duran (60-bed capacity)

- Modernization of the Bicol Regional Teaching and Training Hospital (BRTTH) (300-bed capacity)
- Merger of BRTTH, Ziga and Duran into a 500-bed capacity

PhilHealth coverage in Albay increased from 158,000 enrolled families in 2009 to 173,262 families in 2010. Reimbursements from PhilHealth actually helped us give remuneration to doctors, that is why we were able to retain the doctors and prevented them from leaving the province. We also deployed 57 ambulances. This is important in preventing deaths, particularly maternal deaths.

These are among the many things that we have done in my province and I hope that what I have shared can provide useful tips and lessons to others.

# Roadmap to Poverty Alleviation Using the CBMS Approach: The Experience of Batangas

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Meynard Melo<sup>1</sup>

## PROVINCIAL PROFILE

Batangas is among the five provinces in CALABARZON region. It is 113 kilometers away south of the metropolitan area and is bounded on the north by the province of Cavite, on the east by Laguna and Quezon, on the south by the Verde Island passage and on the west by China Sea.

The province is accessible through good roads from Manila by way of Cavite via Tagaytay City on the northwest side, and Laguna via Calamba-Sto. Tomas boundary on the northeast. From Quezon province, Batangas is accessible by way of two entrances passing the boundaries of San Antonio and Padre Garcia, and Candelaria and San Juan on the east. Travelers coming from the island provinces—particularly the two Mindoros and Romblon—will pass the 127 kilometer shore line mainly through the Batangas International Port at Sta. Clara, Batangas City.

The province has a total land area of 316,581 hectares or 3,165.81 square kilometers, which accounts for 1.06 percent of the Philippines' total land area. It has 31 municipalities, 3 component cities, and 1,078 barangays. Batangas City, which has the biggest land area, is its capital.

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<sup>1</sup> Provincial Planning and Development Coordinator (PPDC), Batangas

The total population of Batangas in 2007 was 2,245,869, comprising 19.13 percent of the regional population. Its growth rate is 2.29 percent and has a population density of 709 persons per square kilometer. Batangas is classified as a first-class province in terms of income.

Over the past decades, the province of Batangas has been transformed as one of the thriving growth centers not only in the CALABARZON region but in the whole country. This is because of its economic infrastructures (the International Sea Port, power plants, expressway, telecommunications facilities, and others), strategic location, rich cultural and historical heritage and bountiful and diverse natural resources.

## DEVELOPMENT GOALS OF THE PROVINCE

When Governor Vilma Santos Recto—the first lady governor to be elected in Batangas—assumed office, she committed to bring the Batangueños a transformation that would raise the standard of living of her constituents. By investing government’s resources and mobilizing private resources into areas where there is a pressing and vital need, she hopes to bring Batangueños a concrete change in the quality of their lives.

True to her promise, after a series of consultation with different municipalities and the private sector, the HEARTS Program was conceptualized. The program stands for

**H** - Health

**E** - Education, Environment and Employment

**A** - Agriculture

**R** - Roads and Infrastructure

**T** - Tourism, Technology, Trade and Industry

**S** - Security, Shelter and Social Services

Enabling health care access to Batangueños, particularly the economically underprivileged, has always been foremost among Governor Recto’s priority undertakings.

**Under the health program**, the governor embarked on the improvement of land and rehabilitation/expansion/improvement of the facilities of 8 out of 12 district hospitals. The upgraded hospital facilities now provide better health services to our constituents.

The province is intent on pursuing its Health Care Development Program and Family Community Welfare Program, which include Health Insurance Program for Indigents. It had targeted 100,000 household/beneficiaries and had already distributed 100 percent of the PhilHealth Cards since 2009 to 107,478 households. Medical officers and additional manpower for hospital services were hired while lateral trainings for medical officers for specialization, and continuous training for nurses were undertaken to further enhance the medical service in the province.

It is worth mentioning that in 2010, Batangas was declared malaria-free by the Department of Health.

**Under the education program**, the province has prioritized our scholarship program for indigents but deserving/qualified grantees to have access to quality education all over the province. Over 4,700 college student scholars have already benefited from the program from 2008–2010. Various programs under the education sector include the Children's Welfare Program, which had provided for the construction of the OB Montessori preschool buildings in 16 municipalities and two cities. We have also distributed school supplies and sports equipment, workbook/manuals, lesson plans, and computer units with wi-fi connection to selected elementary and secondary schools, while the construction, completion, rehabilitation, and improvement of school buildings at various municipalities are ongoing.

**Under the environment program**, we have adhered to a sustainable, ecological and environmental protection program, and have implemented the waste management and pollution control of coastal, marine and landbased resources of the province. We have formulated and prepared the Provincial Solid Waste Management (SWM) Plan from the submitted SWM plans of component local government units (LGUs), and likewise continued implementing and monitoring the Strategic Environmental Management Project of the province. Under the Parks Management–Taal Lake and Pansipit River Improvement Project, we have initiated the dismantling of fish cages and pens along the Pansipit River, and this is still ongoing. The dismantling is by virtue of *Executive Order #4, Series 2008 Creating an Inter-Agency Task Force on Environmental Law Enforcement in Taal Volcano Protected Landscape (TVPL)*. Regulation of fish cages is strictly enforced and during the administration of Governor Recto, no major fish kill has yet occurred.

For 2008 and 2009, a total of 4,863 fish cages and 268 fish pens were dismantled.

**Under the agriculture program**, the province has also prioritized the Livelihood Program on Animal Production and Veterinary Support Services, which focuses on food animal production and marketing, as well as animal health.

**Under the roads/infrastructure development services**, the construction and rehabilitation of roads, schools, day care centers, artesian wells, district hospitals and others were implemented to uplift the infrastructure services of the province. Projects under this program include the concreting and maintenance of all roads spanning the four districts of the province, particularly the farm-to-market roads.

Some 258 barangay roads were transformed into concrete types for the period 2009–2010 for a total length of 39,516.72 m. For provincial roads, a total of 79 roads with a length of 35,020.96 meters were transformed into concrete roads for the period 2007–2010.

**Under the Tourism Development Program**, we are pursuing our tourism promotion and marketing, and have instituted a Tourism Regulations and Standards that evaluates and inspects tourism-oriented activities and related establishments. We have also initiated a Destination Development and a Domestic Tourism Promotion that showcases Batangas as a whole package of tourism wonder with its theme: “It’s all here, it’s so near!”

Likewise, Batangas is vent on pursuing the construction of circumferential road around Taal Lake to boost the tourism industry in the province.

To further strengthen and enhance the security and safety services of all officials, employees and properties of the Provincial Government of Batangas, the upgrading of communications equipment was also prioritized.

In terms of Disaster Preparedness Program, the construction and establishment of a dedicated building such as the Batangas Provincial Disaster Risk Reduction Management Council (PDRPMC) was also considered. The province had also reorganized the Provincial Peace and Order Council (PPOC) in close coordination with the Provincial Command of the Philippine National Police (PNP).

**Under the social services program**, we have also adhered to and supported the program of former National Economic and Development Authority (NEDA) Director General Ralph G. Recto, which is the Comprehensive Livelihood Emergency Employment Program (CLEEP).

The One-Stop Workers Assistance Center (ISWAC), the first ever to be put up by any local government in the country, is in response to the call

of Malacañang on LGUs to aid thousands of displaced and retrenched workers due to the current worldwide economic downswing. Noteworthy to mention also, is that under the CLEEP, the Provincial Government of Batangas hired more than 300 nurses to support our hospital service and offered training services/experience for nurses without a fee.

This is to address the social cost and other issues relative to migrants. The province called for a dialogue with different national government agencies (NGAs), nongovernment organizations (NGOs), people's organizations (POs), and the religious groups working for the welfare of migrants and overseas Filipino workers (OFWs) and as a result, the One Batangas Overseas Filipino Workers Migrant Center was established.

In terms of development policies, we have envisioned the following:

For social protection, employment generation through government infrastructure projects, entrepreneurship and establishment of migrant desk per municipality are included in our priorities.

For shelter, the creation of a housing division, data banking and development of government properties for housing (community-based housing project–community land acquisition and support program or CLASP) are being considered.

For e-governance, the preparation of a comprehensive information system strategic plan that will serve as the blueprint of the LGU in the computerization plan is currently underway, including the development and management of information technology.

## DEVELOPMENT SUPPORT THROUGH CBMS

However, Governor Recto believes that these programs and projects are not enough to meet the real needs of the Batangueños, hence, the assistance and support of other agencies are needed to ensure that these are fully addressed. In the process of determining the real needs of the people, the Provincial Government of Batangas made use of the CBMS.

The idea of a CBMS was first presented during the 5th Community-Based Monitoring System (CBMS) Network Conference on January 30–February 1, 2008. After this, a series of consultation-meetings was held with the Municipal Planning and Development Coordinators. A Training of Trainers (ToTs) was soon conducted as well as trainings for the municipal/barangay levels, along with the establishment of the Provincial CBMS Team. The conduct of a province-wide data survey was initiated in May 2009.

The successful implementation of CBMS in the province was ensured through the active participation of municipal officials, the Batangas State University (BSU), and the University of Batangas (UB) under the technical assistance and supervision of the NEDA and the Statistical Research and Training Center (SRTC) as lead agencies, with support from the United Nations Development Programme (UNDP).

Governor Recto believes that the national government could only attain the Millennium Development Goals (MDGs) if there is an active participation of the different LGUs. In response, the provincial government generated data based on the MDG indicators, in order to determine the status of the province in terms of the MDGs. The data generated served to identify the real poverty situation of the province.

## DEVELOPMENT CHALLENGES

- **Poverty**

For Batangas to move toward the path of progress, the province should register an annual poverty reduction rate of 2.22 percent in the total number of poor Batangueños from 2010 to 2015 (to be in synchrony with the 2015 national target of poverty reduction).

- **Education**

For the next six years, the province must improve its enrolment rates by 2.92 percent for elementary and 5.72 percent for secondary students.

- **Health and Nutrition**

The province must reduce the number of individuals who are not able to meet their nutritional needs by 1.97 percent in the next six years.

The other development challenges are:

- Overlapping and duplication of projects implemented by the LGUs, the private sector, and other agencies.
- Uneven development due to the concentration of projects implemented by various sectors in a particular area.
- Unavailability of reliable and accurate data to serve as bases of planning and prioritization.



- Accuracy and precision in addressing the needs of the people (i.e., targeting of eligible program beneficiaries, appropriation of interventions, and program/project monitoring).

We fully acknowledge that in order to effectively identify the problems and issues that hinder the attainment of the MDGs, the utilization of CBMS is seen to be an indispensable tool in the whole process.

The Provincial Government of Batangas, through the CBMS-generated data, can now successfully reduce poverty and help attain the MDGs by determining the nature and extent of poverty. With the aid of CBMS methodology, the identification of *who are the poor, where are the poor, and why they are poor* can now easily be determined. Toward this objective, the following strategic actions were undertaken:

- Conducted the presentation of CBMS results, analysis and recommendations to the different national agencies, members of the Sanggunian Panlalawigan, provincial heads, local government operations officers, municipal mayors, municipal planning and development coordinators, municipal engineers, municipal social welfare and development officers, and NGO representatives. During this meeting, Governor Recto issued “Administrative Order Enjoining the Use of Community-Based Monitoring System (CBMS) Results as Bases in the Formulation of Barangay, Municipal and Provincial Development Projects for the Implementation of Barangay, Municipal and Provincial Projects and Redefining the Local Planning Process;”
- Generated data of OFW and migrant workers, which paved the way for a program on Migration and Development;
- Identified families living in hazardous areas, which the province will consider in mainstreaming the Disaster Risk Reduction-Climate Change Adaptation (DRR-CCA). These families include those living in Taal Lake area whose conditions were thoroughly measured in the proposal for a holistic community resettlement wherein community preparedness, organization, livelihood and education are considered;
- Promoted the banner program of Batangas by way of HEARTS program through its Development Milestones and Priority Thrust. The HEARTS Program implements the current policies of the provincial government;

- Revisited the programs and projects under the Provincial Development and Physical Framework Plan (PDPFP) and Annual Investment Plan (AIP) to determine and prioritize projects responsive to the results of CBMS;
- Conducted the analysis per municipality of the CBMS 13+1 core indicators. These indicators correspond to the Minimum Basic Needs (MBNs).
- Conference with big business groups, academe, and PEZA/ industrial locators was undertaken focusing on the major thrust and priority projects of the provincial government, highlighting the results of the CBMS for its poverty alleviation project;
- Realizing the importance of CBMS, the business sector and academe responded through “Pledge of Support” by continuously promoting public–private partnership through the convergence of efforts and resources. The business community has invited the provincial government to discuss and use the CBMS results to complement their Stakeholder Needs Analysis in their respective localities, thereby establishing Corporate Social Responsibility (CSR) programs and providing employment opportunities in a manner parallel to those needs identified by the municipal and the provincial governments.

To conclude, I would like to present to you one strategic action we had identified toward the attainment of poverty reduction—we call this strategy the “Bayanihan” system. This will facilitate our task of meeting the unmet needs of communities thereby promoting the spirit of communal unity and the convergence of efforts to achieve our development goals.

# CBMS San Nicolas: To Serve the Least Among the San Nicoleños

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Alfredo P. Valdez, MD<sup>1</sup>

I have said this before and I continue to keep saying that the community-based monitoring system (CBMS) is one of the most powerful tools in our fight against poverty. The big challenge for us at the local government units (LGUs) is to provide basic services, and to improve the quality of life of our people especially the poor. When we say poorest of the poor, what do we exactly mean? In the municipality of San Nicolas, the CBMS opened our eyes to this reality—it told us where, in our communities, are the poorest of the poor. I believe that to be able to serve the poorest of the poor, identifying them is the first big step. Our municipality has taken that big step and I want to share here the experience of San Nicolas.

Our town is but a dot on the Philippine map and it is the municipality with the smallest land area of just 4,930 hectares. In contrast, the CBMS Survey of 2006 showed that it has the second biggest number of population (31,972) in the province. The total number of households in the municipality is more than 7,000. The average household size is 5. In 2004, San Nicolas was a 4<sup>th</sup> class municipality, in 2005 it became 3<sup>rd</sup> class, and in 2007 it became 2<sup>nd</sup> class. In 2004, when we formulated our vision, we envisioned San Nicolas to be a peaceful and progressive agri-industrial community in an ecologically-balanced environment. As our mission, we want to pursue socioeconomic growth through an efficient and effective governance supported by an

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<sup>1</sup> Mayor, Municipality of San Nicolas, Ilocos Norte

empowered, God-loving citizenry, by with other partners in development. Our guiding principle is: “Agturong iti Nadur-as ken Nalinak nga Ili ti San Nicolas” (Towards a progressive and peaceful San Nicolas). Our partners in development include the private sector, and San Nicoleño organizations abroad such as the following:

- Annak ti San Nicolas
- Hawaii: Maui Chapter, Kauai Chapter
- Sadiri ti San Nicolas Int’l.—Hawaii
- San Nicolaneous—U.S.A.
- Annak ti San Nicolas—Hongkong
- San Nicolas Goodwill Foundation
- San Nicoleños of California, U.S.A.
- San Nicolaños of Hawaii
- San Nicolas Teacher’s Association of Hawaii
- San Nicolas National High School Alumni Association—Main and Bingao Campus
- Catuguing Association of Hawaii

We came and sought the help of CBMS Network after I heard about it from a family friend. The CBMS concept and what it can do for my municipality has struck my attention. For this reason, even a year before we were given the mandate to adopt the CBMS, we were already implementing it. In fact, the municipality became a pilot area in Ilocos Norte.

We take pride in the fact that the CBMS has influenced our programs and projects in achieving our development goals. It has helped us in formulating our executive–legislative agenda, as well as our Comprehensive Land Use Plan, the Gender and Development Plan, the Local Poverty Reduction Action Plan, and the Annual Investment Program. We also make it a point to upload some of our data in our website. For example, in the website, we share the poverty maps and statistics.

From the 2006 CBMS results, the following findings called our attention: 2,038 households were below the poverty threshold, 513 households have children who are not attending school, and 286 households have no access to electricity.

The best practice that is closest to my heart is entitled “I have a dream...” This best practice was awarded as 2<sup>nd</sup> runner up during the 2008 Search for Region I’s LGU-NGO Project-based Practices. After my

first 100 days in office as mayor, I was invited by one of the San Nicoleño organizations in Hawaii and among the questions they asked me, the one I consider most important was if we have scholarship programs in the municipality. In fact, there are people sending money for scholarship but we did not have a way of monitoring the effectiveness of these programs. There were issues like transparency. So I offered the solution of putting up a foundation; however, to create a foundation we needed a lot of money. What we did was record songs in Ilocano and send them to Hawaii. They liked it so what followed was a concert in Hawaii, which helped raise funds for the scholarship program. So we were able to set up the San Nicolas Express BIN-I Foundation. The Ilocano acronym BIN-I stands for success, goodness, home, and perseverance, in their English equivalents.

Questions on sustainability were raised so we decided to continue conducting fund raising activities. The members of the various San Nicoleños organizations in many parts of the world continue to share a little of what they have for this foundation. Even the municipal employees have pledged their support by deducting a percentage from their salaries. At present, we already have graduates from this Foundation.

Our other initiatives include Livelihood Training Program for the parents of the scholars, establishment of Educational Assistance Office, Walk for a Cause, and Alternative Learning System (ALS). The ALS is particularly special because I believe that everyone deserves a second chance. For this reason, the Department of Education (DepEd) honored me with a “Most Supportive of the ALS” award. We also have the Special Program for the Employment of Students, the One-Town, One-Scholar, which is joint scholarship program of the Commission on Higher Education (CHED), Department of the Interior and Local Government (DILG), Department of Budget and Management (DBM), DepED, League of Municipalities of the Philippines (LMP), LGUs, and the Philippine Association of State Universities and Colleges (PASUC). This involves the awarding of 4-5 year scholarship to an incoming college freshman who has been selected by the municipality as its “town scholar.”

We also have SAGUIP Maestra program, livelihood and skills training for out-of-school-youths and adults, the Catuguing 4-H Palayamanan Youth Club, which is a finalist in the Ten Accomplished Youth Organizations (TAYO) in the Philippines awarded in Malacañang Palace on December 9, 2010. We also have tie-ups with the private sector—there were donations in the form of chairs and books to our schoolchildren.

Another inspiring best practice was the program Water for Life: The LGU-San Nicolas—Farmer-Irrigators’ Experience. We were declared champion in 2009 in the Search for Region I’s Best LGU-NGO Project-

based Practices. Among the activities in this program is the mobilization of irrigators to form the Irrigators' Association. A tripartite agreement was reached among the municipal administration, the National Irrigation Administration, and the Irrigator's Association for the collection of fees for the maintenance of electricity for irrigation. In less than a year, the irrigators were able to pay their debts for irrigation.

In the uplands, we also built dams. These are sources of livelihood for the farmers. In 2007, we became 2<sup>nd</sup> runner up in the Search for Region I's LGU Best Practices with the program "Sustainable Mini-Farming through Bio-Intensive Gardening (BIG)." We preserve the indigenous species of vegetables in our municipality because of their nutritional values and economic aspects. We also have a program on the maintenance of soil productivity.

Another best practice was recognized during the Search for Region I's LGU Best Practices when the program "Off-Season Vegetable Production" with the incorporation of Integrated Pest Management (IPM) won 1<sup>st</sup> runner up. This concept is very profitable for farmers.

Another best practice is our program DAMILI, which was 1<sup>st</sup> runner up from 2008 to 2009 in the Search for Region I's LGU Best Practices. The DAMILI is a celebration of the earth as a way of life, of the legacy of the earth, and of enhancing these legacies through potteries. We organized seminars, livelihood program activities, and grand parades. There were also linking activities with the Japan International Cooperation Agency (JICA) in partnership with the National Economic and Development Authority (NEDA) that aimed to improve the lives of the families in San Nicolas, as well as various trade fairs and exhibits promoting DAMILIAN or pottery products.

San Nicolas was adjudged as the 2009 best implementer of One-Town, One-Product (OTOP) government program in the province of Ilocos Norte.

Some of the key factors for the success of the programs that were implemented include the existence of a reliable and updated baseline data, the poverty diagnosis from CBMS digitized maps.

One big question, after the implementation of all these programs would be: will we be able to improve the lives of our constituencies? The answer would be a big yes!

# CBMS: The Way to Albay *Kadunong* Award 2009 and 2010

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Agnes Dycoco<sup>1</sup>

You would know from the title of my presentation that the Community-Based Monitoring System (CBMS) is a very good tool for getting recognition and awards, and although this is at the provincial level, this is still very important for our local government. But of course you will ask me, is CBMS good for development? My fellow presenters have already told you that it is good for development. The next critical question, is CBMS good for reelection?

The fact is, I started to implement CBMS with Dr. Celia Reyes on my first term in 2005. In 2007, when I ran for the 2<sup>nd</sup> term, and on my 3<sup>rd</sup> term, I was unopposed. With that little story I can say that CBMS is good for reelection. So that is a good selling point of the CBMS.

Libon is a rural town, it is a first class town and it is a closed economy. We are the rice granary of the Bicol region. We have 47 barangays, with 22,000 hectares of fertile land, a population of 66,000 and an internal revenue allotment (IRA) of P82 million.

Due to CBMS, at a glance, we can very well show you that topographically we have vast plains, that we are the rice granary, and that our major land use is 80 percent agriculture. Hence, when we plan and formulate programs, we know already just by looking at the CBMS data.

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<sup>1</sup> Mayor, Municipality of Libon, Albay

In Libon, we have a program called "Go Sail." It means Governance, Social, Agriculture and Environment, Infrastructure, and Local Economy. Very briefly, what is governance? We have a guide that we use and this is the key principle: fiscal and administrative efficiency, innovative governance, use of existing local government unit (LGU) best practices, and pioneering new best practices. In terms of social services delivery, we are guided by the idea of implementing soft programs that ENHANCE and EMPOWER people from all sectors and that improve their quality of life. In environment, we focus on food security in an ecologically-balanced environment; we aim to practice climate change adaptation techniques. For infrastructure, we aim to INTERCONNECT all barangay roads with provincial and national roads in a way that all roads would LEAD to government facilities, markets, and institutions and all barangay infrastructures to ENHANCE DELIVERY of other government programs. For the development of the local economy, we are guided by the principle of providing skills for employment and livelihood to break open a closed economy and to build basic economic infrastructures.

We are also connecting the Millennium Development Goals (MDGs) to our development executive agenda, which is education for all.

How did we start? Why do we have a project that won awards? It was in 2006 when we started our CBMS. It was my first term and I went to Dr. Reyes; we did not have much money and it was difficult for us at the start of the program. In 2006, after our first encounter with CBMS, we picked out relevant education indicators. I saw that the education status was good in the center but as you look at the data of the interior barangays you will notice the disparities. Now it is good that we have data since this helps in disproving the participation rates of the teachers. It is one way of checking the Department of Education's data.

We cannot achieve the MDGs with a very poor school participation rate. We also saw that our poverty and subsistence incidences were very high. The income data was of course collected after we were hit by two devastating typhoons - Milenyo and Reming. But still, these figures were quite alarming. If you look at our employment rate, our employable force is big enough at 85 percent of the population but our actual employed labor force is just 57 percent of that figure.

In 2007, we had the first Education Summit of Albay. It was attended by all stakeholders and we saw, heard, and listed all the problems. So our response to our dismal education status was: Basic and Higher Education Municipal Model or the BHEMM. In other words, this is a model for education by the municipal government.



What in essence is the BHEMM Project? It is a set of initiatives at every level of the education system. First, we got a diagnostic of the CBMS data. So at every level, such as Day Care, we integrated here the feeding program and we initiated the *Batang Malusog* Project. We also had to overhaul our day care system. At the elementary level, our programs were the Synergeia Reading program, in partnership with Synergeia Southern Luzon and Children's Hour. This program helps improve reading proficiency. At the secondary level, we knew that the participation rate is low and that in the rural areas, there was a growing number of out-of-school youths. From 2005, we were able to open new secondary schools in remote barangays and we were able to identify those barangays because of the CBMS data. At the tertiary level, we have a community college and we also send scholars to the University of the Philippines.

Now, not to be left behind, since we have a buildup of out-of-school youths and adults (OSYA), we adopted the Department of Education's (DepEd) Alternative Learning System (ALS) program. We will be launching the ALS E-Skwela where OSYAs will be studying using computers.

We realized that not all are interested in academics, so we created another option, the *Sentro ng Kagalingang Panghanapbuhay* (SIKAP), which is the technical vocational arm of the local government. This is not operated by the Technical Education and Skills Development Authority (TESDA) but we partner with TESDA for the implementation of this program. We offer short courses: driving, welding, reflexology, cosmetology, food processing, among others. For 2010, we have almost 1,000 graduates of SIKAP and most of them are self-employed, have gone abroad, or have been employed already.

In the municipality, we have created the culture that before we bring a program to the constituents we first have to educate them. Once you educate your stakeholders, they are better partners of implementation.

So in a nutshell, the BHEMM project is a studied and planned intervention at every level of the education system. We complement this with the programs implemented by the DepEd.

Is the BHEMM project producing results? In the 2009 CBMS data, we saw that there was an improvement and this is one value of the CBMS. The out-of-school youth rate has gone down a bit, but is it good already? Not yet. And that is an affirmation of what you are doing as a local chief executive. There is still so much to do. In terms of the local economy, we are improving slowly. For the Synergeia program, we are improving our reading proficiency.

To recap, Table 1 compares our data for 2006 and 2009. The CBMS allowed us to empirically and scientifically measure our performance and the impacts of our interventions on the wellbeing of our constituents:

**Table 1. Comparison of Indicators, 2006 and 2009**

	<b>2006 (%)</b>	<b>2009 (%)</b>
<b>EDUCATION</b>		
Children 3-5 years old not attending day care	61.72	58.06
Children 6-12 years old not attending elementary school	21.68	17.72
Population 13-16 years old not attending high school	45.17	41.5
Population 17-22 years old not attending college	85.44	72.74
<b>EMPLOYMENT</b>		
Actual labor force/Employable labor force	85.72	97.66
Presently employed	39.72	57.55
<b>INCOME</b>		
Households living below the poverty threshold	79.55	77.25
Households living below the food threshold	70.02	65.72

*Source: CBMS Surveys, 2006 and 2009*

For the first Kadunong award of Albay, we were the first awardee. We were the most outstanding LGU with best practice in the field of education and we won PhP200,000. I was not able to attend the awarding ceremony and the person who received the award was a Grade 1 pupil who was able to read because of the Synergeia program. This Grade 1 pupil read the speech that I wrote. We also received the same award in 2009 and we received PhP100,000.

So where are we using the P300,000 that we won? On Friday, we will be launching our ALS E-Skwela Program and we used the PhP300,000 to buy computers for this program. Our teachers will then be bringing these computers to the highest mountain in Libon to teach the OSYAs there.

And best of all, Libon grew from a 2nd class to a 1st class municipality in the span of three years.

Now, how do we sustain our gains in education? The BHEMM Project has now been institutionalized as the vehicle for implementing the

education initiatives of the LGU-Libon. A Municipal Initiatives Education Unit of the MINED has been created through an executive order. It is under the Office of the Mayor. This unit is in charge of running the education programs of the municipal government.

So what are our CBMS lessons in brief? First, there is a need for a tool to generate scientific and empirical data to quantify conditions that express public needs. For first-termers mayors, I encourage you to use the CBMS because it is your investment. Second, programs must be designed with the end-in-view of achieving effectivity and efficiency of scarce resources and a baseline data is required for best results. We do not have a lot of resources that we can put in health, education, and environment programs. So we depend much on what the CBMS data will show us. Third, performance must also be quantified through benchmarking and thus must involve the use of a scientific tool. For example, how do you know that your programs are making impacts? If you have a benchmark like your CBMS data, you can show to your constituents that you are improving and this can inspire them. Fourth, CBMS provides a practical tool for diagnostic and benchmarking activities, necessary processes in better decision-making. And fifth, CBMS is a revenue-generation and fund-augmenting tool, beyond our IRA. If you have CBMS data you can better decide your programs, national agencies and nongovernment organizations will also notice you and they will take you seriously and you will not be surprised if they will call you and tell you that they want to partner with you.

Now let me show you some of my wish list. First is that CBMS must not be an isolated municipal or city LGU initiative. It must be a **MUST** project by every province, by every region, with cost-sharing assistance. CBMS should be an interagency project, led by the Department of the Interior and Local Government (DILG). Another wish is an institutional grant mechanism that will bring us closer to funders. We also need on-site trainings beyond the modular trainings offered. Lastly, CBMS must be developed as a dynamic, proactive and data banking tool and adopted as a standard by government units and agencies, especially for poverty mapping.



# CBMS: The Foundation of Comprehensive Development Planning and Program Targeting

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Lucio Gonzales<sup>1</sup>

To my colleagues in the public service, to the participants of the CBMS Conference, good morning!

My presentation is about community-based monitoring system (CBMS), the core foundation of comprehensive development plans and programs that we undertake in the municipality of Pilar.

Before I proceed with my presentation of our CBMS experience, let me express my tons of gratitude to Dr. Celia Reyes and to her staff, along with the sponsoring agencies and stakeholders of the 7<sup>th</sup> CBMS Philippines National Conference.

The municipality of Pilar in the province of Surigao del Norte has responded to the call of the Department of the Interior and Local Government (DILG) to implement the CBMS in our locality. Despite the challenges faced by our local government unit (LGU), this administration has managed to put its foot forward to implement the program. My presentation will share the journey of Pilar with CBMS, to give inspiration to other LGUs that have yet to implement the CBMS, or have yet to realize how important CBMS is in the LGUs.

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<sup>1</sup> Mayor, Municipality of Pilar, Surigao del Norte

The municipality of Pilar is located at the northeastern part of Mindanao. It belongs to the 1<sup>st</sup> District of Surigao del Norte composed of nine municipalities in Siargao Island. It is an hour-and-a-half plane ride from Manila or 45 minutes from Cebu City to Sayak Airport, Del Carmen and a 30-minute motor vehicle ride from the airport. Pilar lies on the eastern side of Siargao Island, bounded to the east by the Pacific Ocean with a distance of approximately 200 nautical miles from the Philippine Deep Trench, on the southeastern side is the municipality of General Luna, to the south is the municipality of Dapa, to the west is the municipality of Del Carmen, while to the north is the municipality of San Isidro.

The total land area is 9,985.70 hectares, composed of 15 barangays of which 95 percent are coastal. The total population as of 2008 CBMS survey is 8,805 of which 4,487 are males and 4,315 are females. Total households are 1,933 with an average of 5 members per household; the dialect spoken is Surigaonon. The municipality was created on October 31, 1953 by virtue of Executive Order No. 638 issued by President Elpidio S. Quirino. It is classified as a 5<sup>th</sup> income class municipality. Pilar was ranked No. 3 in the Five Poorest Municipalities by Province in CARAGA, with 72.6 percent poverty incidence based on the 2003 City and Municipal Level Poverty Estimates by the National Statistical Coordination Board (NSCB), in coordination with the World Bank.

Among the challenges faced by the municipality are as follows:

- High morbidity rate
- High infant mortality rate
- Death cases among adults due to illness
- Presence of malnourished children
- Presence of households without sanitary toilets
- Intrusion of informal settlers in mangrove areas
- Presence of dropouts among school age children
- Presence of households without access to potable water
- Improper solid waste management
- Presence of households living below the poverty threshold
- Weak calamity response during disasters especially in flood-prone areas
- Prevalence of crime incidence against property

Adding to these challenges are the municipality's lack of data at the local level and absence of data that will help directly identify the households that need government intervention, lack of funds to acquire software for the LGU's database, and limited resources to fund programs and projects that can improve the lives of Pilarnons.

In response to the DILG's call for the implementation of CBMS, the municipality created the CBMS-TWG (Technical Working Group) in January 2008. In the same month, training for CBMS Module I was conducted. Enumeration of households began in February and was completed in April 2008. The provincial government of Surigao del Norte provided the needed Household Profile Questionnaire (HPQ) that helped in the data gathering phase of the program. Available local and manpower resources were maximized. For instance, the barangay residents were the ones who cooked food for the enumerators when it was their barangay's turn to be surveyed. Such was the involvement of the barangay residents and officials that the barangay captain's residence was usually utilized by the enumerators for meetings and regroupings. In fact, the flooring of one barangay captain's house caved in because of too many enumerators.

The CBMS experience taught this administration to be self-reliant and more innovative in utilizing available resources. We have completed CBMS Modules II and III in the same year. Pilar became the first municipality in Surigao del Norte to complete the CBMS implementation. Because of this, we were given recognition by the Province of Surigao del Norte during the Provincial Development Council (PDC) Meeting held last July 19, 2010. It was conferred by Governor Sol F. Matugas, Cong. Francisco T. Matugas and Cong. Guillermo A. Romarate.

Last April 6-7, 2010, we conducted the Sectoral Planning Workshop for Comprehensive Development Plan 2010-2016 where we also assessed the usefulness of the CBMS. We presented the specific uses and problems as to who, when, and why. In short, our workshop had been easier since we already knew who were the poorest. Programs and projects were easily identified as well as the allocation of the budget of the LGU. The CBMS allowed us to identify specific beneficiaries and to prioritize those who need help most since we have budget constraints.

We have implemented the Pilar Water System Improvement Program. Out of the 785 households with no access to safe drinking water, 265 of them now have access to safe drinking water.

Based on the 2008 CBMS data, there is a high incidence of child mortality. What we did was to improve our health care programs. Now, there are no child deaths in Pilar.

In terms of out-of-school children, we are now implementing the Balik-Eskwela Program. Out of the 303 children not attending elementary school and 391 children not attending secondary school, 200 and 150 children, respectively, have returned to school.

Of the households in Pilar, 87 percent are below the income threshold, 80 percent are below the food threshold and 105 households have experienced food shortage based on the 2008 CBMS results. Identified beneficiaries are now recipients of programs and projects (impact of the programs are yet to be gauged in the second round of CBMS). In truth, we find it very difficult to work within our very small internal revenue allotment (IRA), yet we still do whatever we can do with the very limited budget. But we will not stop seeking support from funding agencies.

Survey results showed 821 households have no access to sanitary toilets, that 178 households are informal settlers, and 88 households are living in makeshift houses. We already have a lineup of programs to address these problems; however, these are not yet implemented due to financial constraints.

A lot still needs to be done to improve the lives of my fellow Pilarnons. Despite the challenges that continue to confront us, especially our very limited resources, we remain optimistic because with CBMS guiding our planning and program targeting, we hope to deliver the most basic services to our constituents, not only to accomplish the goals of my administration but also to lay a good foundation for future government administrations.



# The CBMS Experience of Luna, Apayao

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Betty C. Verzola<sup>1</sup>

Let me introduce you to Apayao, the baby province of the Cordilleras. One of its municipalities is Luna where I am now a member of the Sangguniang Bayan since 2010. I was the mayor from 1998-2007, and was appointed deputy governor of the province of Apayao in 2007.

The province of Apayao was created by Republic Act 7878 on February 14, 1995, signed by President Ramos. Apayao is one of the poorest provinces in 1995, belonging to the Club 20; in fact, six provinces of the Cordilleras belong to the Club 20. We have yet to graduate from the Club 20, and we have been there for the last 16 years.

Our vision in our executive-legislative agenda is for Luna, Apayao to be the nerve center of governance and education. We are striving to make Luna the food basket in the area. We aspire to have a productive and value-oriented citizenry. Hence, we are working toward attaining a progressive, diversified and sustainable economy so our people could live in an ecologically balanced environment—one that is managed by God-guided and righteous leaders.

As of 2006, Luna has a total population OF 17,250. Apayao belongs to the three provinces with the smallest population. Luna has 22 regular barangays and one administrative barangay but the barangays are spread in the mountains and one barangay has insurgency problem and is war-torn. If not for insurgency, we would not be noticed

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<sup>1</sup> Mayor, Municipality of Luna, Apayao

by the government. When my husband began as deputy mayor, the municipality was a 6<sup>th</sup> class municipality. In 1998, we were already a 4<sup>th</sup> class municipality and that was when I began as a mayor. Now we are a 2<sup>nd</sup> class municipality because of the community-based monitoring system (CBMS).

Luna is in the northeast portion of the province and is about 700 kilometers from Manila. We have a total land area of 65,540 hectares. We have about 3,654 households, agriculture is the main source of income, rice and corn are the main produce, and the spoken dialect is Ilocano. Our municipality is named after Antonio Luna, the brave Ilocano hero.

We are the center of Apayao province. Luna is the show window. All the national agencies, even before the creation of the province, enter through the town of Luna. The only bank in the area is in Luna. We have direct linkages with the national agencies—Department of Agrarian Reform, Commission on Audit, Department of Public Works and Highways, Department of Trade and Industry, Department of Science and Technology, and Department of Agriculture.

This is the Luna experience and how we found out the real importance of the CBMS. When it was first introduced in our municipality, everyone wanted to be included in the survey. Everyone thought that there will be doleouts, so everyone wanted to be regarded as poor. However, I told them that everyone is poor but we wanted to prioritize those who are poorest and then those who are poorer and finally the poor. So that settled it.

What is the importance of CBMS? With CBMS data we can make efficient plans. Knowing who are the poorest, we can prioritize support for those who need it the most. We can implement the right programs and projects. With CBMS we can determine which projects should be prioritized: is it water, for example? Infrastructures? Lakbay-aral? Delivery of appropriate services was also made possible. How many should be given scholarships for elementary? For high school? It had also been possible to reach out to the right beneficiaries. We all know that sometimes, the projects do not really reach the right beneficiaries.

Poverty reduction programs and initiatives can also be formulated with the help of CBMS data. This includes, for example, the Self-Employment Assistance-Kaunlaran (SEA-K) initiative of the government and various lending programs and assistance for day care workers. Another program is the Food-for-School program. It is a fact that the lack of food is one effect of poverty. With CBMS, it is very easy to know who are the poorest segment of the population. In one instance, the beneficiaries of the National Household Targeting System (NHTS) were

all members of the Sangguniang Barangay. So I asked, what happened? We should use the CBMS data to target the right people, and implement the right programs.

We implemented livelihood programs, we bought sewing machines so that the women can have income-generating activities.

For our eco-waste program, to be environment-friendly, we utilized our own resources and recycled the wastes. We promoted the flowers grown in the municipality, such as the everlasting flower. We also promoted our handicraft program by providing marketing assistance and training programs for families. We also launched a loom-weaving program and for this, we would like to thank the CBMS-UNDP Development Grant Program for supporting the loom-weaving program in Luna, Apayao.

The municipal government purchases the threads from Baguio, we give these to the women weavers and they are put on a payroll and are paid based on their outputs. Their outputs are then sold by the local government unit (LGU). We weave *bayongs* (native baskets) and there is an increasing demand for the traditional *bayong*. We even began weaving women's handbags.

In Apayao, the Aetas (an indigenous people's group) are the poorest. They are nomadic, do not own much, and are considered poorest of the poor. So we try to help them also through the weaving program. We also order from them the plates made of rattan, thus helping them generate income while at the same time encouraging eco-friendly practices.

We sell a variety of woven products, such as cellphone holders. Before, when visitors come, we do not have locally-made products to show them. Now we can even sell and generate income from our own products. From here you see that the return of investment is high.

We also package salt (*asin*). This is also in compliance with the Asin Law. We realize that we need legislative support for our programs. In particular, we encourage people who apply for business permits to buy salt from the LGU. It is said that salt improves intelligence, and I might add that in the National Science Quiz Bee, the champion is a student from Luna, Apayao.

Good governance includes knowing who are the poor, why they are poor, and where those poor people are. Because poverty is a big hindrance to success, poverty reduction becomes a big challenge of good governance. Always remember, if God can feed the birds, what more for the humans, and with God everything is possible. So to fight poverty is not impossible!



# Uses of CBMS for Local Planning and Program Targeting in Rosario, Batangas

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Josephine Altura<sup>1</sup>

First of all, I would like to tell everyone that the municipality of Rosario is very fortunate to have been invited here by Dr. Celia Reyes and that we are most happy to share the experience of Rosario in implementing the Community-Based Monitoring System (CBMS).

The CBMS implementation in the municipality is the result of a collaboration among three parties, namely, the Local Government Unit (LGU) of Rosario, Batangas, the Department of the Interior and Local Government-Bureau of Local Government Development (DILG-BLGD), and the CBMS Network.

The first module was conducted on 23-25 January 2008. It was a training workshop on CBMS data collection and field editing. The CBMS-accredited trainers from the DILG-BLGD served as our resource persons during this training.

After the Module 1 training, we held the CBMS Composite Team Meeting on February 4, 2008. We informed all the 48 barangay captains of Rosario that the municipal government is very willing to implement the CBMS and that we were asking for their cooperation.

After the CBMS Composite Team Meeting, we asked all 48 barangay officials to join the Advocacy on CBMS Implementation on February 12, 2008. This was attended by all the barangays.

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<sup>1</sup> Municipal Planning and Development Coordinator (MPDC), Rosario, Batangas

On February 15, 2008, we held the training of enumerators for data collection. Actual data collection and field editing took four months—from February 2008 to May 2008. After that we again called the barangay captains and barangay secretaries for the filling up of the Barangay Profile Questionnaire. It may be noted that all the barangays were very supportive of the CBMS because from the very start, we asked for their cooperation and the DILG explained very well the benefits from the CBMS.

The training for Module 2, which focused on data encoding and digitizing, was held on April 28-30, 2008. The training was conducted by the DILG-BLGD. Actual data encoding and map digitizing commenced in May and was completed in August. During this stage, we continued to consult with the barangay volunteers and barangay officials.

Training on CBMS Data Consolidation and Database Building was the focus of Module 3, conducted by the DILG-BLGD on August 12-14, 2008. After that, data validation and community consultation immediately followed. At this stage, we encouraged all the barangay officials and volunteers to be there during the validation. We were very thankful because the barangays were very supportive of this activity.

The various municipal department heads also attended the validation. We encouraged those concerned with the delivery of various services to attend. We conducted the validation along with the Barangay Caravan. This Barangay Caravan delivers basic services to the barangay. So while the validation was ongoing, other departments of the municipality were providing basic services like free health checkups, distributing of seedlings, among other services. We conducted these services right at the barangay. Even the municipal mayor attended the barangay validations.

The training on Module 4 was conducted on July 4-17 2009. It focused on CBMS-Based Planning and Budgeting. It was held at the PEP-CBMS Network Office at the Angelo King Institute for Economic and Business Studies of the De La Salle University.

An Action Planning activity with barangay officials and volunteers was held. We know that many barangays are hesitant to undertake this activity, but we should not tire from encouraging them to participate. Municipal department heads also joined the Action Planning activity.

So what did we discover in the CBMS Survey of 2008?

**Table 1. CBMS Core Indicators of Rosario, Batangas (2008)**

Indicators		Proportion
Health	Child deaths (0-5 years old)	0.1
	Women deaths due to pregnancy-related causes	0.0
Nutrition	Malnourished children (0-5 years old)	2.3
Water and Sanitation	Households without access to safe water	11.9
	Households without access to sanitary toilet	13.1
Housing	Households who are informal settlers	0.5
	Households living in makeshift housing	0.7
Education	Children 6-12 years old not attending elementary school	27.6
	Children 13-16 years old not attending high school	36.9
Income	Households with income below the poverty threshold	61.1
	Households with income below the food threshold	41.0
	Households who experienced food shortage	0.1
Employment	Members of the labor force who are unemployed	4.7
Peace & Order	Households who are victims of crime	0.1

Source: CBMS Survey, 2008

So what did the municipality do?

We identified areas where there are major problems, such as health in terms of malnourished children, access to safe water and sanitation facilities, low income and food poverty, and education.

For the malnourished children, we enhanced the supplemental feeding programs. This was funded by the Sangguniang Barangay as maintenance of the malnourished children 0-5 years. In this program, we fed the children twice a week for 3-6 months. Mothers of the malnourished children prepared the menu consisting of simple but nutritious foods such as *sopas* (soup) with vegetables, *chamorado*, *arroz caldo*, and *pansit* (noodles) with vegetables. Other members of Sangguniang Barangays provided multivitamins for the children undergoing the feeding program. The municipal government provided technical assistance and some logistical support. The feeding program was conducted in the *purok* (community) identified as having the most number of malnourished children since the CBMS data could show where these malnourished children actually resided. We realized that by having the feeding program in the *puroks* rather than in the barangay halls or health centers made the program more effective.

An effective response to malnutrition is the Pabasa Nutrition Education Program. The Sangguniang Barangay was funded to purchase 15 Nutri-Guide and snacks for the participants to ensure the success of the PABASA program for the mothers of malnourished children and for soon-to-be mothers. From the LGU, the municipal mayor allotted funds to purchase additional 10 Nutri-Guide and Flip Chart for each barangay. The PABASA was conducted once a week for two months a year. This was attended by midwives, nurses, and the Municipal Nutrition Action Officer (MNAO). All barangays in Rosario now have 25 Nutri-Guides each.

We also conducted counseling. This was headed by municipal department heads and religious leaders. The LGU organized three groups composed of counselors from different social services: religious, health, employment, agriculture, and social welfare. The usual participants were the parents of malnourished children, parents of out-of-school youth, households living below the poverty and food thresholds, and households without access to sanitary toilet facility and to safe drinking water.

For those without access to safe drinking water, the LGU funded a program that focused on the distribution of pipes as mainline and secondary connection, prioritizing the income-poor families. The barangay waterworks fund came from the Provincial Government Fund. The water users were organized, with assistance from the Provincial Planning and Development Office. In installing the water pipes, the Provincial Planning and Development Coordinator assisted the barangays.

For those without access to a sanitary toilet facility, our strategy was to distribute water-sealed toilet bowls with construction materials to bona fide recipients. The LGU allotted a yearly fund of Php5,000 for each set of construction materials for income-poor families without access to a sanitary toilet facility. This program yielded positive results because of the consultation with the barangay. The Sangguniang Barangay now also allocates fund for the program. To encourage this practice, the municipal government puts up a counterpart fund in the same amount as the barangays' allocation.

For households with income below the food threshold, we implemented an entrepreneurship development program. Geared toward uplifting the economic condition of the residents, access to livelihood opportunities were facilitated through various skills training programs, start-up funds augmentation, advocacies, and social mobilization. The Sangguniang Barangay identified the skills training that will fit their constituents and the available resources in the barangay. The Municipal Training and Livelihood Center, in coordination with the Department of Science and



Technology (DOST), Technical Education and Skills Development Authority (TESDA) and Department of Trade and Industry (DTI), will bring the skills training to the barangays—for free. This is part of the promotion of the OBOP (One-Barangay-One Product) program; for example, *kaing* (wicker basket) making in Barangay Nasi. A Livelihood Loan Assistance program was also made available to different legitimate organizations to provide capital for their identified livelihood program.

We also had the Livestock Production and Productivity Enhancement Program. The Office of Agricultural Services disperses cattle, goat, swine and native chicken to low-income families, mostly farmers, as a source of livelihood. Barangay officials prepare the request letter addressed to the municipal mayor, or they issue resolutions indicating the beneficiaries and the livestock that is required or preferred.

Crop and vegetable seeds were also distributed not only to the farmers but also to individuals who belong to households with income below the food threshold. These households were organized for production. This was done to sustain the supply of nutritious food for each family.

The Biogas Technology Program has been religiously implemented by the municipality, in partnership with the DOST-Region 4. This saves households with the cost of buying liquefied petroleum gas (LPG), especially for households with very low income.

For the out-of-school youth, the municipal government allocated P1 million financial assistance for deserving indigent school-aged children, particularly for incoming students in Grade I, Grade VI, 1st year and 4th year high school.

There are other development programs scheduled for implementation in 2011. These include:

- Adopt a malnourished child
- Adopt an out-of-school youth
- Adopt a school building
- Co-partner with Overseas Filipino Workers (OFWs)
- Barangay development programs
- Enhancement of the Self Employment Assistance-Kaunlaran (SEA-K) Program of the Municipal Social Work and Development Office

In closing, let me point out that we would not have been able to do all these without the support of our local chief executive.



# The CBMS Experience of Carmona, Cavite

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Mildred M. Purificacion<sup>1</sup>

Carmona is one of the municipalities in the country that has already implemented the Community-Based Monitoring System or the CBMS program. It was indeed a great challenge for us to prepare for the full implementation of the CBMS in our municipality. If its potential impacts are not taken into account, a municipality may indeed have second thoughts about pushing through with this project because of the required costs. But through the joint efforts of all local government unit (LGU) departments and local officials, Carmona was able to turn this program into a reality. In the end, the CBMS results became our most useful tool in our program targeting and in having a more effective local governance.

Allow us to share some tips on how to push for the implementation of CBMS. Of course, it may not be that easy to convince your local chief executives to implement CBMS. When we were just starting, I told our mayor that there may be a possibility of having a grant. Fortunately, I did not fail our mayor because all the expenses were all worth it given the usefulness of the data that were generated by CBMS. So what we did to facilitate the survey was to hire in-house enumerators from the Samahan ng Kababaihan sa Carmona.

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<sup>1</sup> Municipal Planning and Development Coordinator (MPDC), Carmona, Cavite

Just a little background on Carmona: Our municipality is 37 kilometers from Manila and is the gateway to CALABARZON.

Based on the CBMS results, there are 2,832 households or 19.03 percent of all households with income below poverty threshold. The usual LGU programs for poverty reduction benefited only a few number of families from depressed barangays believed to be indigents. Survey results highlighted the necessity that there should be more beneficiaries of poverty reduction programs, not only in the identified depressed barangays but throughout the municipality.

Based on these data, the LGU exerted more efforts to respond to this poverty-related issue. Survey results also revealed the reasons why many households were poor. Data showed that there were household members who are unemployed, while others have members who are sick or with disabilities and who needed special care and attention, or required medicine maintenance as well. Some households have members who were out-of-school and cannot be accommodated in our existing industries, while some could not even pass the Alternative Learning Schooling (ALS) in preparation for a training at the Technical Education and Skills Development Authority (TESDA). Some of them are either seniors with no siblings living with them, or solo parents with lots of dependents but with lesser income. Further, big households were found to have expenses that are bigger than the members' accumulated income.

These data served as the basis for some of the LGU's response to the increasing poverty-related issue. Among the interventions we launched were: the Solid Waste Management-cum-livelihood program, such as the *Basura Palit Gamit, atbp.* program. What we did in this program was to use recyclable materials to address the problem of scarcity in resources, while at the same time providing livelihood training to the people. Recyclable materials were also used in livelihood programs such as the *Gupit Tsinelas* Project that employed both women and out-of-school youths (OSY).

We also implemented health programs that included Physical Therapy Clinic, PHILHealth para sa Masa, Family Health Workers, and Doctor to the Barrio programs. There are already 1,120 indigent families enrolled in Philhealth. For the social welfare programs, we implemented Food-for-Work and *Tulong Puhunan* programs. Apart from recycling, we also promoted policies that focused on the environment, such as Garbage Fee Collection and Selective Plastic ban.

The reception has been very good for these programs. The programs promoted human development since we were able to provide people with

improved access to the basic needs for a decent living, and we were able to develop their capacities by giving them knowledge and skills through various trainings. We also taught them proper values and helped ensure that their lifestyle is healthy.

Another impact is the development of business partnerships. We involved nongovernment organizations (NGOs) and the private business sector like Walter Mart because we forged a tie-up with them to promote our products. Another impact is the clean and green environment. We also promoted gender and sectoral responsiveness through the programs for the disabled, solo parents and senior citizens. The programs were also seen as tools for effective local governance and the programs helped in the formulation of policies.

These programs resulted in the significant improvement in the lives of more than 1,000 families in different barangays. These lessened people's dependency to the LGU for doleout support. These also contributed to the implementation of the Solid Waste Management Act for a sustainable environment. The persons with disabilities (PWDs) learned to be self-reliant and confident. Most of the mothers, OSYs, and other community members became busy and participative in all livelihood programs. These programs eventually upgraded the quality of life of the Carmonians.

We have received awards and citations for the programs that we have implemented. Below is a list of the awards we have received.

- **2009 GAWAD AGUINALDO SA KAPALIGIRAN AWARD** (Grand Slam)  
*In recognition of the effective implementation of RA 9003 or the Ecological Solid Waste Management Act of 2000*
  - Best in Recyclable Waste Collection & Management — Category B
  - Best in Biodegradable Waste Collection and Management — Category B
  - Overall Best in Ecological Waste Management
  - Special Citations: Model in Livelihood Generation for its Best Rubber Scrap Livelihood Program
  - Model Barangay Material Recovery Facility (MRF) for Barangay Maduya
- **Carmona was hailed as the 2009 Most Business-Friendly LGU** (Municipal Category)  
Given by: The Philippine Chamber of Commerce and Industry (PCCI), October 26, 2009

- **Hall of Fame—Regional Sandugo Award for Outstanding Local Chief Executive**

Given by: The Center for Health Development 4 (DOH-Region 4)

- **2009 Most Outstanding Healthy Lifestyle Advocate (DAHLIA) (Municipal Category)**

Given by: The Philippine Coalition for the Prevention and Control of Non-Communicable Diseases (PCPCNCD) and Department of Health, November 27, 2009

- **2009 Most Outstanding Mayor on Cooperative Development in the Province of Cavite**

Given by: The Provincial Government of Cavite, October 5, 2009

- **Most Outstanding Municipal Public Employment Services Office in Cavite**

Given by: The Provincial Government of Cavite, November 26, 2009

- **2009 Presidential Lingkod Bayan Award (for Persons with Disability Coordinating Office)**

Given by: The Office of the President and Civil Service Commission (CSC), September 17, 2009

We hope to eradicate poverty to the point that it will just be a distant memory for our children. We hope to make poverty a thing of the past.

# LMP: Taking Up the Cudgels in Promoting the Implementation of CBMS Nationwide<sup>1</sup>

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Strike Revilla<sup>2</sup>

When the Local Government Code was enacted 20 years ago, it affirmed that the local government units (LGUs) were to be at the forefront of local development. It provided LGUs with the responsibility for poverty reduction, social development, and the overall improvement of life within their respective jurisdictions. This was, and still is, the greatest burden that LGUs carry until today.

Since then, we in the LGUs have been constantly pushed forward to develop our capacity for local development planning, as mandated by the Local Government Code. Amidst the frustrating insufficiency of technical assistance from the national government, and despite the valiant and heroic, but still inadequate efforts of our Department of the Interior and Local Government (DILG), we in the LGUs have made slow but sure progress in developing our internal capacities to respond to the needs of our local constituents, to improve the management of our resources, and to look for means to strengthen our capabilities to provide growth and progress for our constituencies.

In 2002, the National Anti-Poverty Commission (NAPC) issued a resolution adopting the Community-Based Monitoring System (CBMS) as a tool for local governments

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<sup>1</sup> Speech read by Mayor Manuel Fortes of the municipality of Barcelona, Sorsogon on behalf of Mayor Strike Revilla, President of the League of Municipalities in the Philippines (LMP)

<sup>2</sup> President of the League of Municipalities of the Philippines (LMP) and Mayor of the municipality of Bacoor, Cavite

to respond to poverty reduction. It was recognized that to resolve the problem of poverty, we need to acknowledge its multi-dimensional nature, to strengthen the capacity of policy makers to target interventions efficiently, and to guide resource holders to maximize the use of limited resources for effective local poverty reduction.

I must admit that as mayor, I learned of the CBMS as a tool for poverty reduction only during its pilot implementation at Barangay Molino II, Bacoor, which was undertaken in partnership with the Kababaihan Gabay ng Bayan (KAGABAY), a women's nongovernment organization (NGO) headed by former NAPC Chief of Staff Suzette Pido. It was only because of Barangay Molino II's experience that CBMS came to my attention, and it was only then that I recognized the value of such an initiative, particularly for a municipality that is looking forward to becoming a city in the very near future.

To become a city is no laughing matter. Problems of development are magnified, and even with the expected increase in resources, an equivalent increase in demand for services also follows. The balancing act that we know so well at the municipality level—in terms of budgeting for priority projects, as well as in strategically looking into the future to determine the best mix of programs and projects to be funded out of a meager budget—this balancing act is magnified and made more complex as urbanization grows, and as a municipality slowly transforms into a city.

This is the reason why we need to be fully prepared, while we are still at the stages of putting the foundations of Bacoor City in place. Now is the time for institutionalizing systems that will help facilitate the planning and targeting of projects, programs, and services at the grassroots level, and for installing in advance the mechanisms that would later bring progress and development at the local level.

We saw how it was done at Molino II. The barangay was able to mobilize the participation of its different constituents, and with the CBMS-generated data, it is now poised to tap resources outside of the barangay and beyond the limits imposed by the budgetary constraints of government, and bring all these to bear on the multidimensional problems of poverty at the barangay level. With the support and engagement of NGOs like KAGABAY, Molino II is lucky to have had a headstart among all barangays of Bacoor.

Because of this experience, we also desire that the rest of the barangays in Bacoor could have the same level of technical expertise, the same evidence-based barangay planning that is now being utilized by the leaders of Molino. In fact, I have made arrangements for Bacoor to



implement CBMS in the entire municipality, and I look forward to working with the CBMS Network, KAGABAY, and the DILG to make this possible at the soonest time, with the participation of the Perpetual Help College.

We decided to utilize the expertise of our teachers as trainers because we want to instill in the students the value of participatory governance. With the data that the students will gather, they will become more aware of the real situation of the families and communities to which they belong. As such, we expect that this may inspire them to study harder and to become more responsible citizens. In the long run, they will be able to contribute to the development of Bacoor.

I recognize that all municipalities should use the technical resources that are being made available to them by the CBMS Network, and for this, I am committing, as the president of the League of Municipalities, to take up the cudgels in promoting the implementation of CBMS across all the municipalities in the country. I call upon my fellow municipal mayors to recognize the value of this tool for local development, and enjoin them to imitate our example.

It is said that the journey of a thousand miles begins with a single step. Today, Bacoor joins the many municipalities and barangays that have taken their own steps toward national development. My own journey to help this process along begins here, too, with the League of Municipalities. In taking this step, I look forward to a time when all municipalities are running their respective CBMS roll-outs, guiding their policy making and budget allocations with CBMS data, and engaging their constituency with increased transparency and participation that is part and parcel of the CBMS process. I look forward to the future, and I know you will all be with me in moving toward this direction.