

Integrated Approach Contributes to MDG in the Philippines ¹

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Abstract

The catastrophic landslide in Leyte, which recently entombed an entire village of 1,800 people in mud, is a vivid example of the effects of the vicious high fertility-poverty-environmental degradation (HFPE) cycle spiraling out of control in the Philippines. Leyte is the largest province in the Eastern Visayas region and one of the poorest in the country. On average, women in Leyte give birth to 3.2 children compared to the national average figure of 2.8. Although the province was once very rich in natural resources, over-exploitation and mismanagement of its forests and coastal resources are causing crises in food and environmental security and escalating conflicts among resource users that threaten social stability. This paper presents evidence of the affects of unbridled population growth on environmental decline and poverty in coastal Philippines and discusses the experience of a community-based and integrated population and coastal resource management (IPOPCORM) approach designed to address interrelated HFPE issues in the Philippines coastal zone.

The Philippines

The Philippines is an archipelago of 7,100 islands with the longest discontinuous coastline in the world at 36,269 km of extensive stretch of coastal lowlands. Sixty percent of municipalities and cities are coastal including the ten largest cities. The country is very rich in natural resources. Marine biologists have identified the Philippines as one of the 25 “hotspots” in the world with exceptionally rich endemic species and biologically diverse coral reefs. The Philippines ranks second to Australia’s Great Barrier Reef in diversity of reef fish, and its sea grass communities are considered the most diverse in the Indo-Pacific region¹. Such marine resources are the main source of food and livelihood of the populace. As much as 80% of the dietary protein consumed by rural Filipinos comes from fish.

The Philippines ranks among the top 12 most populous country in the world and the 7th in Asia. The population continues to increase at an annual growth rate of 2.36 percent. Demographers expect that with 1.9 million new babies every year, the population will double in 29 years.



¹ Adapted from a paper submitted by J. Castro in March 2006 in response to a Call for Evidence for “Population Growth Impact on the Millennium Development Goals” by the UK All Party Parliamentary Group on Population, Development and Reproductive Health.

The average population density of the country is 255 persons/km² but is even higher in the coastal communities at 286 persons/km². Recent fertility rate is 3.16 which is higher than its neighboring Asian countries like Thailand (1.8), Vietnam (2.3), Indonesia (2.3) and Malaysia (3.1). Even if fertility plummeted today to two children per couple, the numbers of people would still soar because of the country's high population momentum exceeding that of India, China, Indonesia and many other countries in Asiaⁱⁱ. Thirty seven percent of the population are under 15 years old. This population momentum will account for the more than 66% increase in the population in the next decade and its concomitant impacts on the environment portend increasing degradation and escalating conflicts among resource users that could threaten social stability in coastal communitiesⁱⁱⁱ.

The Philippines coastal zone is increasingly threatened by human activity. Sixty percent of the country's 85 million people reside in coastal towns and hamlets. Uncontrolled population growth - particularly in biodiversity areas where growth rates average 4% - pose increasing threats to the already troubled ecosystems upon which people depend for food and livelihood. To date, while the Philippine Agenda provides the framework for sustainable development relating to the objective of improving the quality of life of every Filipino², the Philippine government lacks a national population policy³. The resultant high rate of population growth in the country has also been linked to growing poverty, which affects 40% of the population. Human induced environmental degradation linked to overpopulation is also thought to play a role in massive death tolls that followed recent flooding and landslides in the Philippines.

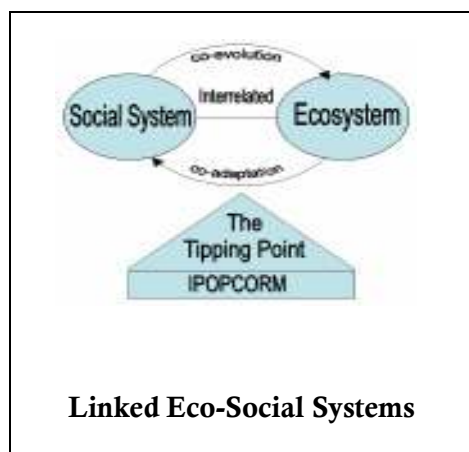
Experience of the IPOPCORM Initiative

- *"The fish that I catch everyday to feed my children is a product of long hours of hard work to make both ends meet. My youngest child is sickly and very small. I know he should have good food, but it is a struggle when circumstances are not favorable to make a living. The reefs are blasted and the fish I catch is lesser and are smaller. Every year, I see more and more fishers. I even have to travel longer and further to be able to bring home food." (Lucio, father of four children, fisherman, Palawan, Philippines)*
- *"These communities do not demonstrate much concern about the environment. Two third of the respondents put their faith in God to preserve it. On the other hand, they acknowledge a decline in fish catch and can relate it to overpopulation. A large majority recognizes the challenge that large number of children pose to their family's economic well decline being" (DRDF 2001 Baseline Household Survey Results)*

² NEDA 2001

³ Raymundo, C, Commission on Population press release, December 2005

The scenarios highlighted in the text box above are typical of rural coastal communities in the Philippines. The links between population growth, malnutrition, poverty, and environmental degradation are strong and need to be addressed in an integrated fashion to achieve results that can help eradicate poverty and hunger and ensure environmental sustainability especially for the marginalized communities. In 2001, PATH Foundation Philippines, Inc. (PFPI), a non stock, non profit organization designed the Integrated Population and Coastal Resource Management (IPOPCORM) initiative which aims to improve the quality of life of human communities that depend upon coastal resources, while maintaining biological diversity and productivity of coastal ecosystems. Its purpose is to encourage and support the integration of reproductive health (RH) management strategies into coastal resource management (CRM) policies and agendas at national, regional and local levels. The central organizing theme of IPOPCORM is food security; its change theory is based on Marten's "linked eco-social systems" concept and the belief that small improvements in ecological and social systems can reinforce one another to turn around both systems from deterioration to health⁴.



IPOPCORM works toward three desired outcomes:

1. Improved reproductive health outcomes among people living in coastal communities
2. Enhanced management of coastal and marine resources through local capacity building, and
3. Increased awareness and support for linked CRM-RH approaches among policymakers and the public.

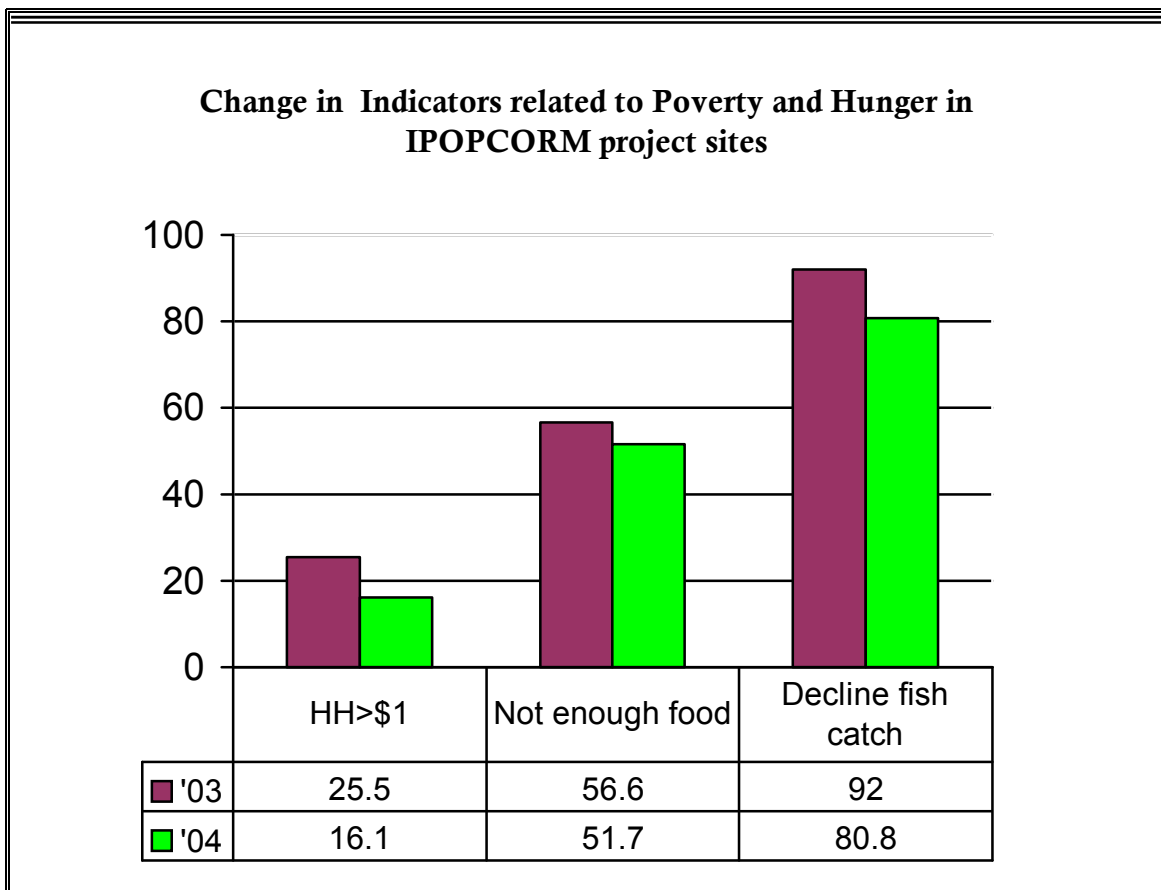
IPOPCORM is currently operating in 216 barangays (villages) and 1,288 hamlets situated in 33 coastal municipalities throughout the country (2006). Approximately 400,000 people live in these communities which overlap important marine ecosystems that are in peril due to increasing human pressures. Fertility and teen pregnancy rates are high in these so called "hotspot" areas, and immigration is increasing. Household food security is also declining due to the collapse of municipal fisheries and cutting of mangrove stands. Most households engage in fishing and seaweed farming for their livelihood; few have alternative income sources due to limited access to technology, credit and markets. Typically, households contain six members whose average daily per capita income is 36 pesos (US\$0.72), which is below the poverty threshold (39 pesos or U\$0.78). Of all coastal dwellers, fishers - whose average daily income share is only 20 pesos (U\$0.40), are the most impoverished. Females comprise about 20 percent of fishers with larger proportions engaged in gleaning (shells, crabs), seaweed farming and other extraction practices.

⁴ Marten, G. G. *Human Ecology Basic Concepts for Sustainable Development*. Earthscan Publications Ltd. London, 2001

IPOPCORM towards Achieving MDGs

Several project monitoring activities of the IPOPCORM project were conducted during the life of the project. Behavioral monitoring surveys (BMS) were conducted to 2,500 adults and youth in 14 coastal municipalities annually to provide program direction. A baseline and follow household and biophysical surveys were also conducted by two research institutes to assess the impact of the project implementation particularly in the research sites of the project. Project evaluation activities conducted by independent consultants showed positive results as well. Some of the significant findings and results contribute towards achieving the Millennium Development Goals particularly in eradicating extreme poverty and hunger and ensuring environmental sustainability as further explained in details later.

Towards eradicating extreme poverty and hunger among the rural coastal communities served by the IPOPCORM project, the BMS data showed a decrease in indicators relating to poverty and hunger as shown in Fig.1. Trends in the data show a 9.4% decrease in the percentage of respondents with household income less than one dollar a day from 2003 to 2004. There was also a 4.9% decrease from 2003 to 2004 for the opinion questions looking at respondents who agree to the opinion that “there is not enough food in the family” and an 11.2% decrease among respondents who agree to the opinion that “there has been a decline in fish catch over the past years” during the same period. The changes show improvement of the condition of the communities when population growth is addressed in high biodiversity areas.



The biophysical surveys also looked at variables where increases in results are expected to provide additional source of food available for the coastal people such as reef fish density, biomass and species richness. Key results, which are presented in Table 1 below, indicate that biodiversity has been maintained in the integrated sites and in some cases there were improvements in indicators for both productivity and diversity of reef fish.

Table 1: Change in Reef Fish Variables

Indicator	Culion Municipality			Agutaya Municipality		
	2001	2004	% change	2001	2004	% change
	(n=6)	(n=6)		(n=5)	(n=5)	
I. Reef fish						
1. Mean biomass of total (target & non-target) fish	17.3	18.9	9.5	6.7	9.3	38.2
2. Mean biomass of target species	11.7	9.7	-17.0	3.9	4.9	26.7
3. Mean density of total fish	394.0	571.8	45.1	420.8	482.6	14.7
4. Number of fish species						
Mean	30.17	35.33	17.1	43.20	52.20	20.8
Total	92	105	14.1	105.00	116.00	10.5
5. Mean number of target species						
Mean	9.33	10.67	14.4	13.0	14.0	7.7
Total	35.0	34.0	-2.9	33.0	36.0	9.1
n = number of the same transects surveyed per municipality.						

The household surveys on the other hand looked at malnutrition among children under 3 years old as an indicator of food security. These are children less than 36 months of age among the sample of women aged 15-49 y/o or men age 15-60 y/o. Results showed improvement of malnutrition in an estimated 1,109 children below 3 y/o computed from the total population. This shows significant improvement from the baseline results in 2001 and the follow up surveys in 2004 against the national and regional rates as shown in Table 2. Results were validated by qualitative findings which cited that the integrated RH-CRM strategy lends sustainability to CRM interventions and added that CRM provides a comprehensible context for coastal residents to recognize the necessity of limiting family size to achieve food security and improve their family's welfare⁵.

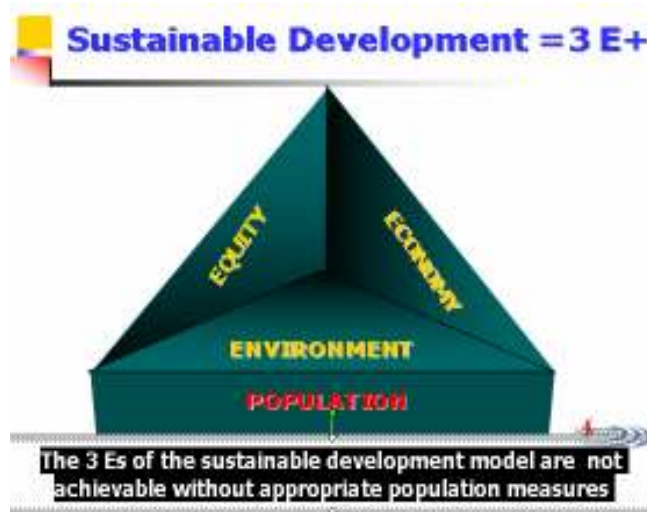
⁵ Herman, Cris 2004, Rewards of Innovation, mid term project evaluation in 2004

Table 2: Change in Percent of Underweight Children in Culion Philippines during 2001-2004

Nutritional status Children under 3 years of age	Percent of Children			
	Culion Municipality IPOPCORM Integrated Site		National Average 2000	Regional Average 2000
	Baseline Survey 2001	Follow Up Survey 2004		
Underweight	34.2	24.5	31.5	31.7

Towards Achieving MDG 7, the effects of population pressures on the environment impede gains towards ensuring environmental sustainability. Consumption, unsustainable use of resources, population growth is some of the factors that contribute to environmental degradation. IPOPCORM’s strategy of linking population management (Figure 2: Sustainable Development) to the three Es (Equity, Economy and Environment) of sustainable development lends results towards achieving environmental sustainability by addressing population issues. This was affirmed by the results of midterm project evaluation stating that a significant progress has been made linking population management to CRM at the community level. Attitudes and practices have widely changed. All information indicates that members of IPOPCORM communities have ceased illegal fishing practices, ceased destruction of mangrove forests, contributed to maintaining a cleaner coastal shoreline, and improved their disposal of wastes. Illegal practices continue but in every site visited; this is done by individuals outside of the community and by commercial fishing boats often times protected by local powerful, politically connected individuals.

Figure 2: Sustainable Development=3E Plus



In addition, indicators showing IPOPCORMs contribution to MDG7 looked at specific variables reflecting improvements in the loss of coastal resources. These positive changes are shown in Table 3 based on the results of the baseline biophysical surveys in 2001 and the follow up survey in 2004.

Table 3: Reversing Loss of Coastal Resources

Indicator	Culion			Agutaya		
	2001	2004	% change	2001	2004	% change
I. Coral cover	(n=6)	(n=6)		(n=5)	(n=5)	
1. Mean % live hard coral cover	25.20	32.07	27.3	23.24	41.62	79.1
2. Total coral species	17	10	-41.2	17	12	-29.4
3. Mean coral mortality index	0.36	0.07	-80.6	0.28	0.10	-64.3
II. Seagrass/Seaweed	(n=2)	(n=2)		(n=1)	(n=1)	
4. Mean density	402.00	747.67	86.0	1168.50	838.50	-28.2
5. Mean biomass	89.63	150.42	67.8	170.93	238.35	39.4
6. Mean annual leaf production	492.67	990.33	101.0	1559.50	1524.50	-2.2
III. Mangrove	(n=2)	(n=2)		(n=1)	(n=1)	
7. Mean stand volume	5.77	5.85	1.4	21.12	37.87	79.3
8. Mean stocking density	1018.50	529.00	-48.1	1860.00	2800.00	50.5
9. Mean diameter @ breast height (DBH)	6.78	25.93	282.4	7.28	21.45	194.6
n = number of the same transects surveyed per municipality.						

Impact of IPOPCORM to MDGs According to the Community

The ultimate results of addressing population growth towards achieving the MDGs could best be described by the community's perception whether technical and financial assistance have been adequately provided. The improved quality of life, an assured food security and the empowerment of the community to help achieve environmental sustainability as expressed by the community could supplement the science based evidences and indicators. Focus group discussion about the perceived benefits of addressing population issues by linking population management to coastal resources managements are summarized by some quotes selected from the community members as follows:

“Now that I am able to do birth spacing, I have more time for social integration in the community, to participate in activities like training and coastal clean up and more time to care for my other children.” Mameng, 34, mother of 3, Bohol

“With population management, there is lesser malnourished children in the community and there is improved quality of life among family members.” Male local official, Palawan

“With IPOPCORM, the strategy of linking population and CRM has enabled my family to attain better financial condition and sustain the basic needs of the family. I can send my children to school and all their other needs are now being addressed.” Lita, 37, EED beneficiary and Couple Peer Educator of IPOPCORM project

“For the future of our children, we should plan our families, take care and love our coastal resources” Loretao Abrea, Male Peer Educator, Palawan

“The population is growing in my community, with IPOPCORM, I have become active with my organization which prevents and controls the use of illegal fishing and the destruction of the coastal resources. Me and my wife are also practicing family planning. What we are doing these for the future of our children” (by Fishermen in Binudac)

ⁱ Australian Government Department of the Environment and Heritage website. Bleakley, C and Wells, S. (editors). A report to the World Bank Environment Department. Marine Region 13: East Asian Seas. 1995

ⁱⁱ Population Reference Bureau. Washington DC. 2003 World Population Data Sheet.

ⁱⁱⁱ The Population Council. Population policy. Future population growth: researchers in three countries quantify. Population Briefs Volume 3, Number 2. June, 1997.

⁶ DENR, DA/BFAR and CRMP. Coastal Resource Management for Food Security. Bookmarks Inc. for Coastal Resource Management Project (CRMP) Philippines. 1999.