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The Role of Local Government Units in Mainstreaming Climate Change Adaptation in the Philippines

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Introduction

Dr. Rodel D. Lasco and Rafaela Jane Delfino at the World Agroforestry Centre (ICRAF), Dr. Florencia B. Pulhin at the University of the Philippines in Los Banos, Manuel Rangasa at the Center for Initiatives and Research on Climate Adaptation (CIRCA) in Albay-Philippines, write, "The province of Albay shows the key role of local governments in promoting climate change adaptation. Provinces which experience frequent and severe climate hazards are more likely to be aware and responsive to the need for climate change adaptation. Local government units at the provincial scale (meso scale) do have resources to commit to climate change adaptation. And, there is opportunity to integrate climate change adaptation on existing disaster risk management (DRM) institutions and programs."

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Over the past few decades, evidence has mounted that the global climate is changing. There is now a broad consensus in the scientific community on the reality of human-induced climate change. The Intergovernmental Panel on Climate Change (IPCC) concluded in its fourth assessment report (AR4) that it is highly likely that the rise in global atmospheric temperature since the mid-19th century has been caused by human activities (IPCC, 2007).

It is increasingly being recognized that adaptation to climate change must be considered as an integral element of development and poverty reduction efforts (Burton and van Aalst, 2004). The achievement of development goals is already jeopardized by current and still intensifying level of disaster risks while vulnerability to these hazards is also increasing due to poverty, urbanization, environmental degradation and population growth (Oslo Policy Forum, 2008; DFID, 2003).

The Philippines is considered one of the most disaster-prone countries in the world (Bildan, 2003; World Bank, 2005; Fortes and Jose, 2006) The countries exposure to disasters is to a significant extent due to its geographical location and physical characteristics. It lies along the Western Pacific Basin (a generator of climatic conditions such as monsoons, thunderstorms, typhoons, among others) making it

a path of an average of 20 tropical cyclones annually, nine of which makes a landfall. Flooding is another hazard facing the country due to rains brought about by typhoons and the monsoon. The country is also vulnerable to the El Niño Southern Oscillation (ENSO).

As a result of the above, the Philippines has a long history of adapting to climate variability and extremes. The Bicol region where Albay province is located suffers the brunt of tropical cyclones which annually hit the country. Here we examine the approaches to disaster risk management and climate change adaptation in Albay, assess the level of integration/linkage of climate change adaptation in disaster risk management; analyze how climate change adaptation can be integrated into current disaster risk management initiatives in the province, and present lessons that can be adopted by other local government units.

Climate Change Vulnerability and Adaptation in the Province of Albay

Vulnerability of Albay Province to Climate-Related Disasters

The province of Albay is located between the provinces of Camarines Sur on the north and Sorsogon on the south. The eastern half of Albay has a Type II climate. Founded by volcanic mountain ranges, it has no dry season but there is very pronounced maximum rainfall from November to January. While the western half is of Type IV climate. Rainfall is evenly distributed throughout the year. Average monthly rainfall is 233 millimeters with the lowest at 130 millimeters. Average monthly temperature ranges from 28.1 C to a low 25 C in January.

Albay along with the rest of Bicol Region, with its geographical location is highly vulnerable to natural disasters. Located at the eastern Pacific seaboard, Albay is especially vulnerable to tropical storms and cyclones, which bring destructive winds, heavy rainfall and storm surges several times a year. Typhoons affecting the province and the Philippines as a whole, form in the Pacific Ocean, and move in a west-northwest direction, many times with the wind intensifying to speeds of 200 kph.

Table 1 shows the affected population and damages caused by tropical cyclones from 1994 to 2006 in Albay Province. Although there is no clear temporal trend on the number of people affected and cost of damages, it is important to recognize the high vulnerability of the province to typhoons. Human settlements in the province along the coastlines are vulnerable to storm surges. Similarly, houses located at mountainsides with steep and unstable slopes are prone to landslides and mudslides.

Table 1 - Summary Report: Disaster Occurrences in the Province of Albay (1994 - 2006). Source: PSWD/APSEMO (2007)

Typhoon Occurrences	Year	Affected Population				Total Damages (US\$)
		Persons Dead	Injured	Missing		
1 Typhoon Akang	1994	18,036	47	112	1	2,211,904
2 Typhoon Gading	1994	6,799	1	2	1	1,546,644
3 Typhoon Mameng	1995	10,126	0	0	0	1,588,884
4 Typhoon Rosing	1995	440,372	44	20	2	11,991,106
5 Typhoon Pining	1997	1,800	0	0	0	836,956
6 Typhoon Loleng	1998	201,834	1	7	1	6,754,448
7 Typhoon Sendang	1999	1,122	0	0	0	2,444
8 Typhoon Reming	2000	27,547	12	1	2	7,188,989
9 Typhoon Senyang	2000	22,882	0	0	0	91,111

10 Typhoon Dindo	2004	33,892	0	6	1	5,038,046
11 Typhoon Unding	2004	1,744	0	0	0	942,094
12 Typhoon Yoyong	2004	18,372	0	10	1	1,124,229
13 Active Low Pressure - ITCZ	2005	19,062	4	0	0	3,099,983
14 Tropical Storm Caloy	2006	47,065	0	5	0	2,207,708
15 Typhoon Milenyo	2006	698,460	14	176		37,007,025
16 Typhoon Reming	2006	1,060,875	604	1465	419	71,787,460
					Total	153,419,031

Programs on Climate Change Adaptation

The Albay provincial government has been playing a pro-active and unique role in promoting climate change adaptation not just in the province but in the whole country as well. The provincial government spearheaded the first-ever "National Conference on Climate Change Adaptation (NCCCA)" in October 2007. The conference brought together high level government officials led by the President herself, academics, researchers, NGOs, the business sector, local community representatives, and the donor community. Among the topics discussed were the current situation in climate disaster prone areas in the country, the needs of the local communities, infrastructure modifications, and what strategies we can do to adapt to a changing climate. A key output of the conference was the "Albay Declaration on Climate Change Adaptation" mainstreaming climate change into local and national development policies. It has the following major resolutions: (a) prioritize climate change adaptation in local and national policies; promote "climate-proofing" development; (b) advocate the creation of oversight bodies in the government; (c) mainstreaming of climate change through local and regional partnerships for sustainable development; (d) information, education, and communication, and research and development; (e) source out funds for activities and programs that will directly benefit local communities; and (f) promote environmentally sustainable practices. The conference received widespread media coverage both in local and national media. The Albay Declaration was also featured in full page advertisements sponsored by the provincial government.

Parallel to the above, the Provincial Government of Albay is also implementing a pioneering prototype for local climate change adaptation called the "Albay in Action on Climate Change (A2C2)". It aims to embed disaster risk reduction to enforce climate-proofing and disaster-proofing of development.

The A2C2 program has three major components:

(1) Policies

The provincial legislative board has passed several resolutions in support of the province's agenda on mainstreaming climate change adaptation through local government action.

(2) Programs and Projects

The provincial government of Albay, having proclaimed that climate change adaptation as a governing policy, has created various programs and projects involving stakeholders that in one way or another helps address climate change. Among these are:

(a) Information, Education and Communication (IEC)

In August 2007, the provincial government resolved that environment shall be included in the curricula of all schools, colleges and universities in the province. In partnership with Department of

Education (DepEd), Commission on Higher Education, Bicol University (BU) and private universities in the province, Albay initiated various activities such as the conduct of essay writing and poster making contests, viewing of documentaries and conduct of seminars to propagate global warming awareness.

Other specific activities include:

- The Mainstreaming of Climate Change education Training of Trainers (ToT) in collaboration with the University of the Philippines Los Banos
- 720 Barangays training/Workshop in partnership with DILG-Albay
- 1st Scientist and Community Development Practitioners on DRR/CRR and Climate Change Adaptation roundtable discussion
- Post Conference and Preparatory Meeting for the Asia Pacific Conference on climate change adaptation
- 40 thousand bookmarks with the Ten Commandments (on environmental conservation) printed on them for the students and stakeholders produced by Chowking Legazpi

(b) LINIS KALOG or the Linis Kanal at Ilog (Clean-up of Rivers and Creeks) which aims to promote environmental conservation and at the same time is a "food for work" program for river cleanup in two cities and one municipality (Legazpi and Tabaco City; Ligao City, Daraga and Polangui, Albay).

(c) AIARP (Albay Integrated Agricultural Rehabilitation Program) establishes farm clusters to assist farmers and fisher folks in their agricultural needs, food assistance, technological needs and training needs. The program was created in December 2006 after Typhoon Reming had devastated the province. It was developed to prevent scarcity of agricultural commodities and accelerate food production; pump-prime the Agricultural Industry in the Province; and speed up rehabilitation of upland agricultural areas in Albay. The previous calamities that devastated Albay challenged the provincial government particularly the Provincial Agricultural Services to be more aggressive in addressing the needs of one of the poorest of the poor groups in our society - the farmers and fisher folks.

(d) Barangay Level Composting aims to reduce the volume of garbage dumped at the land fill and process the compost into organic fertilizer thus reducing methane emissions from agricultural lands.

(e) Reforestation activities such as mangrove plantation in Poliqui Bay, Manito, Albay in partnership with PNOC-EDC and DENR.

(3) Institutional Initiatives

The provincial government of Albay established the "Center for Initiatives and Research on Climate Adaptation" or CIRCA in 2008 in collaboration with the Environment Management Bureau (EMB), World Agroforestry Centre (ICRAF) and Bicol University (BU). Its goal is to strengthen capacity for research and project and program implementation in sustainable agriculture, forestry, fisheries, energy and eco-cultural tourism in the light of climate change. The main objective of CIRCA is to enhance the ability of Albay residents in particular and Filipinos in general to cope with climate risks brought about by a changing climate. Specifically, the Centre aims to:

- Enhance awareness of the various sectors on the threats by a changing climate;
- Enhance the capabilities of farmers and fisherfolk to adapt to climate change;
- Promote climate risk adaptation by enhancing resilience of the most vulnerable groups;
- Mainstream climate change adaptation in the basic academic curricula of the primary, secondary, tertiary, vocational and technical institutions in the province;
- Enhance the interdisciplinary knowledge-base of the province on climate change adaptation;

- Conduct and explore concrete policy studies that will support better climate risk adaptation; and
- Support mitigation projects and initiatives in the province of Albay.

Albay is the only province in Bicol that has an operational management office that provides effective coordination of the various stakeholders towards promoting efficient intervention on disaster preparedness and emergency response. In July 1994, the Albay Provincial Safety and Emergency Management Office (APSEMO) was institutionalized as an independent department that serves as the technical secretariat and administrative arm of the provincial government in disaster management.

The Albay leadership has also sought to influence national policy by supporting several bills in the Philippine Congress that pertain to climate change.

Lessons Learned

The experience of the province of Albay shows the key role that local governments can play in promoting climate change adaptation. Several lessons emerge from their experience.

First, provinces which experience frequent and severe climate hazards are more likely to be aware and responsive to the need for climate change adaptation. Since Albay is already experiencing climate-related disasters, its leadership realizes the importance of preparing for them. It doesn't take a great leap of imagination for them to see how climate change could make the situation worse. Thus, in prioritizing areas for implementation climate change adaptation programs, focus should be on those areas already experiencing climatic stress. Aside from being more receptive, they also need assistance in many cases to cope with current climatic stresses. By building their resilience, they will be more prepared to face climate change.

Second, local government units at the provincial scale (meso scale) do have resources to commit to climate change adaptation. In a very short period of time, the Albay local government has mobilized significant financial resources from the public and private sector mainstreaming climate change in the Philippines. An added advantage is that the provincial level has the political clout to ensure action at the local level. Since there are relatively few provinces (73 in the Philippines) working at that level could be the most cost-effective way as opposed to thousands of municipalities and villages. In short, the meso scale administrative level such as a province could provide the most effective means of mainstreaming climate change adaptation.

Third, "champions" from meso scale government units such as Albay province could be key to mainstreaming climate change adaptation in developing countries. The governor of Albay has a very high awareness of climate change issues vis-a-vis sustainable development. He was willing to commit time and resources to put climate change not only in the provincial agenda but also in the national development and policy agenda.

Fourth, there is opportunity to integrate climate change adaptation on existing disaster risk management (DRM) institutions and programs.

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