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THE ROLE OF TRANSNATIONAL ACTORS IN BUILDING CLIMATE-RESILIENT CITIES: CASE STUDIES ON DAGUPAN CITY AND SORSOGON CITY

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Abstract

The paper seeks to interrogate how transnational actors (TAs), alongside other actors, influenced climate change governance in two multi-hazard-prone coastal cities in the Philippines, namely, Sorsogon City (in Sorsogon Province) and Dagupan City (in Pangasinan Province), both located in Luzon. Sorsogon City's climate change actions were largely initiated under the "Cities and Climate Change Initiative" project of UN-HABITAT which started in 2009. Through this project, the city was able to craft measures and strategies to strengthen its adaptive capacity. Before the project, the city was rated as having low adaptive capacity and high vulnerability to tropical cyclones,storm surges, extreme rainfall/flooding, increased precipitation, temperature variability, and sea-level rise. Now, the city is hailed as a climate change champion. Like Sorsogon City, Dagupan City is vulnerable to hazards mentioned above but with two additional ones – earthquake and liquefaction. However, unlike the former, the lattery inked in June 2011 an agreement with ICLEI-Local Government for Sustainability to draw-up tailored climate change strategies under the Asian Cities Adapt Project. This is an interesting case because, unlike Sorsogon City, Dagupan City has had long experiences with disaster risk management given its long years of experiences with many disasters, especially with earthquakes and floods. Given these two cases, it is interesting to ask: Up to what extent did the TAs affect urban climate change governance in the two cities? How well were they able to work with local actors?

Keywords: Transnational actors climate change, disaster risk management, sustainable development

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I. INTRODUCTION

As a disaster-prone country, the Philippines has been ranked between 2nd to 3rd by *World Risk Reports* (2011 to 2016 reports) and between 1st to 14th by the *Global Climate Risk Index* reports (2011 to 2016) in terms of risk and vulnerability. For the last three decades, around 300 disaster events, natural and man-made, had been recorded, which resulted to casualties and million dollars damages to the country's agriculture, infrastructure, tourism, etc. Saddled with huge financial problems, including external debts, the government, in times of severe situations, accepts legitimate humanitarian, financial, and technical assistance from various sources, e.g., relief agencies like Red Cross, bilateral institutions like USAID, multilateral institutions like UN Habitat, and from international non-governmental organizations (NGOs) like Oxfam. The increasing number of international organizations assisting the Philippines cope with climate change-related disasters had been noted by one report (Rincón and Virtucio Jr. 2008). In general, their activities range from financing climate change mitigation and adaptation projects to implementation. In particular, many projects, specifically those related to climate change adaptation or vulnerability assessments, are focused on urban areas/cities because of their susceptibility to hazards and the impacts that they could create at various levels, i.e., economic, social, environmental, and even political (Rincón and Virtucio Jr. 2008: 32-33). However, there had been no attempt yet to study their contributions to governance, and their impacts to their intended beneficiaries.

As a modest contribution to the literature on transnational climate governance, this paper seeks to answer the following research questions: Up to what extent do international organizations (a.k.a. transnational actors or TAs in academic literature) affect urban climate governance? How well are they able to work with local actors? Where is the space of TAs in multi-level governance in these areas?

To respond to the questions above theoretically, this paper reviews the terrain of knowledge from relevant literature on the nature of TAs, their roles and functions in climate governance in general, and in climate governance in urban areas/cities in particular. In addition, two empirical case studies of cooperation between TAs and city governments in the Philippines are discussed. The two cities were selected for two reasons: (1) they are disaster-prone due to the changing climate, and (2) they had been assisted technically and financially by TAs to develop their climate change adaptation/disaster risk reduction plans and operations.

II. TRANSNATIONAL ACTORS' ROLE IN CLIMATE GOVERNANCE AT CITY LEVEL

A. The Nature of Transnational Actors

Studies in international relations have traditionally delved into relations among states only, so much so that an accurate account of the manner by which political outcomes are arrived at by way of interactions occurring across national boundaries, has not been easily achieved. Primarily, such studies have been criticized because they have failed to

recognize that actors, other than states, in cross-border contacts are vital agents of change in the international politics. State-centered studies have likewise been contested because they have failed to take into consideration that the concept of state itself consists of various entities, other than governmental machineries, that take part in international relations. Finally, such studies have been scrutinized for failing to take note that some entities involved in international interactions wield greater political and economic power than some states (Willets, 2001).

Consequently, the concept **"**transnational actors" (TAs) emerged so as to emphatically assert that international relations are not confined to state-actors (Willets, 2001). In turn, with the recognition of the concept of TAs, international relations are transformed into transnational ones. Transnational relations then consist of the "regular interactions across national boundaries when at least one actor is a non-state agent, or does not operate on behalf of a national government" (Busse, 2008).

For purposes of this paper, transnational relations must be viewed in the context of global governance. "Governance occurs on a global scale through both the coordination of states and activities of a vast array of rule systems that exercise authority in the pursuit of goals and that function outside normal national jurisdictions. Some of the systems are formalized, many consist of essentially informal structures, and some are still largely inchoate, but taken together they cumulate to governance on a global scale" (Rosenau, 2000). According to Andonova (2007), when transnational relations operate for the purpose of steering constituent members or population to act, transnational governance is said to be obtaining.

In the realm of transnational governance, TAs, therefore, may be defined as the public and private entities interacting across national borders and political jurisdictions while engaged in governance functions (Andonova et al., 2007). TAs may also be defined as the state and non-state actors that act in self-governing networks, or in collaboration with each other, within a system other than the hierarchical forms of authority associated with the processes and institutions of government (Bulkeley et al. as cited in Andonova et al., 2007). Lastly, TAs may be defined as state and non-state actors above and below the state level, sharing policy-making and implementation functions with each other (Vivekanandan, 2009). Accordingly, transnational actors include multinational corporations, international non-governmental organizations, social movements, epistemic communities, as well as, national and local governments (Busse, 2008).

B. The Role and Functions of Transnational Actors in Climate Change Governance in Cities

Cities have already been identified as one of the key areas of studies in transnational governance (Setzer, 2009 citing Betsill and Bulkeley, 2007), and climate change governance in particular, in view of their: (1) ample authority over land use, waste management, transportation, and energy consumption, (2) initiatives and innovative means in addressing climate change, and (3) participation in transnational networks of sub-national governments (TNSG) (Setzer, 2009).

The participation of cities in TNSGs has become the focus of some transnational governance literature as notable outcomes of climate change governance are increasingly being felt in cities that form part of such networks. The participation of cities in TNSGs has likewise been central to the interest of various transnational governance studies because of the particular difficulty involved in establishing whether such networks are identifiable with the government or the non-governmental organizations (Setzer, 2009).

The Cities for Climate Protection (CCP) program and the Network of Regional Governments for Sustainable Development (nrg4SD) are two (2) of the existing TNSGs that have been the subject matter of transnational research. CCP was founded in 1993 by ICLEI as a transnational network of municipal governments whose primary aim is to undertake activities and programs in the pursuit of mitigating the effects of climate change. Its member municipal governments have agreed to reduce GHG emissions in their operations within their respective jurisdictions. CCP, in turn, has agreed to furnish them with technical assistance, software tools, access to publications and case studies (Setzer, 2009, citing ICLEI, 2009). On the other hand, nrg4SD was launched in 2002 as a transnational network of regional governments. It offers programs relating to capacity building, technology transfer, financial assistance, information sharing, and exchange of practices in renewable energy and climate change governance at the regional level (Setzer, 2009).

Setzer (2009) argues that the success of participation of cities in TNSGs is, however, largely dependent on several factors which include: (1) citizens' commitment, (2) funding availability, (3) local government authority, (4) proper identification, and understanding of environmental issues, (4) political will, and (5) informal networks.

Meanwhile, D'Almeida Martins and Da Costa (n.d.) identifies the following as the factors affecting the success of developing climate change policies in the city level in general: (1) resource and capacity, (2) knowledge and information, and (3) institutions and governance. Resource and capacity include: (1) institutional capacity to undertake climate change actions, (2) presence of local actions, (3) allocation of financial and human resources, and (4) long-term urban planning. Meanwhile, knowledge and information include: (1) strong communication research, (2) vulnerability perception and strong risk management approach, and (3) strong science-policy interface. Finally, institutions and governance involve: (1) authority to coordinate and regulate climate change actions, (2) national programs to support local initiatives, (3) participation in transnational city networks, and 4) good governance stakeholder involvement and participation strategy (D'Almeida Martins and Da Costa n.d.).

TAs, particularly, TNSGs have been relatively successful in pushing for climate change-related actions and policies at the city level. In Ireland, a study revealed that the information sharing function of TNSGs has been determinative in shaping Ireland's climate change action and polices (Setzer, 2009, citing Davies, 2005). In Sao Paulo, Brazil, CCP has been the moving force behind the development of GHG emissions reduction policies, baseline emissions

inventory, emission targets, and other local climate change action plans (D'Almeida Martins and Da Costa n.d.). The said city has likewise implemented a Clean Development Mechanism project which was estimated to reduce GHG emissions by 11% in the said city in 2009. In Rio de Janeiro, Brazil, CCP has likewise been determinative of the development of baseline emissions inventory and other local climate change action plans.

Concededly, TNSGs play a central role in climate change governance. TNSGs show how cooperation among sub-national governments enhances their capacities to adapt to climate change. However, researchers have yet to come up with a more empirical and detailed account of the extent of influences of TNSGs in climate change governance at the city level (Busse, 2008). More specifically, researchers have yet to conduct empirical studies on how TNSGs influence its member-cities in crafting measures and strategies in strengthening their adaptive capacities. Such studies may look into the manner by which TNSGs shape urban planning and infrastructure building in its member cities (D'Almeida Martins and Da Costa, n.d.). On top of these, more elaborate investigations have yet to be undertaken to identify the specific outcomes of memberships of cities in TNSGs. Furthermore, Busse (2008) proposes to conduct further studies on the interrelations and interactions of various TNSGs. Busse (2008), likewise, takes note of the need to focus on the role of cities in developing countries that are members of TNSGs, in view of their increasing responsibility for greenhouse gas emissions.

III. FRAMEWORK FOR ANALYSIS

The two case studies are guided by framework shown on Figure 1 which is based on the main ideas culled from the literature review. The framework guides the reader on the nature of transnational actors, how they intervened and in what manner, and their effects on the cities.

The TAs, in general, international organizations, public or private and state or non-state, whose activities transcend national borders, collaborate with national and sub-national governmental and non-governmental actors, and engaged in governmental functions. They can be multinational corporations, international non-governmental organizations, social movements, epistemic communities, as well as, national and local governments This finds theoretical support from Andonova et al. 2007, Vivekanandan 2009, and Busse 2008.

The functions perform by TAs, in general, include the following: (1) information sharing, (2) capacity building and implementation, (3) rule setting, (4) lobbying, and (5) policy development. As guided by the literature review, "information sharing" refers how norms are diffused and how consensus is built. "Capacity building and implementation" means enabling partner agencies to perform their tasks through knowledge and skills upgrading, and assessment of their performance and practices for the purpose of meeting pre-determined domestic or inter-governmental standards. "Rule-setting" refers to norms created through rules drawn to regulate actions. "Lobbying" is influencing the shaping of

public policy by communicating, educating, or informing policymakers about the advantage and disadvantages of a particular policy measure (all from Andonova et al., 2007, pp. 62-66). Lastly, "policy development" includes those activities, from agenda-setting to policy adoption (Dunn, 2004, p. 12).

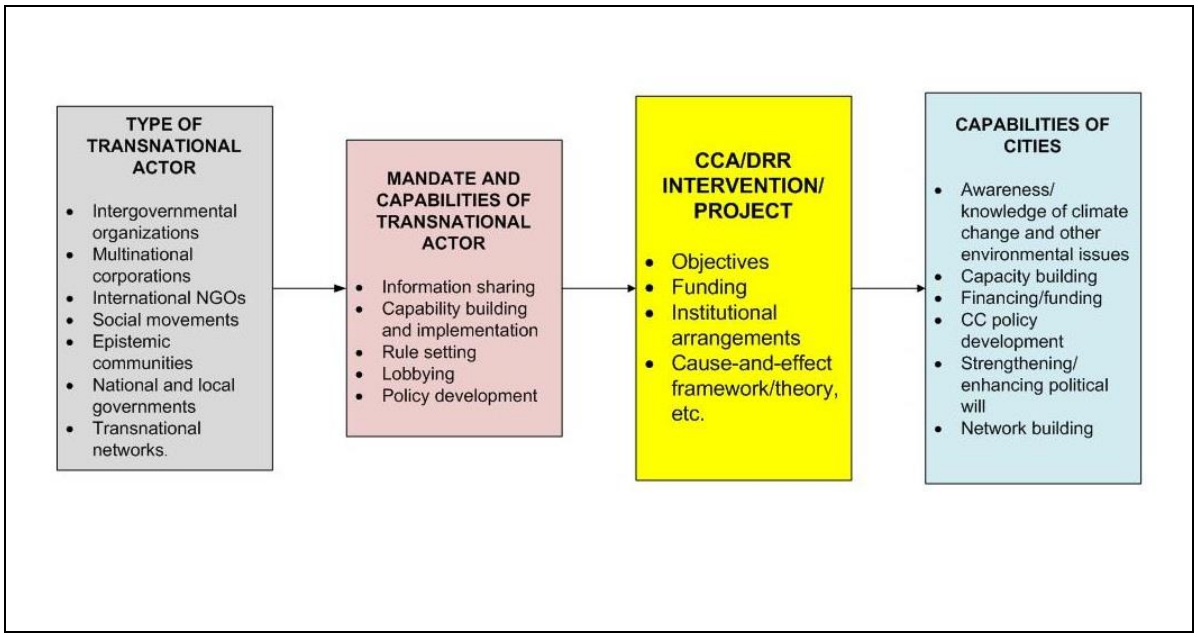

Figure 1. Framework for Analysis

According to an author, the following factors affect the success of developing climate change policies in the city level in general: (1) resource and capacity, (2) knowledge and information, and (3) institutions and governance (D'Almeida Martins and Da Costa n.d.). For brevity but not being exclusionary, this paper includes ample financial resources/funds, clear and measurable objectives, functional institutional arrangement, and scientific cause-and-effect framework/theory on the impacts of climate change to the city.

The effects of the intervention of the TAs can be felt, according to an author (Setzer 2009), by examining the following: (1) citizens' commitment, (2) funding availability, (3) local government authority, (4) proper identification, and understanding of environmental issues, (4) political will, and (5) informal networks. Taking off from these suggestions, this paper looks at the effects of the TA's interventions on the following areas: (1) awareness/knowledge of the people on climate change, (2) building of the technical knowledge on CC/DRR, (3) financing/ funding, (4) CC policy development, (5) strengthening/enhancing political will, and (6) building up of networks.

In doing a rapid assessment of the projects in the two cities, this paper uses the following definitions for each of the evaluation criteria:

- Appropriateness – related to acceptability in that it addresses the issue of whether policy objectives mesh with the value of the community or society.

- Effectiveness – achieving the valued desired outcome.
- Sustainability - being able to be used without being completely used up or destroyed (Patton and Sawicki, 1986, pp. 161-163).

IV. CASE STUDIES

Two disaster-prone cities which had relatively successful cooperation with TA of different nature are investigated mainly through narrative/qualitative analysis. The discourse is guided by the framework explained below.

A. Case Study 1: Sorsogon City

1. Brief Profile of Sorsogon City

Sorsogon City, a component capital city of Sorsogon Province, was created in August 2000 through a national law (Republic Act 8806) which combined two municipalities – Bacon and Sorsogon (see Figure 2). The city is the largest city in the Bicol Region; it measures up to 312.92 square kilometers with 9,930 hectares dedicated to agriculture, 7,612.76 hectares covered by forests, and 72 hectares for built-up areas. It is also the most populous cities in the region. As of 2015, its population was pegged at 168,110 with a population density of 610 persons per square kilometer. The main economic activities in the city are: agriculture, fishing, trade, and services. In the Philippine local government classification, the city is classified as second class for having obtained the second to the highest income among its peer-cities. As the capital city of Sorsogon Province, it serves as the latter's administrative, commercial, and educational center (Sorsogon website, 2013).

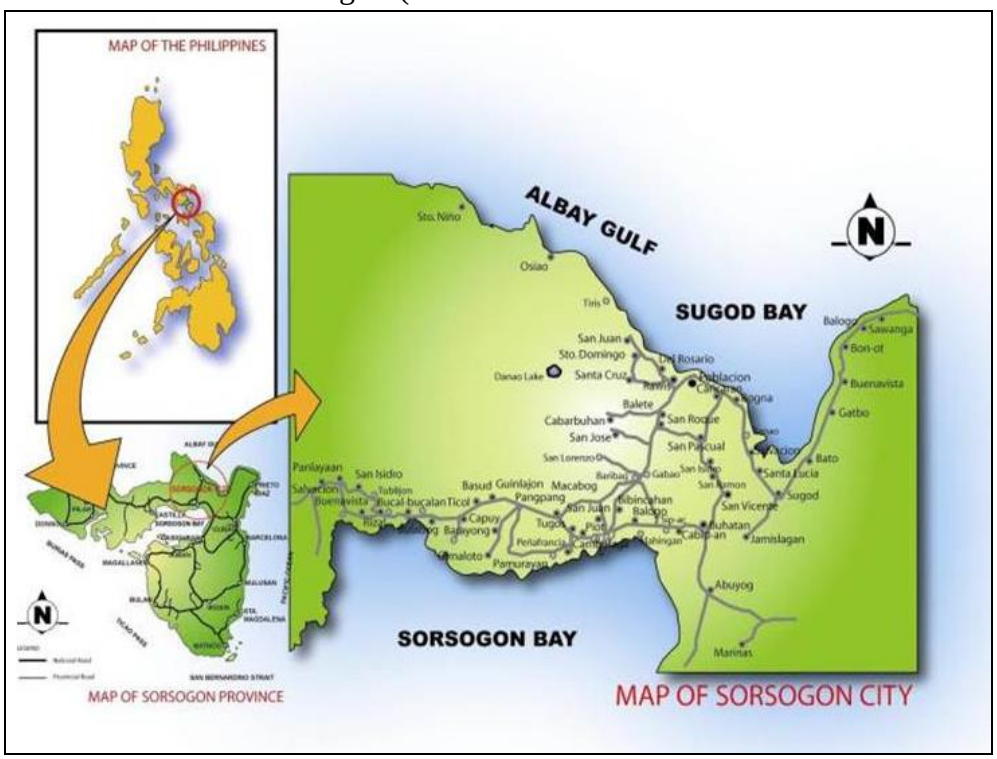

Figure 2. Locational Map of Sorsogon City
Source: Sorsogon City Climate Change Office 2012

The city's climate is classified as Type II (using the Modified Coronas Classification System) where there is no dry season but with a pronounced rainfall from November to January. According to local data, rainfall usually starts late September or early October and rainfall ranges from 2,800 to 3,500 mm. Rains usually last 200 days in a year which continue even in the driest months (UN Habitat 2008: 8). The city experiences temperature which range from 21°C to 32°C and relative humidity of 82%.

2. Vulnerability to Climate Change

According to the projections of the national government's meteorological agency (i.e., Philippine Atmospheric, Geophysical, Astronomical Services Administration or PAGASA), under the A1B scenario (using the PRECIS model of the UK Met Office Hadley Centre for Climate Prediction and Research), the whole Province of Sorsogon, which includes the city, will experience 0.8°C to 1.1°C increase in temperature in 2020 and 1.5°C to 2.1°C in 2050 (UN Habitat, 2008, p.10).

On the other hand, seasonal rainfall in the province and city will decrease by as much as -6.8% in the March-April-May period and will increase from 5.1% to 10.8% in the other periods of the year 2020. By 2050, the decrease in seasonal rainfall in the March-April-May period will be almost double, -11.4%, and substantial increase to 7.4% to 27.3% in the other periods of the year (UN Habitat, 2008, p. 10).

Owing to its geographical location and climatic conditions, it comes as a no surprise that it was visited by two strong tropical cyclones (locally named "Milenyo" in September, and "Reming" in November). In 2006 alone, the two super tropical cyclones with more than 200 kilomerters per hour sustained maximum wind struck the city leaving more than 10,000 houses (33% of the city's houses) and PhP208 million (around US$50 million at US$1 = PhP42) worth of damages. The city's poor and informal settlers were the hardest hit sector by the two typhoons which wiped out not only their houses but also their livelihood. From the vulnerability assessment conducted by the city government, it is estimated that 34 coastal barangays out of 64 barangays (or 53%) are in danger from strong surges brought by tropical cyclones (UN Habitat, 2008, pp.12-13).

Increase in rainfall is another direct climate change problem by the city. With torrential rains, the city has experienced floods year in and year out. In 2009, for example, a weak storm (Signal No. 1) brought extremely heavy rains to the city which measured 300 millimeters within a short period of time. It brought massive destruction worth PhP200 million (around US$48 million at US$1 = PhP42) in infrastructure and agricultural products. Again, from the vulnerability assessment of the city government, 20 barangays (or 31% of 64 *barangays* or villages in English) are prone to floods (UN Habitat, 2008, pp.15-16).

The city fears that it would also fall victim to sea-level rise (SLR) just like its neighboring city, Legaspi City, which had experienced sea water rising since 1970 from the Pacific Ocean. According to stories of local residents, SLR must have already taken place in Barangays

Poblacion and Cambulaga where about 50 and 15 meters of their lands were inundated by sea water since the 1950s. It is estimated by the city government that, again, 34 coastal *barangays* (53% of 64 *barangays*) are in danger from SLR (UN Habitat, 2008, p. 10).

Landslide is another hazard that the city constantly faces. It comes with soil erosion and flashfloods which are triggered by increase in precipitation and volume of rainfall. Eight *barangays* or 13% of 64 *barangays* have been identified as vulnerable to landslides (UN Habitat, 2008, p. 15).

In an assessment conducted by UN Habitat in cooperation with the city government, it was found out that the city's adaptive capacity is low due poor housing structures and infrastructure, climate sensitive livelihoods, poor state of the environment, high health risks, etc. (for details, see UN Habitat, 2008, p.40)

3. The Transnational Actor and Its Intervention

The TA in this case is the United Nations Human Settlement Programme, popularly known as UN Habitat. This UN agency was established in 1978 "to prevent and ameliorate problems stemming from massive urban growth, especially among cities of the developing world." It was elevated to a fully-fledged program of the UN System in January 2002 (UN Habitat - Philippines website, 2009).

UN Habitat has a country office in the Philippines which was established in 2003. It is headed by a programme manager and supported by a technical team who are experts on various human settlement areas. They are supervised by the Regional Office for Asia and the Pacific based in Fukuoka, Japan (UN Habitat website, 2009).

The intervention of UN Habitat[1] here is the project entitled, "Strengthening Philippine City Capacities to Address Climate Change Impacts – Sorsogon City Demonstration Project." It was conceived in the context of achieving the city's Millennium Development Goals (MDG) and target, i.e., MDG-F 1656 Outcome 3.3 – "Designing and Building with Nature Showcasing a Climate Resilient Urban Coastal Management in Sorsogon City." The city is a demonstration site for the project of the UN system offices in the Philippines. It aimed to build "Sorsogon City with enhanced social and physical infrastructure for climate change resilience and responsiveness." In particular, the project aimed to:

- Create synergies and links on climate change policies founded on global/ regional best practices;
- Introduce the urban dimension into national climate change

[1] *The project was under the Cities and Climate Change Initiative (CCI) of UN Habitat's Sustainable Urban Development Network which promotes enhanced climate change mitigation and adaptation in developing country cities. CCI also encourages collaboration by local authorities and their associations in global, regional, and national networks for the following objectives: (1) enhance policy dialogue so that climate change is firmly established on the agenda; (2) support local authorities' efforts to bring about these changes; and (3) enhance awareness, education, and capacity-building in support of climate change strategies.*

policies/strategies anchored on global/regional best practices;
- Design and develop appropriate social and physical infrastructure for Sorsogon City to become climate change resilient city through implementation of a climate change-responsive city shelter plan;
- Pilot innovative climate change mitigation and adaptation technologies and mechanisms in the urban/coastal setting; and
- Codify a set of adaptation options for vulnerable human settlements.

It received funds from the Spanish and Norwegian governments (Sorsogon City Climate Change Office, 2012, pp. 6-7).

4. The Transnational Actor's Entry into and Exit from Sorsogon City

UN Habitat's selection of Sorsogon City in its climate change project was facilitated by two main factors: (1) Sorsogon City qualified to be one of the four pilot cities of UN Habitat's *Cities and Climate Change Initiative* (CCCI), and (2) UN Habitat's familiarity with the city which has been one of its sites for other projects in the past.

In 2009, UN Habitat conceived CCCI which aims to assist cities in developing and least developed countries prepare for climate change through mitigation and adaptation through pro-poor and innovative climate change policies and initiatives (UN Habitat website, 2009). CCCI received funding from the Norwegian government. Sorsogon City was chosen together with other three cities from other countries (namely: Esmeraldas, Ecuador; Kampala, Uganda; and Maputo, Mozambique) because it met the criteria for pilot sites, which are: a new emerging city/urban area, a coastal city, and vulnerable to climate change[2] (Rollo, 2012 and Sorsogon RTD, 2012). The Sorsogon City pilot project of UN Habitat's CCCI was then implemented and complemented through the Joint Programme on Climate Change which was approved and supported by the Spanish government through the MDG Achievement Fund Thematic Window on Environment and Climate Change. Government agencies[3] and UNDP then supported the project soon after many consultation meetings (UN Habitat Fukuoka, n.d.).

However, an equally important factor that was both admitted by UN Habitat-Philippine Office and the Sorsogon City government was the former's "familiarity" with the landscape, situations, and problems of the city through its previous other projects in the past[4] (Rollo, 2012 and Sorsogon RTD, 2012). First, UN Habitat-Philippines has worked before with the city through its *Localizing the Millennium Development Goals in Key Cities in the Philippines* from 2004 to 2009 where it helped it create its one-stop-shop for local

[2] *The Manila Observatory and the Department of Environment and Natural Resources classified Sorsogon City as "Very High Risk" relative to combine Climate Disasters (UN Habitat-Sorsogon City, Agreement of Cooperation, 20092).*

[3] *Housing and Urban Development Coordinating Council (HUDCC), and National Economic and Development Authority (NEDA).*

[4] *Although unofficially acknowledged, the harrowing experiences of a UN Habitat-Philippine staff during Typhoon Reming (international name: "Durian") in 2006 in Sorsogon City could have convinced the UN agency that the local government needs the project very badly.*

business licensing. The MDG localization project aimed "to enhance the capacities of local authorities and citizens group in improving access by the vulnerable sector to MDG-responsive basic services." Second, UN Habitat also provided shelter assistance to the city through the *Integrated Approaches to Poverty Reduction at the Neighborhood Level-A Cities Without Slums Initiative* (IMPACT) from 2005 to 2007 which aimed to develop the capabilities of the local governments and the urban poor communities to work together to develop shelter upgrading plans for capital investment financing. And lastly, UN Habitat, together with other financing agencies (i.e., World Bank (WB), Japan International Cooperation Agency (JICA)), and the Cities Alliance (CA), worked with Sorsogon City under the City Development Strategies 2 (CSD) to support the latter's infrastructure projects (Sorsogon City Climate Change Office, 2012, pp. 7-8, Rollo, 2012, and Sorsogon RTD, 2012).

The UN Habitat project ended in December 2012. Both camps believe that even though the engagement under the present Agreement on Cooperation (AoC) has expired, the task is not yet done because they have just begun and the problems have not yet been completely solved.

5. Working with Local Actors

The UN Habitat Project commenced right after the AoC was signed on 28 April 2009. UN Habitat and Sorsogon City were identified as the main implementing partners of the agreement. Thus, the UN office assumed the traditional role of overall supervision and backstopping of the project execution which include the following:

- Provide guidance, technical and financial assistance
- Review, monitor and certify project completion
- Resolve operational issues and concerns
- Provide capacity building to the city government
- Maintain accountability for the outputs and use of funds
- Initiate policy advocacy
- Purchase of all necessary equipment, and
- Documentation

On the other hand, the city government, as local implementor, was tasked to undertake the following:

- Create a city Technical Working Group (TWG) through an executive order
- Hire/detail a city project coordinator and other personnel
- Provide office space for project staff and consultants
- Support the development of community action plans for prioritized projects
- Work in full cooperation with UN Habitat
- Ensure documentation of projects and processes
- Submit narrative and financial reports to UN Habitat (Sorsogon City Climate Change Office 2012, p. 6)

- Even though UN Habitat played a lead role, with support from the city government, it employed consultative participatory approaches in the identification of issues and problems,

and in the development of innovative and sustainable solutions to urban climate change problems so that stakeholders actively participate, own and accept the initiatives from the project. This was evident in the identification and prioritization of climate change issues and problems of the city, and the pilot *barangays* (Rollo, 2012 and Sorsogon RTD, 2012).

A month after the AoC took effect, a multi-stakeholder city consultation activity was held in May 2009 which led to the agreement to consider four key areas which must be prioritized to develop the city's resilience against climate change impacts and to enhance the stakeholders' capacity to local climate change action planning. These four key areas are: (1) housing and basic infrastructure, (2) livelihoods, (3) environmental management and climate change mitigation, and (4) climate and disaster risk reduction. In addition, five hotpot *barangays* were identified as pilot sites for the four key areas, i.e., Barangays Talisay, Bitan-O Dalipay, Cabid-an, Sirangan, and Sampaloc (Rollo, 2012 and Sorsogon RTD, 2012).

In each of the four key areas, local actors and even national actors from the civil society, government, academe, and professional organizations were tapped by the project to accomplish the various tasks.

- Housing and Basic Infrastructure - Philippine Institute of Environmental Planners, Philippine Institute of Civil Engineers (professional organizations); Housing and Urban Development Coordinating Council (national government agency); and Urban Poor Affairs Office, City Engineering Office, City Social Welfare and Development Office, and Public Information Office (all city government units).
- Livelihoods – Coastal Core (NGO); Department of Trade and Industry, and Technical Education and Skills Development Authority (all national government agencies); and City Agriculture Office, Urban Poor Affairs Office, City Social Welfare and Development Office (all city government units).
- Environmental Management – City Environment and Natural Resources Office, Public Information Office, City Mayor's Office, City Engineering Office, and City Council's Committee on Transportation (all city government units).
- Climate and Disaster Risk Reduction – Coastal Core (NGO); City Disaster Coordinating Council Action Officer, City Engineering Office, and City Social Welfare and Development Office (all city government units); and Department of Education's City Division Superintendent (a government agency officer based in the city) (Sorsogon City Climate Change Office, 2012, p. 6).

There were some projects in the four key areas where there is active participation from the stakeholders and other local actors. However, there were also those where the city government played dominant roles owing to the nature of the problem and the technical knowledge required. In almost all of the projects, UN Habitat played mostly

the roles of facilitator, supervisor, and as conduit of financial and technical assistance. Almost all of the "dirty work" was undertaken by the city government with assistance from local NGOs, professional organizations, and academe (Rollo, 2012 and Sorsogon RTD, 2012).

6. Accomplishments

The city government was able to accomplish the targets or deliverables of the project within the agreed timeframe (2009-2011, with extension until December 2012 for documentation). Two things can be said about the outputs of the project though. One, many were demonstrations conducted in the five pilot barangays which have to be replicated all over the city. The task of replicating them will necessary fell onto the shoulders of the city government with or without the support of UN Habitat. Second, some of the outputs still need to be "legislated" to assure that even with the change of guards, i.e., mayors and local legislators, they could still be sustainably implemented with budget, personnel, office, equipment, etc.

In the key area of housing and basic infrastructure, the IEC materials on shelter planning, and the community action planning for house retrofitting and site planning were conducted so far in only five pilot barangays. As a consequence of this, only 30 housing units were retrofitted as of December 2011. Moreover, the housing evaluation toolkit developed has still to be used in the other 59 barangays. Lastly, the development of local minimum housing standards, i.e., *Guidelines/Standards – Climate Change and Disaster Risk Reduction Sensitized Housing Design and Site Plans*, has yet to be legislated into a city ordinance by the *Sangguniang Panglungsod* (city legislative council).

For the second key area - livelihoods – only four skills trainings applicable to the five pilot barangays had been conducted. These were: carpentry, masonry, electrical house installation maintenance, and food processing (fish). The rationale for the prioritization of these skills trainings is to equip the fisherfolks, farmers, and peddlers living in the vulnerable barangays the skills necessary "to respond and repair their own houses in case of disasters" (UN Habita n.d.).

In the third key area of environmental management and climate change mitigation, three activities were conducted in pilot and non-pilot barangays, i.e., distribution of IEC materials on climate change in pilot and non-pilot barangays; television and radio broadcasting to pilot and non-pilot barangays of climate change infomercials; and orientation seminars in the pilot barangays on climate change-responsive and efficient energy use. However, in this key area, many measures were legislated through executive order or city ordinance, although some have limited coverage area only. These are:

- *Sangguniang Panglungsod* (City Legislative Council) Ordinance No. 029, series of 2011 – requires conversion of two-stroke tricycle motors to a more efficient and emission-reducing motors plying the city roads
- Executive Order No. 015, series of 2010 – institutionalizes the ecological solid waste management system of Republic Act No. 9003 in the city hall

- Executive Order No. 011, series of 2011 – directs the replacement of incandescent bulbs, fluorescent lamps, compact fluorescent lamps, and other lighting fixtures used in all barangays streets and city building into light emitting diode (LED) lamps (100 LED streetlights had been installed so far per pilot barangay)
- Executive Order No. 12, series of 2011 – creates the GHG team of the city government which will conduct GHG inventory and accounting in the city
- Executive Order No. 18, series of 2011 – prohibits the use of expanded Polystyere or Styrofoam as packaging material for foods and beverages being sold, offered and served within the premises of the city hall and its auxiliary offices and facilities

In the area of climate and disaster risk reduction, most of the activities were of limited coverage, i.e., the IEC activities on community-based disaster risk reduction management and climate change adaptation were conducted in the five pilot barangays; and a school cum evacuation center in Balogo Elementary School was completed in one *barangay* (Barangay Balogo) only. There could be other public elementary and high schools scattered in the other 63 barangays that might need retrofitting similar to those made in Balogo Elementary School, hence, this should be continued. Unfortunately, the adoption of the structural design of the climate change-resilient school all over the city through a city government order is yet to be done.

B. Case Study 2: Dagupan City

1. Brief Profile of Dagupan City

Dagupan City, an independent component city of Pangasinan Province, was created by virtue of a national law (Republic Act No. 170) in June 1947 (see Figure 3). The city has a total land area of 44.46 square kilometers. Dagupan City had a total population of 171,271 as of 2015 and had a population density of 3,900 person/square kilometer as of 2015.

Figure 3. Locational Map of Dagupan City
Source: Wikipedia 2013.

One distinctive geological and topographical feature that affects Dagupan is the slithering of the Agno River through it until it spills out its water to the Lingayen Gulf. The Agno River Basin has a drainage area of 5,952 square kilometers and is the third largest river in Luzon and fifth in the Philippines. The river originates from the Cordillera Mountains, flows 270 kilometers southward, and passes through 90 kilometers of mountainous terrain and canyons until it reaches the gulf. Because of the mountain ranges that it passes through, the river's flood runoff is estimated annually at about 6,654 million cubic meters which reaches the plain in several hours in about a day. This has tremendous effect on the city which is a coastal plain having an almost flat terrain with slopes ranging from 0 to 3%, while the rest are considered as swampy areas, ponds, and other forms of wetlands or water bodies.

Dagupan has Type I climate (using Modified Coronas Classification System) which is characterized by the dry (December-April) and wet season (May-November). Mean temperatures are 34°C-35°C in April-May. The hottest and coolest temperatures recorded 36.7°C and 18.00°C, respectively (Dagupan City, n.d, pp.1-12).

2. Vulnerability to Climate Change

According to the projections of PAGASA, the country's meteorological agency, under the A1B scenario (using the PRECIS model), the whole Province of Pangasinan, which includes Dagupan, will experience 0.9°C to 1.1°C increase in temperature in 2020 and 1.8°C to 2.2°C in 2050.

Climate change will also affect seasonal rainfall in the city. According to PAGASA's projections, there will be a -6.0% decrease in the rainfall during the March-April-May period in the year 2020, and increases in rainfall from 6.1% to 54.3% (the highest in the Philippines in 2020) in the other periods of the same year. On the other hand, by 2050, while the decrease in rainfall in the March-April-May period will jump to - 11.2, the increases in the other periods will be lower, from 1.1% to 22.9%, compared to those in the 2020 projections.

All these changes in the temperature and seasonal rainfalls may have implications on the natural hazards the city has experienced in the past, and still threaten it at present and in the future. These hazards are: earthquake and liquefaction, storms, and flooding. Being in a coastal area with only 2-3 meters elevation, the city is a potential victim to SLR and tsunami in the future.

On 16 July 1990, Dagupan City was rocked by an earthquake which had an intensity of 7.1 in the Richter Scale. The earthquake, accompanied by floods, ravaged the city where 75% of the commercial buildings were declared useless, 39% of schools buildings were destroyed, 7,448 houses and 4 kilometers of road were damaged, a bridge and electric and telegraphic poles fell down, water pumping stations and transmission lines were rendered unserviceable, gasoline tanks and septic tanks got busted, and sewage pipes got deformed (Dagupan, n.d., p.26).

From its records from 1998 to 2009, the city has had at least 11 super typhoons and one strong monsoon rain because it also lies in the typhoon path in the Philippines. The damages to infrastructure and agriculture, fishponds, and infrastructure ranged from PhP7.5 million up to PhP471 million

(US$179 thousand up to US$1.0 million, using US$1=PhP42) (Dagupan City, n.d., pp. 31-32, and Dawis, 2009). These do not include damages to households and businesses, and casualties.

Floods are perennial problem in the city. They occur whenever one or a combination of the following happens: (1) storm surge/ strong typhoons, (2) prolonged rains, (3) high tide in the river systems, and (3) runoffs from the Agno River which traverse the river systems in the city and empty itself in the Lingayen Gulf. From records, the city had experienced three ravaging floods in 1935, 1972, and 2009. The 1935 floods flooded the whole city; in 1972, agricultural crops, fishponds, and properties were damaged; and in 2009, majority of the city area were flooded causing PhP200 million (US$4.7 million) worth of damages. In the 2009 floods caused by a typhoon, the water's reach was between 0.60 meters to 2.50 meters. There were three fatalities and there was an outbreak of water-borne diseases (i.e., malaria and dengue). In a study conducted by the city government, more than 75% of the 31 *barangays* (i.e., 24 *barangays*) belong to medium to high risk flooding (Dagupan City, n.d., p. 31, and Dawis).

The combination of storm surge and high tide is another problem. In 2009, sea water caused by big waves propelled by strong currents and the rising tide entered the river mouth and clashed with the Dawel River water which was the exit of the Eastern Barangay river water tributaries. This destroyed 97% of the fishpens in the Dawel and Pantal Rivers intersection. The total damage was estimated at PhP13.8 million (US$310 thousand) (Dawis, 2009).

In a summary, according to a study, the city's vulnerabilities during disaster occurrences are the following: (a) eight *barangays* (26%) are highly vulnerable, (b) 3,165 households (11%) face direct risks in the event of any disaster, (c) 15,852 residents (11%) are at high vulnerability level, (d) only 20% of the total population are considered safe during floods, (e) 3,222 (65%) establishments are at medium to high vulnerability level, and (f) 8% of fishponds which are on the lowest lying areas along the river system are classified of high vulnerability (Dagupan City, n.d., pp.32-35).

3. The Transnational Actor and Its Intervention

The TA in this case is the Asian Disaster Preparedness Center (ADPC), a non-profit organization based in Bangkok, Thailand that supports the advancement of "safer communities and sustainable development" through the implementation of programs and projects on disaster risk reduction in Asia-Pacific countries. It was created in 1986 upon the recommendation of the then UN Disaster Relief Organization (now UN Office for the Coordination of Humanitarian Affairs as an attachment to the Asian Institute of Technology. It provides technical assistance to 22 countries[5] in the Asia Pacific region. The Center is governed and guided by an international Board of Trustees (21 members representing 15 countries) and advised by a Regional Consultative Committee (32 members from 26 countries) and Advisory Council (55 members from a wide range of agencies). It receives support

[5] *Afghanistan, Bangladesh, Bhutan, Brunei, Cambodia, China, India, Indonesia, Japan, Korea, Laos, Maldives, Malaysia, Mongolia, Myanmar, Nepal, Pakistan, Philippines, Singapore, Sri Lanka, Thailand, and Viet Nam.*

and funding[6] from local governments, national governments, NGOs, international financing institutions, and UN offices (ADPC website, 2012).

The intervention in this case is the Program for Hydro-Meteorological Disaster Mitigation in Secondary Cities in Asia which is popularly known in its acronym PROMISE. It started in 2005 and ended in 2010. It built on the accomplishments of the Asian Urban Disaster Mitigation Program (AUDMP)[7] funded by the US Agency for International Development- Office for Foreign Disaster Assistance. This institution also funded PROMISE worth US$2.222 million from 2005 to 2010 (USAID and ADPC, 2010, pp. 2-4 to pp. 2-5).

Like its predecessor (AUDMP), PROMISE also aimed to reduce the vulnerability of urban communities through enhanced preparedness and mitigation of hydro-meteorological disasters in South and Southeast Asian countries. Its specific objectives were:

1. Adoption of specific hydro-meteorological disaster preparedness and mitigation measures to manage hydro-meteorological disaster risk by stakeholders in targeted cities;
2. Increase stakeholder involvement and further enhancement of strategies, tools and methodologies related to community preparedness and mitigation of hydro-meteorological disasters in urban communities;
3. Enhance the coordination with USAID Missions to promote sustainability and ensure program activities accord with USAID country and regional strategies; and
4. Strengthen networks and regional linkages among relevant risk management institutions/ organization for improved capacity for application and dissemination of lessons learned.

From these four specific objectives, four components of the program were formulated, which are: (1) City Demonstration Projects; (2) Regional and National Capacity Building; (3) Advocacy for Mainstreaming Risk Management in Urban Governance; and (4) Regional Networking and Information Dissemination.

4. The Transnational Actor's Entry into and Exit from Dagupan City

ADPC and PROMISE's entry into Dagupan City was facilitated by an NGO, the Center for Disaster Preparedness (CDP), which is a regional resource center based in the Philippines and established in 1996. CDP promotes community-based disaster risk management (CBDRM), facilitate

[6] Some of its donors are: Japan International Cooperation Agency, US Agency for International Development, Dutch Development Corporation, Asian Development Bank, Australian Agency for International Development, Canadian International Development Agency, Danish International Development Agency, UK's Department for International Development, European Community for Humanitarian Affairs, German Technological Cooperation, Global Finland, Norwegian Agency for Development Cooperation, UN Habitat, USAID-Office of Foreign Disaster Assistance, and World Bank.

[7] The Asian Urban Disaster Mitigation Program (AUDMP) (1995-2004) was designed to respond to the need for safer cities in Asia. It aimed to reduce the disaster vulnerability of urban populations, infrastructure, critical facilities, and shelter in selected cities throughout Asia.

interactive learning and discourse on disaster risk management, and advocate for policies and programs that protect the environment and mitigate disaster risk. It works with other NGOS, people's organizations, communities and government agencies (CDP website, 2012).

CDP had no prior knowledge about Dagupan City. Upon receiving instructions from the ADPC to look for candidates for PROMISE partnership, CDP, in 2005 began searching for Luzon Island-based local governments which would qualify in its three criteria, namely: (1) prone to hydro-meteorological hazard, (2) secondary city (i.e., medium-size, not mega-city), and (3) has strong interest to participate in the program[8] (Luneta, 2012).

From the side of Dagupan City government, it was prodded and convinced by the then National Disaster Coordination Council (now National Disaster Risk Reduction Management Council or NDRRMC[9]) and the Office of the Civil Defense (OCD) of the Department of National Defense to immediately submit technical requirements to show its willingness to participate (Molina, 2012). For meeting the requirements mentioned above on time, Dagupan City was selected and recommended by the CDP to the ADPC as city partner for PROMISE.

Officially, the engagement between the city and ADPC/CDP began on 7 March 2006 with the signing of a memorandum of understanding. Initially, the project duration for Dagupan City was 2006-2008 but was extended until 2009 to enable the city to complete its activities to integrate DRR in schools, and to conduct action planning workshop on DRR and climate change (USAID and ADPC 2010: 2-4). PROMISE may have ended already, but according to Luneta and Molina (2012), communications and cooperation between the city and CDP continue in the area of knowledge management (e.g., sharing of best practices/ success stories by the city government officials to other local governments), and in technical advice to the city which has decided to continue the CBDRM in the remaining 23 non-pilot *barangays* (8 pilot *barangays* were included in the PROMISE projects).

5. Working with Local Actors

ADPC did not work directly with Dagupan City in the implementation of PROMISE. Instead, CDP was contracted by the ADPC through a grant agreement to act as "Implementing Partner." As could be expected, CDP, under a MOU, was tasked to supervise all activities of PROMISE[10], provide technical guidance, disburse and control funds, report the progress of projects to ADPC, and document accomplishments. The more specific tasks of CDP were:

[8] *Officially, the three criteria were: (1) vulnerability to hydro-meteorological hazards of various kinds, namely floods, cyclones, storms, droughts, rain-trigerred landslides, or a combination of these hazards; (2) growth potential (such as tourism development, in-migration, or growing industrialization) based on current trends, and increasing role of the city in the national economy; and (3) readiness and willingness of the city and stakeholders to utilize the lessons as well as the linkages and knowledge developed under the AUMDP implemented by the ADPC from 1995 to 2005.*

[9] *NDCC was re-organized and re-named NDRRMC under the new national law, Disaster Risk Reduction and Management Act of 2010 (Republic Act 10121) approved in May 2010.*

[10] *USAID Philippines Office representatives helped the ADPC supervise PROMISE project implementation activities.*

- Provide guidance to the development of the city's Disaster Preparedness Plan;
- Coordinate with national government agencies and the academe to get their technical support;
- Organize national activities to mainstream disaster risk management in urban governance in partnership with the National Disaster Coordinating Council/Office of Civil Defense with the League of Cities; and
- Mobilize the expertise of ADPC in identifying appropriate community risk mitigation measures.

On the other hand, the tasks of the Dagupan City government, as a "City Partner," were also very specific. Aside from the usual expectations from a recipient local government – i.e., provide cooperate with CDP; create a technical working group; supply data or information needed; provide personnel, logistical, office space, and counterpart funds; account for the expenses – the MOU identified very specific tasks/expectations from the city government:

- Set up and maintain the Disaster Information Management System;
- Develop jointly with CDP the Emergency Health Training including Search and Rescue (SAR) and Medical First Responders (MFR); Legislate measures to sustain initiated activities of PROMISE;
- Participate in activities that will mainstream disaster risk management in urban governance;
- Participate in workshops to develop end-to-end early warning and evacuation systems;
- Lead the participatory risk assessment in communities; and
- Ensure replications of project experiences in other at-risk communities.

In the course of implementing PROMISE, CDP got support from local and national government agencies. These were: Department of Education (DepEd), Department of the Interior and Local Government (DILG), NDCC/OCD, Agno River Basin Flood Forecasting and Warning Center (ARBFFWC). The DepEd provided information on the structural integrity of schools in Dagupan City; the DILG assisted in coordinating the activities of PROMISE within the city; the NDCC/ OCD supplied information on hydro-meteorological hazards in the city; and the ARBFFWC also provided information on the hazards of runoffs from the basin, and their early warning systems.

CDP's contact office in Dagupan City was the latter's City Agriculture Office (CAO) whose director reported directly to the mayor and the "reactive" City Disaster Coordinating Council (CDCC).[11] The reactive CDCC was headed by the mayor but was only activated after disasters had struck the city. CAO was chosen because of two reasons: (1) it had touched base with *barangay* residents due to its function to

[11] *Local disaster coordinating councils which include CDCCs, were required to be created in each local government by Presidential Decree 1566 enacted in June 1978, the predecessor of the new Disaster Risk Reduction and Management Law of 2010 (Republic Act 10121) approved in May 2010. The local disaster coordinating councils, just like its national counterpart (the NDCC) were seen as "reactive" because they were only activated after disasters struck areas in the Philippines.*

check their agricultural livelihoods, and (2) it had manpower to assist CDP undertake the CBDRM sessions at the barangay level (Molina, 2012).

In conducting CBDRM and participatory risk assessment (PRA), CDP and Dagupan City used the consultative participatory approach. CBDRM and PRA were introduced through a workshop in March 2006. The aim of the workshop was to train the core trainers, who, then will train other trainers at the barangay level, specifically at the eight pilot barangays chosen by CDP and the city government, i.e., Bacayao Norte, Bacayao Sur, Lasip Chico, Lasip Grande, Manguin, Pogo Grande, Salisay, and Tebeng.

6. Accomplishments: Appropriateness, Effectiveness and Sustainability of the PROMISE-Dagupan City Project

The over-all aim of PROMISE was "enhanced preparedness for and mitigation of the destructive impacts of hydro-meteorological events on the vulnerable urban communities and the economic infrastructure" (USAID and ADPC, 2010, p. 1-1).

Among the nine city demonstration sites of PROMISE, Dagupan can be considered as the most successful site because out of the 20 indicators of activity accomplishments, 18 activities were finished. One activity, i.e., holding of emergency drills, was not credited to the city anymore because it already existed even before PROMISE. The only task that the city was not able to do was the adoption of risk-centered land use/ construction guidelines/building by laws. On the other hand, all the remaining eight cities (i.e., Da Nang, Chittagong, Jakarta, Kalutara, Pasig, Matara, Hyderabad, and Jamlapur) were only able to accomplish six to eight activities (USAID and ADPC, 2010, pp. 1-3).

Following the four areas of concerns of PROMISE, CDP focused also on four core components, namely: CBDRM, DRR mainstreaming, DRR awareness rising, and knowledge capture and knowledge product development.

CBDRM was the strategic core activity of CDP. By passing knowledge and skills on CBDRM to core and *barangay* participants, all other ensuring activities for the other components were identified. For the CBDRM component, they were able to identify and implement small-scale structural economic disaster mitigation projects (e.g., barangay solid waste recycling facility, improvement of the emergency operations centers in some of the piloted barangays, pavements elevation, etc.).

For the DRR mainstreaming component, the city council passed an ordinance establishing a permanent city's emergency operation center (EOC) in 2007. Aside from creating the EOC, the same ordinance expanded the meaning of hazards which now include tsunami, earthquake, drought, and man-made hazards. Last, to standardize DRR operations throughout the city, a disaster operations manual was developed in the same year for use in times of emergency.

To raise the DRR awareness level of residents and neighboring local governments, the city government mandated the observance of "Disaster Safety Day" in the city every July 16. IEC materials in the form of calendars and bookmarkers were distributed to students and residents. Audio-

visual presentations and orientation seminars were also held even in non-piloted *barangays*. Perhaps, the greatest achievement in DRR awareness raising was the signing of a covenant among 42 representatives from various municipalities, cities, and provinces in Region 1 in April 2008 which was spearheaded by Dagupan. The covenant urged the local chief executives and signatories to promote and mainstream DRR into their local government plans and programs.

Lastly, in the area of DRR knowledge capture and knowledge product development, CDP developed a manual on disaster management for communities. It also organized the *First LGU Course on Governance and Disaster Risk Reduction* in Dagupan City in April 2008. In keeping with its mandate to document its Dagupan experiences, CDP published best practices case studies and articles, and produced a video-documentary in 2008

It is said that the proof the pudding is in the eating. While it is admitted by CDP and Dagupan that the work towards building a resilient Dagupan is still a work in progress because PROMISE was only piloted in eight *barangays* (Luneta 2012 and Molina 2012), still there are two cogent evidences that would show that the partnership helped to make the city safer from natural disasters: (1) the city experienced zero casualty from three typhoons which occurred from 2008 to 2010, and (2) Dagupan City received five accolades from regional and national government agencies from 2007 to 2009 for having the best DRR institution, policies, and practices .

For having well-established DRDD plans, protocols, and relatively well-equipped, Dagupan City and Barangay Mangin, the model barangay, received two *Kalasag* (Shield) Awards each either from the Region 1 Disaster Coordinating Council and the National Disaster Coordinating Council from 2007 to 2009. CDP also received an award from the regional coordinating council in 2008 for Best Performing NGO (USAID and ADPC, 2010, pp. 3-43 to pp.3-45).

V. CONCLUSIONS

Up to what extent do international organizations (a.k.a. transnational actors or TAs in academic literature) affect urban climate governance? Theoretically speaking, depending on the nature of the problems in the disaster stricken areas, TAs are able to influence governance in so far as policy development and implementation are concerned. Except for the power to coerce and legitimize plans, programs, and policies which is usually reserved to the agents of state (i.e., national and local governments), TAs are able to shape climate governance because of their ability to shape opinions through intensive information sharing, their technical expertise on climate change, providing capacity building to their clients on vulnerability and risk assessments, and financing of climate change mitigation and adaptation measures.

From the two case studies, it was found out that one effective way to shape climate governance is through what can be termed as "roles contracting" where expectations or roles from both sides in the implementation of climate change-related projects could be specified through memorandum of agreement or cooperation (MOA/MoC).

Here, TAs can explore the possibilities of influencing policy- and decision-making at the local level, help shape the outcome of public policies, solicit the cooperation of all relevant actors from planning to implementation, do cost-sharing, specific objectives and targets, and install monitoring and evaluation mechanisms.

However, there are limits to the "contractual governance arrangement" between the cities and the TAs. One, it is not spared from local politics which could spell success or failure to projects. Some local legislative councils in the Philippines demand that any agreements entered into by their local chief executives have to be approved at their level. Second, if agreements in the MOA or MoC are not complied with, seldom do TAs take legal actions against the reneging second party.

How are they able to work with local actors? There are two distinguishable strategies which the two TAs in the case studies employed. In the case of Sorsogon City, the UN Habitat worked directly with the city government, hence, the former can be referred to as the "agent" of change. In contrast, the regional NGO Asian Disaster Preparedness Center (ADPC) assigned a local "agent" (the Philippine-based Center for Disaster Preparedness or CDP) to implement the community-based DRM system with the Dagupan City Government. Here, the system of "agent-ing," i.e., delegating or contracting out the implementation of projects from a geographically distant TA to a local agent, was utilized to save on costs and be more effective.

Where is the space of TAs in multi-level governance in these areas? TAs are neither above or below states. Whether they come in the form of a public international organization or a non-state transnational organization, they still lack the coercive powers of states. Their means of inducing states or sub-state entities to cooperate, as found out in this paper through the case studies, is within a contractual arrangement – the spelling out of responsibilities for all parties for a common goal through contracts. The cooperation between the two could be scaled up if states or sub-states entities are made to participate in transnational networks of sub-national governments where the latter are informed of the latest knowledge and practices on climate governance which they could adopt back home.

Figure 4 below summarizes the conclusions of this study by showing how TAs affect climate governance in the cities.

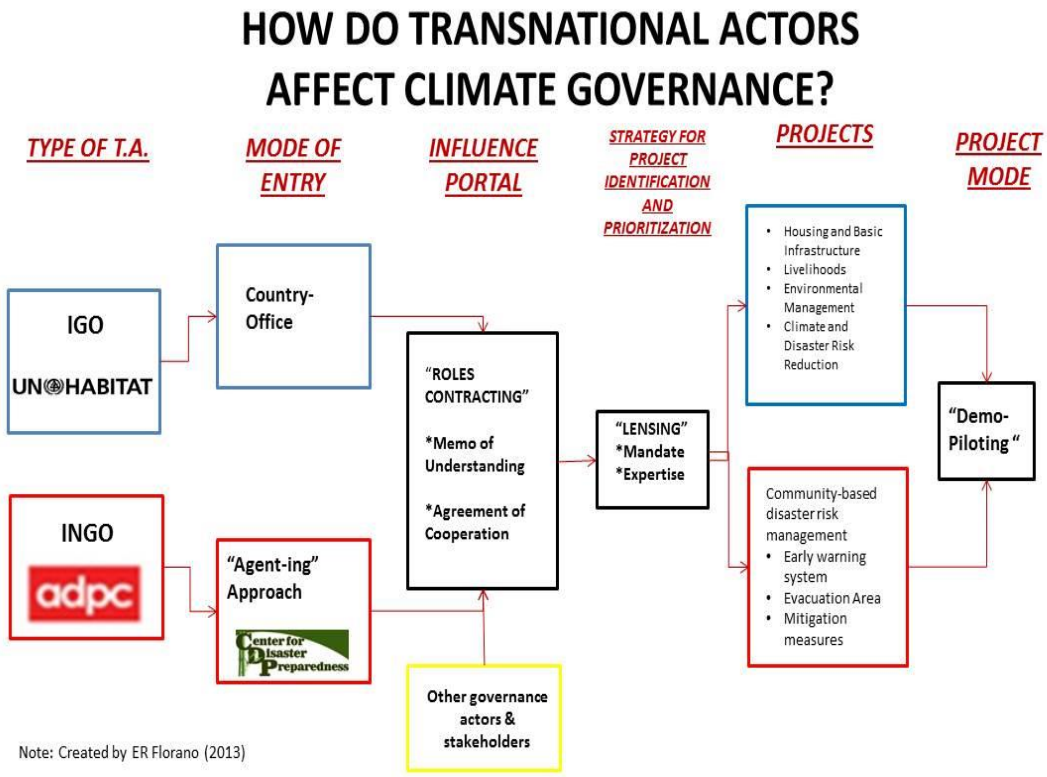

Figure 4. How Transnational Actors Affect Climate Governance

Suggestions for Further Study

The case studies have unearthed several questions worth researching. These are:

1. Which is more effective for TAs to perform its functions in the field: "agent-ing" or country-office approach?
2. Is "demo-piloting" of projects by TAs effective and sustainable?
3. Is "role contracting" between TAs and local governments a good measure to influence climate change governance?

REFERENCES

Books, Articles, Monographs, Presentations, Newsclippings

Andonova, L. et al. (2007). *Transnational Climate Change Governance*. Paper Prepared for the Amsterdam Conference on the Human Dimensions of Global Environmental Change, 24-26 May 2007.

Busse, J. (2008). *The Role of Transnational Municipal Networks in the Governance of Global Climate Change*. Paper Prepared for the Fourth Annual International Graduate Student Conference in Political Science, International Relations and Public Policy, Hebrew University Jerusalem, 17-19 December 2008.

Dagupan City (n.d.). *Disaster Coordinating Council Manual.*

Davies, A R. (2005). Local action for climate change: Transnational networks and the Irish experience. *Local Environment, 10*, 21–40.

Dawis, R. (2009). *Types, Frequencies, Magnitude and Damages of Climate Change Related Disasters*. A PowerPoint presentation.

D'Almeida Martins, R. and Da Costa, L. (n.d). *Climate Change Policy Action at the City Level in Brazil: Tales from Two Mega Cities.*

Dunn, W. (2004). *Public Policy Analysis: An Introduction.* New Jersey: Pearson Prentice Hall.

Rincón, M. F., and Virtucio, Jr. F. (2008). *Climate Change in the Philippines: A Contribution to the Country Environmental Analysis (draft for discussion).*

Rosenau, J. N. (2000). *The governance of fragmegration: Neither a world republic nor a global interstate system.* Quebec: Congress of the International Political Sciences Association.

Setzer, J. (2009). *Subnational and Transnational Climate Change Governance: Evidence from the State and City of Sao Paulo, Brazil.* Fifth Urban Research Symposium 2009.

Sorsogon City Climate Change Office. (2012). *Terminal Report: Climate Change and Local Governance in Sorsogon City.*

US Agency for International Development and Asian Disaster Preparedness Center (USAID and ADPC). PROMISE: Final Implementation Report 2005-2010.

UN Habitat. (2008). *Climate Change Assessment for Sorsogon*, Philippines: A Summary. UN Habitat: Nairobi.

UN Habitat (n.d.), *Strengthening Livelihoods and Income-Generating Capacities for Climate Change Adaptation*.

UN Habitat-Sorsogon City, Agreement of Cooperation, 20092

Vivekanandan, J. (2009). *A Weather of Change? Creating Spaces for Co-Governance in Climate Change*. Working Paper SIID-03/2009, Centre for Policy Research, New Delhi.

Willets, P. (2001). *Transnational Actors and International Organizations in Global Politics.* Oxford University Press: New York.

Interviews

Luneta, Mayfourth (Center for Disaster Preparedness). Conducted on 13 February 2012 at the office of the Center for Disaster Preparedness, U.P. Diliman Campus, Quezon City.

Molina, Emma (Dagupan City Government). Conducted on 10 February 2012 at the Dagupan City Hall, Dagupan City, Pangasinan Province.

Rollo, Chris (UN Habitat-Philippines). Conducted on 29 February 2012 at the UN Habitat-Philippines Country Office, Makati City.

Roundtable Discussion with Sorsogon City Officials (Sorsogon RTD). Conducted on 23 February 2012 at the Sorsogon City Hall, Sorsogon Province.

Internet

Asian Disaster Preparedness Center (ADPC) website. Available at http://www.adpc.net/2012/?. (Accessed on 12 December 2012).

Center for Disaster Preparedness (CDP) website. Available at http://www.cdp.org.ph/ (Accessed on 12 December 2012).

UN Habitat Fukuoka website. http://www.fukuoka.unhabitat.org/projects/philippines/detail08_en.html(Accessed on 12 December 2012).