

SAFETY AND RESILIENCY IN ACTION: INTEGRATING RISK MANAGEMENT INTO LOCAL DEVELOPMENT

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Abstract: This paper examines the efforts of the local government unit (LGU) of San Jose de Buenavista, in the Province of Antique in central Philippines to manage risks associated with multiple hazards to protect the people, their livelihoods and local development gains. More specifically, it analyzes the process of pursuing risk management objectives vis-a-vis national and international disaster risk reduction and management (DRRM) norms, without losing sight of local contextual realities that directly influence people's vulnerabilities and capacities. Risk management initiatives in the LGU revolve around four key areas namely disaster prevention and mitigation, disaster preparedness, emergency response, and recovery and rehabilitation. Binding these initiatives are actions that integrate governance mechanisms with scientific data and sectoral and community participation to develop a comprehensive plan of action and standard operating procedures that will serve as guideposts in the process of building a safer community. The experience of San Jose de Buenavista also suggests that cost saving strategies can be replicated by communities and organizations that have financial limitations to pursue DRRM objectives.

This paper contends that risk management is a fundamental development strategy to pursue local development goals and to sustain efforts to protect development gains in the long run. This can be done using a combination of governance, risk assessment, knowledge management, vulnerability reduction and preparedness strategies. Local leadership, people's participation, environmental resource management and continuous capability building are key elements of the process. Ultimately, risk management must be mainstreamed into local development to develop community resiliency.

Key words: risk management, local development, resiliency

Introduction

This paper examines the efforts of the local government unit (LGU) of San Jose de Buenavista, province of Antique in central Philippines to manage risks associated with multiple hazards. More specifically, it analyzes the process of pursuing risk management objectives vis-a-vis national and international disaster risk reduction and management (DRRM) norms, without losing sight of local contextual realities that directly influence people's vulnerabilities and capacities.

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The municipality of San Jose de Buenavista, or San Jose, was established in 1792 by Spanish colonizers. It is the capital town of the province of Antique. It is the economic and political center of the province where trade and commerce converge and the seat of the provincial government is located. It has 28 constituent barangays (villages). Based on the 2007 census, population in San Jose was 54,871 and 2012 estimates put the number to more than 60,000. It is located in the southern part of the province, fronting the Sulu Sea and the China Sea. Its location and predominantly flat topography make it susceptible to the threats of various natural hazards.

The latest risk assessment conducted found out that all constituent villages are vulnerable to weather related hazards like typhoons and monsoon rains. Typhoon winds put 12,966 individuals or 2,161 families at risk, in 26 out of 28 barangays. With Sibalom, Malandog and Intuwadan river systems dissecting the town, San Jose experiences annual bouts with flood and siltation. Forest degradation in upland and watershed areas intensifies their severity. Siltation also buries natural sources of spring water for drinking and irrigation. Fifteen barangays have been identified to be susceptible to flooding with 4,830 individuals or 850 families at risk. Storm surge brought about by strong winds is pronounced in 14 coastal barangays, putting 3,075 individuals or 512 families at risk.

The municipality also contends with the risk of earthquake, landslide and tsunami because it is sandwiched by an active inland and undersea earthquake generating fault and trench with potential to trigger high magnitude earthquakes. A total of 13,695 individuals or 2,283 families in 27 barangays have medium to high risk exposure to earthquakes. At least five barangays are in jeopardy to landslides that could be earthquake or rain induced, due to their sloping and elevated topography, exposing 665 individuals or 111 families. Offshore earthquakes that can trigger tsunamis threaten 19 coastal and the low-lying barangays or a total 14,428 individuals or 2,405 families.

Processes that accompany urbanization including high population growth rate, rapidly expanding built environment, in-migration and congestion due to informal settlements are identified as sources of fire hazards. There are 14 barangays with known impuissance to fire, most especially in areas that host Cebuano and Moslem migrants where congestion is rampant. A total of 5,712 persons or 952 families are exposed to fire hazards.

Climate variabilities are expected to affect San Jose as well. Observed precipitation increases exacerbate flooding concerns which could be further

heightened by the continuing degradation of watershed areas. Intense flooding events could potentially result to food insecurity, heavy siltation, destruction of investments and displacement of communities. Drought and El Nino events threaten agriculture through decreased yields and reduced water supply for irrigation.

In the succeeding sections, risk management initiatives carried out by the LGU will be given emphasis, focusing on four key areas namely (a) disaster prevention and mitigation, (b) disaster preparedness, (c) emergency response and (d) recovery and rehabilitation. Local disaster risk reduction and management (DRRM) programs are guided the national policy (i.e., Republic Act 10121) and by international agreements (e.g., Hyogo Framework of Action). Together they helped shape the vision for a safer and more resilient San Jose by way of risk databasing, effective governance and people's participation.

Localizing Risk Management

Prior to 2010, risk management efforts in San Jose were almost nil given the top down orientation of Presidential Decree 1566, passed in 1978, that provided the legal basis for disaster management activities. This policy was criticized for its reactive disaster management style as it put greater emphasis on disaster response (Luna, 1999; Lupig-Alcid, et al, 2004). Moreover, it viewed disasters mainly as large-scale and technical events that do not require participation and inputs from local communities or disaster victims (Blaikie, Davis and Wisner, 1994).

The passage of the local government code in 1992 devolved many functions of the national government to local governments, from the provincial down to the barangay level. Accordingly, the local disaster coordinating councils (DCCs) were given the responsibility to lead disaster management efforts in their respective areas. Unfortunately, many were not able to fulfill this function given the inherent limitations set by PD 1566 especially when it comes to pre-disaster planning and disposition of calamity funds (CF).

PD 1566 was supplanted by RA 10121 in 2010 that put premium on disaster prevention, mitigation and preparedness. The law prompted the LGU to reorganize the municipal DCC into the Municipal Disaster Risk Reduction and Management Committee (MDRRMC) to lead DRRM efforts at the local level. The imminent threat of multiple hazards prompted the San Jose LGU to invest in DRRM. This began as early as 2004 when a resolution endorsed by the local council declared the municipality in a State of Imminent Danger. This allowed the LGU to organize activities aimed at strengthening local capacities to

undertake disaster response activities through training of barangay officials and volunteers, and information dissemination to vulnerable sectors. Damages and losses resulting from Tropical Depression Fengshen in 2008 further pushed the LGU to improve its systems for disaster preparedness, prevention and mitigation. At present, MDRRMC boasts multi-sectoral composition and takes into consideration the participation of civil society organizations and the people. Its responsibilities include (1) formulation of the local DRRM plan; (2) integration of DRRM into local development plans; (3) conduct of forced or preemptive evacuation, if necessary; (4) giving of advise to members about impending disasters; and (5) determine courses of action for DRRM.

The organization of the MDRRMC follows the structure suggested by RA 10121. Headed by Municipal Mayor, it identifies the planning, interior and local government, social welfare, and agriculture departments as focal points for disaster prevention and mitigation, disaster preparedness, disaster response and disaster rehabilitation and recovery respectively. Other departments like engineering, assessor, general services, treasurer, among others, have been given key responsibilities as well.

San Jose MDRRMC continues to intensify its efforts to bring DRRM to the communities using the Community-Based Disaster Risk Reduction and Management (CBDRRM). CBDRRM enhances the capability of local communities through capability building (Delica-Willison, 2005; Heijmans and Victoria, 2001). This is done together with mobilization and training of municipal and community volunteers. The cultivation of the spirit of volunteerism is one of its badges of success as it serves as a venue for different stakeholders to work together harmoniously.

Disaster Mitigation and Prevention Activities

Disaster mitigation and prevention are overlapping concerns that underline the need to take actions in advance to minimize or outrightly avoid the adverse impacts of disasters (RA 10121; Twigg 2009). They can be classified either as non-structural or structural, to ensure the ability of at risk communities to address vulnerabilities. They demonstrate the commitment of the LGU to integrate DRRM into the local development agenda. Disaster prevention and mitigation activities conducted by the LGU include risk databasing, hazard mapping/vulnerability/resource capacity mapping, policy making, risk transfer, health and nutrition promotion, solid waste management, forest rehabilitation and mangrove reforestation.

Plenary Session

Early warning systems for floods and typhoons have also been put up. Livelihood programs have been given out to select indigent households, especially from coastal communities, concomitant with the promotion of coastal resource management programs. Construction of new and rehabilitation of old infrastructures are also in the pipeline.

Table 1. Safety regulations formulated in relation to DRRM.

Number	Title
EO No. 004 Series of 2011	Organization of the SWM Board
EO No. 005 Series of 2011	Organization of Municipal Council for the Protection of Children
EO No. 087 Series of 2011	Creation of the Municipal Technical Committee for the implementation of activities in line with the National Organic Agriculture Program
EO No. 115 Series of 2011	Creation of the Municipal Nutrition Committee
Memorandum Order No. 068 Series of 2011	Mandatory Inspection of Local Government Infrastructure Projects and Public Buildings on May 24-31, 2011 to inspect and assess local government infrastructure projects and public buildings relative to their strength, rigidity, and resistance to wind and seismic loadings for assurance of structural stability for disaster preparedness and mitigation
Resolution No. 004 Series of 2011	Requesting the Municipal Mayor to convene the Municipal SWM Board
Resolution No. 055 Series of 2011	Granting authority to the Municipal Mayor to enter into a MOA with the DSWD relative to the implementation of its program and services
Ordinance No. 02 Series of 2011	Granting additional benefits and privilege to senior citizens to ensure that they enjoy full protection against exploitation, improper influences, hazards and other conditions prejudicial to their physical, mental, emotional, social, and moral preservation
Ordinance No. 07 Series of 2011	Comprehensive Municipal Traffic Ordinance of 2011 enforcing the No-Helmet, No-Travel Policy

Disaster Preparedness Activities

Disaster preparedness refers to different mechanisms devised by communities, organizations, and individuals to efficiently manage different types of emergencies and to achieve orderly transitions from response to sustained recovery (RA 10121; Twigg 2009). In the case of San Jose, disaster preparedness represents efforts to mainstream DRRM projects into the local development agenda. Key activities for this component are the establishment DRRM structures like the MDRRMC, establishment and management of disaster operation center (DOC), training for damage and needs assessment

(DANA), stockpiling of emergency goods, information, education and communication campaigns, and continuing capability of DRRM personnel.

As mandated by RA 10121, the MDRRMO operates using the LDRRMF which is allocated annually. Its PhP 1.3 million budget for 2009 was increased to PhP 2.5 million in 2010, then to PhP 4.8 million in 2011. The highest allocation went to the construction of the drainage outfall, intended to mitigate flooding at the wet market. The construction and improvement of the Office and the DOC came next. The third highest allocation went to training and seminars to upgrade the knowledge and skills of personnel. Funds for the procurement of heavy equipment, including a rescue truck, and firefighting paraphernalia were also set aside. Some amount was appropriated for fuel and maintenance as well as insurance coverage for vehicles used for relief and rescue operations. DRRM activities are itemized in the MDRRMC’s Work and Financial Plan and are included in the AIP.

Emergency Response Activities

Emergency response and relief actions are concerted efforts of different agencies, public or private, to provide assistance during or immediately after a disaster to meet the life preservation and basic subsistence needs of those who were affected (RA 10121). While no large scale disasters transpired in the municipality for the past three years, the MDRRMC nonetheless deemed it important put up necessary emergency response mechanisms to systematize procedures and processes in case disasters transpire. These included installation of Standard Operating Procedures, training and equipping of emergency responders and disaster managers, relief distribution, refurbishment of Evacuation Centers and continuing collaboration with other agencies. For example, the MDRRMC works closely with the Philippine National Police (PNP) and other agencies to promote the importance of public security and safety through the enforcement of various safety regulations. The banners and signages set up in strategic places all over the town that depict MDRRMC and emergency hotlines give the public assurance of the availability and accessibility of emergency services.

Recovery and Rehabilitation Activities

Recovery and rehabilitation activities help restore lives to normalcy by rebuilding facilities, infrastructures, livelihoods and improving living conditions in accordance with “build back better” principles. The rehabilitation components of the DRRM Plan of the LGU are in place and are lodged under the Rehabilitation and Recovery Committee in coordination with other government agencies and organizations. It is divided into three major concerns namely: infrastructure, agriculture and fisheries, and social rehabilitation. DANA is also an important aspect. The “build-back-better” principle is also gaining momentum, complemented by a host of other rehabilitation and restoration activities.

Infrastructure rehabilitation is assigned to the Municipal Engineering Office (MEO) while agriculture and fisheries rehabilitation is lodged under the Municipal Agriculture Office (MAO). The Municipal Social Welfare and Development Office (MSWDO) is entrusted to undertake social rehabilitation. It is also expected to tap assistance from higher authorities or agencies, and from other volunteer groups to accomplish desired goals.

“Build-back-better” effort is evident in the construction of the Barangay Halls of Barangays Durog and Maybato Sur, two flood prone barangays. The reconstructed edifices have two floors where the upper floors can be used as evacuation centers during flood.

Safety and Resiliency in Action

Individuals and organizations involved in DRRM in San Jose take pride in what they have achieved for the town. The recognitions that the LGU has received over the years inspired them to push even harder for DRRM excellence. In 2012, the LGU received the Hall of Fame Award in the Gawad KALASAG (Order of Shield) after consistently winning the Best MDRRMC ward for three consecutive years. The award is a culmination of hard work and this gives them fresh motivation and renewed energy to take on other challenges.

DRRM programs in San Jose operate under the principles of convergence and multi-stakeholdership. DRRM is understood not only as the responsibility of the MDRRMC or the MDRRMO but of other stakeholders, from the government to nongovernment organizations, as well. The planning, health, environment, social welfare, agriculture, and engineering departments are directly involved in the design and formulation of DRRM plans and programs. NGOs are active members of the Council, as well as the corps of volunteer and response groups.

The development targets of member agencies are woven through the LGU-wide concern for DRRM. A number of important outcomes can be gleaned from San Jose’s experience that could become guideposts for replication towards community safety and resiliency.

Strategic mechanisms for DRRM installed. Issuances and official statements, review of policies, existing plans and programs have been undertaken by the LGU to ensure support for DRRM. Subsequently, focal points for DRRM were established including the MDRRMC, the MDRRMO and the DOC. These strategic mechanisms demonstrate the LGU’s commitment to safety and resiliency objectives. Their formation helps efforts to mainstream DRRM gain momentum. Accordingly, personnel have been designated and hired, funds allocated, and equipment has been procured for their operations. At the barangay level, this entailed the creation of the BDRRMCs that serve as focal points for the implementation of risk reduction and management activities. Together, they become platforms where risk reduction and management programs can emanate.

Availability of enabling mechanisms and policy support. Enabling mechanisms guarantee that resources are set aside DRRM purposes. The availability of LDRRMF allows the MDRRMO to finance projects that enhance disaster mitigation, prevention and preparedness capabilities. The steadily increasing annual budgetary allocation and the local policies (in the form of executive orders, memorandums and resolutions DRRM) crafted to pursue DRRM objectives are indications of the LGU’s recognition and acceptance of DRRM as critical and legitimate concerns. More specifically, local policies are necessary to formalize efforts that aim to reduce exposure and vulnerability of people and assets to different disaster impacts.

Platform for networking and partnership building established. The creation of robust DRRM structure facilitates the participation of various stakeholders and groups in various DRRM undertakings. The composition of the MDRRMC is a case study of multi-stakeholdership where government and non-government agencies gather to deliberate on different concerns that relate to people’s safety and local development. This allows them to bring disparate ideas and proposals to the table for discussion, and accordingly familiarizes them with each other’s functions. As a result, they identify areas for mutual support and collaboration, as shown in the joint implementation of programs on health and nutrition, environmental resource management, social welfare, livelihood protection and augmentation and public safety.

DRRM plans and operations agreed upon and drawn. The DRRM plans have been formulated and the systems and processes for command and control, decision making, operations and accountability have been drawn. These plans spell out the LGU's DRRM vision, mission and goals and translate DRRM into actual programs and activities. Formulated through collaborative action, the plans are reflective of the collective concern for the general welfare and safety, and exemplify the boons of partnership and multi-stakeholdership.

By involving different agencies (including the budget and accounting departments) in planning, the unique nature of DRRM programming, particularly on issues that relate to fund utilization, has been clarified. Oftentimes a prickly matter to other MDRRMCs, the discussion on the use of LDRRMF sails relatively smoothly in the case of San Jose. When the budget or accounting departments have finance-related questions, the attention of the Council or the MDRRMO is immediately sought. Sometimes, they even offer or suggest alternatives so that proposed activities could pass through complex decision making processes or stringent accounting or auditing rules.

Inclusion of vulnerable groups in DRRM. DRRM initiatives in San Jose are sensitive to the needs of most vulnerable groups like the PWDs. As a result, it gained recognition as the Best LGU for the CBR during the First Antique Disability Excellence Award in 2011. The CBR program ensures that the special needs of PDWs are properly addressed and given priority in efforts to promote safety and resiliency. It also encourages a change in perspectives about PWDs who were usually viewed as liabilities. Through the program, their voices are gradually heard, thus, they are increasingly becoming active players in the LGU with unique capabilities and potentials for local development.

Continuous capability building, drills and simulations. Ongoing capability building activities enhance people's appreciation of DRRM and impart new knowledge and skills to LGU personnel, barangay officials, the youth, teachers and volunteers. So far these activities produced almost 1,400 emergency managers and responders. Drills and simulations familiarize at risk groups with actions and measures that they can take during emergencies. The success of DRRM is likewise measurable by the manner in which structures, plans and programs translate into knowledge, actions and mechanisms that promote and ensure safety and resiliency.

Information database for knowledge management and public education developed. The MDRRMO continues to collect, compile and disseminate information about hazards and risks that constitute the DRRM database. To

ensure relevance and comprehensibility, the database is hazard specific, containing localized information about at risk populations, per hazard. At risk populations are informed and educated about their exposure and vulnerability through IEC campaigns which are being carried out regularly. The information database is also periodically updated to reflect changing community conditions and the changing nature and behavior of hazards. This inculcates the importance of preparedness and cultivates a culture of safety within the LGU. Risk assessment and mapping are useful particularly in terms of addressing issues related to poor state of health, uneven income distribution, and environmental degradation, thereby allowing the LGU devise measures to reduce underlying risk factors that generate vulnerability.

EWS and disaster response mechanisms organized. Early warning systems installed generate and disseminate timely information to individuals, communities and groups so that they can prepare against disaster risks or hazards accordingly. Dissemination of warning information is facilitated through agreed communication protocols aided by commensurate equipment like rain gauges, AWS, and transceiver radios. With drills and simulations, vulnerable groups and communities have been trained to monitor hazards, understand and heed warning information, and respond effectively to warnings received.

Ongoing and multi-sectoral vulnerability reduction programs. Vulnerability reduction programs are being implemented by the MDRRMO together with MDRRMC member agencies and non-government partners. For example, the MHO leads in the implementation of health and nutrition programs that promote well being of children. The Municipal Environmental and Natural Resources Office (MENRO) is at the helm of environmental resource management programs like mangrove reforestation and marine protected area establishment. The combined efforts of the MAO and the MSWDO provide strategic support for agriculture and fisheries, the economic mainstays of the municipality. In fact, in 2012, the LGU was touted as a successful implementer of the Three Big Ticket Program of DSWD that includes Supplementary Feeding, Rice Subsidy for Small Scale Farmers and Fisherfolks through Cash for Training/Work, and Social Pension. The MEO spearheads the implementation of key infrastructure projects for disaster prevention like the drainage outfall and hand washing facilities.

Pathways for integrated and area-based DRRM initiated. The experience of San Jose shows that DRRM cuts across the physical, social, economic and political life of the LGU. As such, it calls for the involvement of various stakeholders and sectors to ensure inclusivity and comprehensiveness. The MDRRMO

concurrently implements activities that cater to the diverse needs of different sectors like small scale farmers and fishers, poor households, PWDs, students and children so that their specific exposures and vulnerabilities to hazards are properly addressed. With these initiatives, San Jose is becoming a DRRM resource for Antique and is presumed to lead other LGUs in the promotion of DRRM using the principles of convergence and multi-stakeholdership. The LGU's ongoing support to the National Greening Program and the Transboundary Cooperation for Watershed Protection opens opportunities to work with neighboring LGUs in the spirit of co-management using the integrated and area-based approach.

Ways Forward

Ongoing promotion, campaign and advocacy resulted in heightened DRRM awareness in San Jose. As one of the regular and priority programs of the LGU, DRRM enjoys solid support from the government, non-government organizations and the people. The convergence of efforts of multiple stakeholders enabled the creation of a DRRM program that is not only comprehensive but holistic, integrated and sustained as well. The work goes on given the desire to continue and maintain what has been started. This is one of the reasons why San Jose gained regional and national recognition over the years. However, the LGU believes that what they have completed is only at the formative stage. Safety and resiliency are enduring, long term objectives that require continuous planning and support. Devising a strategy for sustainability is an initial step toward this end.

There is added wisdom and practicality in efforts to make San Jose safe and resilient against disasters and climate change impacts. As the provincial capital of Antique, it hosts the field offices of national government agencies and NGOs. Moreover, it is home to commercial and industrial activities in the province. Calamities that could befall on San Jose will have implications on the province as a whole. On the flip side, its commendable DRRM track record could serve as an example that other LGUs in the province could replicate. As the provincial center, San Jose seems destined to lead other towns towards the path of safety and resiliency.

Continuing MDRRMO Capacity Development. Established DRRM structures and strategic mechanisms should go side by side with commensurate skills and capabilities of DRRM personnel. More capacity building and skills enhancement training are needed so that incumbent personnel can prepare and respond better to challenges posed by disaster risks and climate change impacts. There is also a

need to create plantilla positions in the Office. While designated personnel and job order hires work well in their current posts, more permanent positions are better take off points for sustainability. Emergency and response equipment are still viewed to be less than full and this could potentially reduce the effectiveness of existing response mechanisms in times of crisis.

Enhancement of Other DRRM Components. There is an expressed need to further revitalize the implementation of environment programs, like SWM and environmental protection. Proposals to ban the use of plastics are presently being studied. Efforts to protect the coastline through mangrove reforestation and the establishment of the Marine Protected Area (MPA) are laudable.

Strengthen Community-Based DRRM. As DRRM frontliners, the participation of local communities is vital in building safer communities. BDRRMCs function as vehicles for people’s participation, but their creation signify only the beginning, not the end, of more vigorous campaigns for the people to imbibe desired perspectives, behaviors and skills. Community hazard, vulnerability, and capacity assessments must be done periodically, taking into consideration the changing character of disasters and risks (that may result from people’s ever changing relationship with the natural resource base or from the changing climate). This will initiate the process of information databasing at the community level that should account endogenous community actions as well. At risk communities have long and rich experience with disasters, and they have responded to these challenges time and again. There is intrinsic value to actions that start with what people have as they support continuity and coherence of DRRM efforts. The experience can serve as a platform for a better future where local communities are empowered to initiate actions against their own vulnerabilities.

Education and awareness campaigns, social protection, livelihood diversification, environmental resource management and climate change adaptation programs could also emanate from local communities. While LGU support is necessary, community-led DRRM activities are essential building blocks in efforts to achieve safer and more resilient communities.

Enhancement of Area-Based DRRM at the Provincial Level. The Letter of Agreement (LOA) with the Department of Environment and Natural Resources (DENR) for the National Greening Program and the institution of the Transboundary Cooperation for Watershed Protection are a formative step for a wider area-based DRRM. The joint effort to reforest watershed areas is an instructive case that could be replicated in other areas along river basins. As

many LGUs share similar risks and hazards, synchronic risk reduction and adaptation initiatives are needed to achieve a more coherent and integrated DRRM.

Integration of Women, Children and Other Vulnerable Groups. The integration of PWDs into DRRM opens avenues for the integration of other vulnerable groups like women, children and the senior citizens. For instance, disasters affect men and women differently. It is imperative that these differences are properly identified and mapped so that gender sensitive programs that cater specifically to the needs of both genders can be developed. The same level of sensitivity should be shown for the children and the elderly so that their own unique needs are given due recognition as well. Initiatives that aim to reduce their vulnerabilities or their exposure to risks in the long term should also be explored.

DRRM Program for In-Migrants. In-migrants in San Jose are Cebuano and Moslem settlers. They comprise a large percentage of informal settlers in San Jose and are frequently living in cramped and congested spaces. They are identified to be the most vulnerable to fire and storm surges. While their vulnerability has been defined, no systematic and commensurate measures have been taken so far to remedy their situation. This crucial step must be taken to continually ensure the comprehensiveness of DRRM programming in San Jose.

Institutionalization of Participatory Monitoring and Evaluation System. A system for participatory monitoring and evaluation is important for the LGU to gauge its success in DRRM implementation. Monitoring is important to track key indicators, like safety and resiliency, over time and to determine whether there have been changes in conditions of vulnerability because of programs implemented. Evaluation is equally important in assessing the impact of DRRM programs to underlying risk factors and to vulnerable conditions. Participatory monitoring and evaluation provides opportunity for project stakeholders to participate in identifying targets and indicators, not only to guide and set direction for project implementation but also to ensure ownership and accountability.

Mainstreaming of DRRM in the CLUP. The MDRRMC has already identified entry points for DRRM in the Comprehensive Land Use Plan (CLUP) when it is due for revision. For now, the slant towards DRRM is more evident in the Settlement Policy, Infrastructure Policy and Protection Policy. The LGU also vows to further amplify public awareness efforts on the importance disaster preparedness, risk reduction and climate change adaptation efforts while factoring in public and sectoral participation to corresponding activities as

crucial components of an integrated, holistic and sustainable DRRM for San Jose.

References

- Agsaoay-Sano, E. (2011). *Primer on the Disaster Risk Reduction and Management Act of 2010*. Quezon City: DRRNet Philippines.
- Blaikie, P., T. Cannon, I. Davis, B. Wisner. (1994). *At risk: Natural hazards, people's vulnerability and disasters*. New York: Routledge.
- Delica-Willison, Z. (2005). *Community-Based Disaster Risk Management : Local Level Solutions to Disaster Risks. Tropical Coasts*.
- Heijmans, A. and L. Victoria. (2001). *Citizenry-based and development-oriented disaster response: Experiences and practices in disaster management of the Citizen's Disaster Response Network in the Philippines*. Quezon City: Center for Disaster Preparedness Foundation, Inc.
- Luna, E. (1999). *Community Disaster Management as an Area of Study and Practice in Community Development. CSWCD Development Journal*, 4 (1).
- Republic of the Philippines. (2009). *Republic Act No. 10121*. Congress of the Philippines, Fourteenth Congress, Third Regular Session. Metro Manila.
- Twigg, J. (2007). *Characteristics of a Disaster Resilient Community: A Guidance Note*. [PDF Document] Retrieved from www.abuhrc.org/research/dsm/Pages/project_view.aspx?project=13.