SHARING WHAT WORKS

South-South Cooperation for Disaster Risk Reduction in the Caribbean

United Nations Development Programme

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SHARING WHAT WORKS

South-South Cooperation for Disaster Risk Reduction in the Caribbean

2014, Caribbean Risk Management Initiative
UNDP Regional Centre for Latin and America and the Caribbean
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Disaster Preparation training activities,
Dominican Republic

CONTENTS

ACRONYMS

AMA	Cuban Environment Agency
AZDMT	Anegada Zonal Disaster Management Team (British Virgin Islands)
CDC	Civil Defence Commission (Guyana)
CM-PMR	Municipal Committee for Prevention, Mitigation and Response (Dominican Republic)
CO	Country Office
CRMI	Caribbean Risk Management Initiative
DDM	Department of Disaster Management (British Virgin Islands)
DMU	Disaster Management Unit (Trinidad and Tobago)
DRIP	Disaster Risk Information Platform (Jamaica)
EWP	Early Warning Point
GIS	Geographic Information Systems
GPS	Global Positioning Systems
MINCEX	Cuban Ministry of External Trade and Foreign Investment (previously MINVEC)
MRCRC	Mayaro Rio Claro Regional Corporation (Trinidad and Tobago)
NSDMD	National Spatial Data Management Division (Jamaica)
ODPEM	Office of Disaster Preparedness and Emergency Management (Jamaica)
ODPM	Office of Disaster Preparedness and Management (Trinidad and Tobago)
RDC	Regional Democratic Council (Guyana)
RRMC	Risk Reduction Management Centre
RVS	Risk and Vulnerability Studies
SSC	South-South Cooperation
TrC	Triangular Cooperation

FOREWORD

The Caribbean region is highly prone to global climate change and the risks posed by natural hazards such as tropical cyclones, floods, volcanic and seismic activities, droughts and forest fires, in addition to industrial accidents and epidemiological threats. The past decade has been marked by an intensification of the impacts from natural disasters, with increasing loss of life and destruction of livelihoods and communities. While natural disasters cannot be avoided, risk management can be integrated into development planning and practices to reduce and prevent loss and damage.

The United Nations Development Programme (UNDP) assists countries to strengthen such disaster risk reduction efforts, and ensure that risk reduction becomes an integral part of their human development framework. The Hyogo Framework for Action, approved in 2005, established the importance of disaster risk reduction on the international agenda and has guided UNDP's collaboration in this field for the last decade.

The Caribbean Risk Management Initiative, launched in 2004 by the UNDP's Bureau for Crisis Prevention and Recovery, serves as a knowledge network designed to promote best practices and develop capacity in the region in the fields of disaster risk reduction and climate change adaptation. As part of UNDP's role to facilitate cooperation and transfer of knowledge, CRMI provides a platform for exchanging experiences and approaches found across different sectors, languages and cultural groups in the Caribbean. Caribbean countries have accumulated rich, innovative and diversified practices in disaster management and have relevant solutions to share.

As outlined in the 2014-2017 Strategic Plan, UNDP proposes to make south-south cooperation a core component of our programs and operations; efforts will be aimed at connecting and working with a wide range of stakeholders to share innovative and proven practices in addressing common issues. The following publication outlines the experiences of the six Caribbean countries which participated in a process to adapt and implement the Cuban Risk Reduction Management Centre model. The purpose of this publication is to share the stories and lessons learned by a diverse set of stakeholders as they engaged in south-south cooperation as a tool for strengthening their disaster risk reduction systems. We also hope that these stories, as varied as the countries they come from, will be useful for those reflecting on the potential and the process of south-south cooperation in addressing development challenges in the Caribbean and beyond.

Jessica Faieta
UN Assistant Secretary-General and
UNDP Director for Latin America and the Caribbean

1. SOUTH-SOUTH COOPERATION

As a development tool, south-south cooperation (SSC) promotes cooperation among countries through the sharing of best practices and the diversification and expansion of development options and economic links. The Framework of Operational Guidelines, based on the Nairobi Outcome Document[1], defines SSC as "a process whereby two or more developing countries pursue their individual and/or national capacity development objectives through exchanges of knowledge, skills, resources and technical know-how and through regional and interregional collective actions, including partnership involving governments, regional organizations, civil society, academia and the private sector, for their individual and /or mutual benefit across regions."[2] The facilitation of south-south initiatives by traditional donor countries and multilateral organizations is a variant of SSC referred to as Triangular Cooperation (TrC), whereby triangulating actors may provide funding, training and management, as well as other forms of support, for the countries sharing their experience.[3]

In order for SSC to be effective, partnerships and activities should be fully aligned with the national plans, strategies and procedures of the receiving country. SSC should respond to clearly documented needs identified by the country looking to benefit from the experience of another. SSC initiatives should be embedded in a joint leadership framework, in which all involved partners contribute and share responsibilities for planning, implementing and evaluating the project.[4]

There are many challenges to SSC, not least among them distance, cultural and linguistic differences, organizational complications and political barriers. A successful SSC initiative is the result of- and a testament to- the solidarity between nations facing similar challenges to development. It should be driven by the countries involved, and based on the principles of equity and mutual respect. SSC can be considered a vehicle for leadership and collective action in order to address a multitude of challenges that cut across regional and national boundaries. When executed effectively, SSC is a powerful tool for building new partnerships and creating more democratic and equitable forms of global interdependence and governance.[5]

BENEFITS OF SOUTH-SOUTH COOPERATION

- Use of existing experience and capacity and development of new capacities in developing countries;
- Opening of additional channels of communication among developing countries;
- Promotion and strengthening of economic integration among developing countries on as wide a geographic basis as possible;
- Enhancement of the multiplier effect of technical cooperation;
- Fostering of economic, scientific and technological self-reliance;
- Improvement of knowledge and confidence in the capacities available in developing countries;
- Creation of the potential for co-ordination of policies on the international transfer of technology;
- Development of indigenous technology and the introduction of techniques better adapted to local needs, particularly in the subsistence sectors;
- Promotion of:
    - national science and technology plans
    - economic and social planning
    - linkage of research and development with economic growth
    - project planning and evaluation
    - utilization of human and natural resources potential
    - modern management and administration
    - technical, scientific and administrative manpower cadres
    - accelerated professional training at different levels.

Adapted from UNOSSC, 2014.

"SOUTH-SOUTH COOPERATION OFFERS REAL, CONCRETE SOLUTIONS TO COMMON DEVELOPMENT CHALLENGES. SHARING BEST PRACTICES, FUNDING PILOT PROJECTS IN FAR-FLUNG LOCALES, PROVIDING THE CAPITAL TO SCALE UP SUCCESSFUL PROJECTS, SUPPLYING REGIONAL PUBLIC GOODS, DEVELOPING AND ADAPTING APPROPRIATE TECHNOLOGIES — THESE ARE THE OPPORTUNITIES THAT THE INTERNATIONAL COMMUNITY NEEDS TO BETTER LEVERAGE."

Ban Ki-Moon
Secretary-General of the United Nations,
Statement for the United Nations Day for
South-South Cooperation, 2013

UNDP's Role in SSC

LESSONS LEARNED

SOUTH-SOUTH COOPERATION

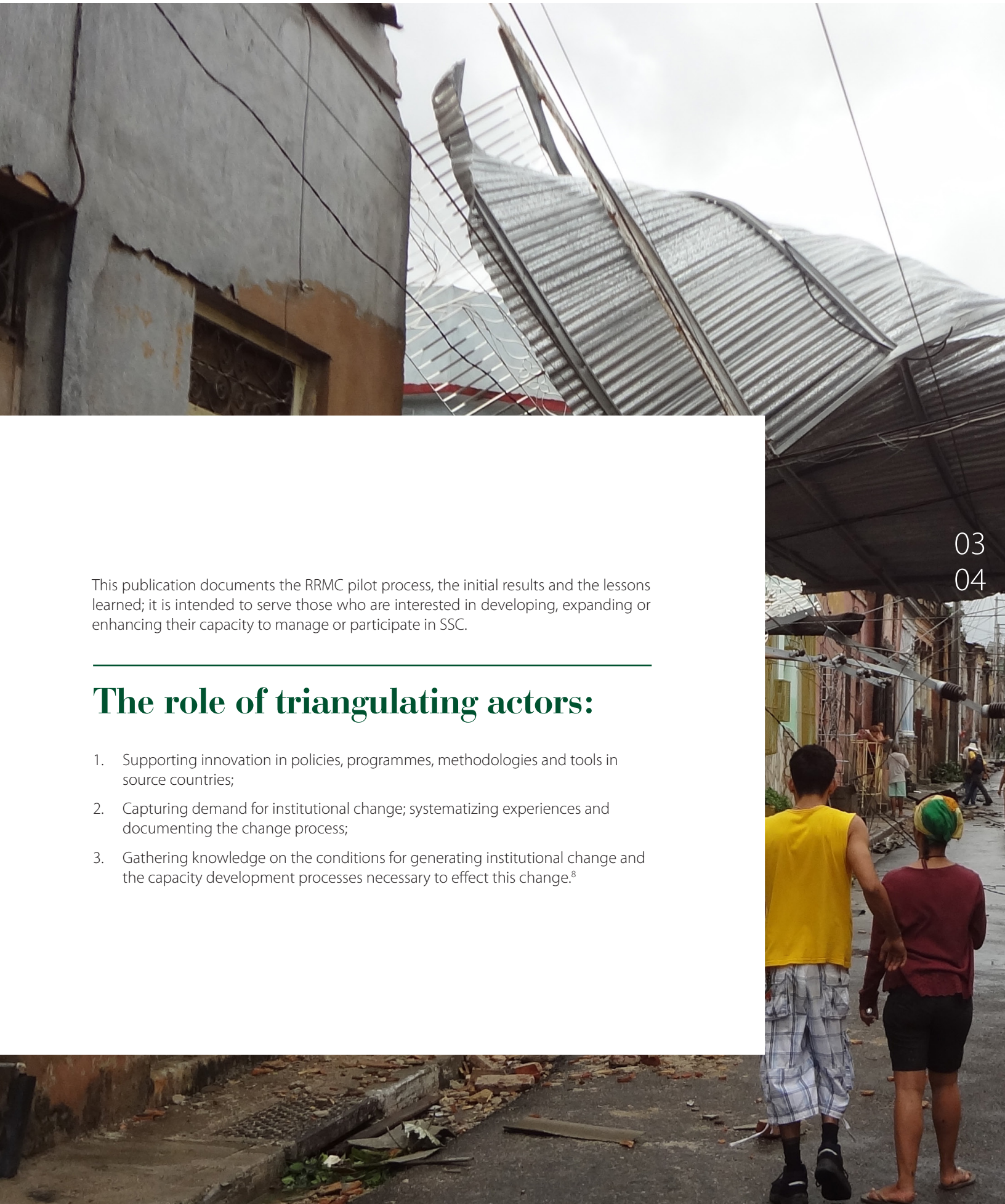
SSC embraces the sharing of the experiences between partner countries as well as the wider region. The documentation of results, as well as analysis of the lessons learned, lets participating actors and the development community know what processes and interventions have been effective, and contributes to improvement of future initiatives.

Through webinars, monitoring and site visits, case studies and workshops, the RRMC pilot was informed by an analysis of the SSC process. The lessons learned boxes located throughout this publication are a compilation of the reflections by multiple partners regarding various aspects of SSC, including coordination, pilot management, training and capacity development, and methods to strengthen institutions and communities in disaster risk reduction. These lessons are shared in the spirit of collaboration and a contribution to effective development solutions.

South-South Cooperation and Triangular Cooperation are important elements of UNDP's approach to development. UNDP efforts to effect successful south-south cooperation are reflected in the 2014-2017 UNDP Strategic Plan: "Our role will be that of a knowledge broker, builder of capacities and facilitator of exchanges driven primarily by programme countries themselves, working with other interested stakeholders including Governments from the Organization of Economic Cooperation and Development and non-state entities."[6]

With a presence at multiple levels, UNDP is well-positioned to understand and articulate the problems faced by countries looking to benefit from SSC.[7] At the national level, UNDP is placed to ensure that relevant development solutions are identified, best practices are documented, and effective exchange capacity and mechanisms are developed; UNDP country offices also offer targeted support to recipient country implementation, transfer and scale up. Multi-country SSC initiatives, such as the Risk Reduction Management Centre (RRMC) pilot project, benefit from UNDP's overarching coordinating role at a regional level. In this role, UNDP can assist with establishing a cooperation framework and techniques for transferring knowledge as well as ensuring consistency, monitoring, information flows and operational support to participating countries.

In this SSC pilot project, UNDP worked with six partner countries to transfer and adapt a best practice, the Cuban RRMC model, to a variety of unique contexts, needs and demands across the Caribbean. At both the regional and country levels, UNDP has been engaged in every step of the process, acting as a bridge between the partner countries and providing orientation, services and support where needed.



This publication documents the RRMC pilot process, the initial results and the lessons learned; it is intended to serve those who are interested in developing, expanding or enhancing their capacity to manage or participate in SSC.

The role of triangulating actors:

1. Supporting innovation in policies, programmes, methodologies and tools in source countries;
2. Capturing demand for institutional change; systematizing experiences and documenting the change process;
3. Gathering knowledge on the conditions for generating institutional change and the capacity development processes necessary to effect this change.[8]

Steps to SSC

South-south cooperation can reach beyond the sharing of ideas to include their adaptation and implementation; it can include the provision of technical assistance, training and monitoring support to enable a shift in capacity and practices. Although it can take multiple forms, one way to understand SSC is as a series of steps that form a comprehensive approach to successful knowledge transfer.

1 Understand Supply and Demand

At the beginning of a SSC initiative, the success of the experience to be transferred is verified. The methodologies and capacities of the provider country are evaluated and systematized, in order to ensure that the experience can be transferred. Methodologies and capacities to be considered may include tools, manuals, guides, information systems, web pages, institutional reports, experts in the identified topics, instructional and technical capacities and/or economic resources. Systematization should take into account both how to organize the knowledge and tools for the benefit of the provider country itself, so it can strengthen its model and delivery at a national level, as well as how to systematize the resources to best assist the recipient country.

Key leaders and players in the recipient countries who will participate in the transfer process are also identified during this step. These actors must be in agreement that the process will align with national development priorities. Preliminary exchanges between the key actors in the partner countries typically involve the signing of agreements, the development of a preliminary work plan, guided visits, internships, and meetings among country representatives.

Clear-cut agreements regarding contributions and responsibilities need to be generated when developing a collaboration plan, ensuring that the division of labor takes full advantage of the strengths of each country. Accountability mechanisms should be flexible and open to continued learning and adaptation, taking into account each partner's role.[9]

2 Adapt the Model

During the adaptation step, a comprehensive capacity assessment should be undertaken for each participating country, involving both individual and institutional analysis, so that technical tools, training and assistance can be tailored to specific needs and respond more precisely to the demand. An action plan for capacity development is then developed in order to strengthen leadership, institutional arrangements, accountability, and knowledge through training. Instruments, tools, mechanisms and processes are adapted and/or created to implement and monitor the experience in the recipient country.

3 Consolidate the Experience

Consolidation of a SSC initiative involves implementing the knowledge transfer and building collaboration based on mutual trust and learning.[10] A work plan is finalized and implemented, with feasible and measurable outcomes in terms of human, operational and institutional capacities. In order to ensure sustainability, the recipient country guarantees the availability of necessary human, technical, technological and financial resources to implement the transfer. A monitoring framework should be incorporated, in order to enable standardized, yet flexible, monitoring and evaluation mechanisms. This evaluation framework should be able to assess the impact of the initiative on development and poverty reduction, as well as longer-term capacity development outcomes.[11]

4 Share the Learning

A key element of a south-south cooperation process is documenting the lessons learned and sharing the experience, both between participants of the different countries and with the wider development community. The capture of knowledge will allow for the improvement of future initiatives.

LESSONS LEARNED

SETTING UP A SSC FRAMEWORK

- Ensure that a dedicated regional team with committed country level counterparts is in place to optimize multi-country SSC planning, coordination, communication, support, monitoring, reporting, knowledge management and documentation.
- Use cooperation agreements to promote the involvement of the multiple levels of institutions.
- Give adequate consideration to various existing local/national factors that may affect model adaptability. Prepare for inherent complexities related to regional or multi-country SSC initiatives; consult with country level counterparts to understand political and administrative structures, capacity levels, language or literacy barriers, cultural norms, and technological availability.
- Consider coordinating evaluation and technical assistance missions by the provider country to each of the recipient countries to identify which critical components of the model must be adjusted and to promote greater interconnectivity, supporting mechanisms, and sustainability for the proposed model.
- Have the recipient country implementation teams visit the provider country, so that they can understand the model, strengthen relationships and build ownership.
- Formalize the links between the proposed model and the existing system. Project objectives, workflow and structure should be integrated into existing institutional apparatus.
- Increase lateral exchanges between countries so they can engage in collaborative problem solving where there are similar issues. Use Skype, online forums, knowledge sharing platforms, sharing of resources and guides, blogs, or exchanges. The medium of exchange should allow for continuity beyond project timeline; shared information should be accessible by future implementers.

2.

CUBA AND THE RRMC INITIATIVE

While the countries of the Caribbean are varied in terms of language, culture and political-economic organization, they are linked by geography, history and common development challenges, allowing them to benefit from each other's experiences. Managing disasters is one of the common challenges faced in the region. This south-south cooperation initiative is rooted in sharing a Cuban model for local disaster risk reduction management with five Caribbean nations. In order to understand the stories from the pilot countries, it is important to understand the history and components of the model as well as the process that led to its creation in Cuba and adaptation across the region.

Cuba, a Caribbean island nation of just over 11 million people, is highly prone to natural disasters such as hurricanes, flooding, droughts, seismic events, and wildfires, and has endured multiple hits in recent years. Most recently, in October 2012, Cuba found itself in the eye of Hurricane Sandy, which destroyed almost everything in its path and directly affected an estimated 3 million people.[12] Despite the physical damage suffered by Cuba, only 11 lives were lost. This example reflects Cuba's track record: between 2002 and 2012, while suffering substantial losses and damage to housing, agriculture, forestry, power and water services sectors, Cuba registered only 41 hurricane-related fatalities. Cuba's focus on prevention and preparedness has contributed significantly to the country's capacity to protect citizens, property and goods during natural disasters.

The RRMC Model

Cuba's integration of risk reduction into disaster management as well as development planning is generally recognized as offering the region many lessons. One tool for this integration is the Risk Reduction Management Centre (RRMC).

The RRMC model has its roots in a 2004 pilot project[13] which proposed a new methodological and technological model for strengthening local capacity in risk management: a municipal-level risk reduction centre complemented by community early warning points. In June 2005, Cuban Civil Defence and the Ministry of Foreign Trade and Investment (MINVEC) created the first RRMC, located in the Municipality of Guamá in the province of Santiago de Cuba. Financial support was provided by UNDP. By 2014 Cuba had established 92 RRMCs across the island, reflecting the importance of this model as a tool for improving local government capacity for disaster prevention and preparedness.

Each RRMC is a small professional team that manages an information hub at the local level of governance; the centre collects, analyzes, compiles and coordinates risk and disaster information for the purpose of informing decision-making by local authorities. The RRMC facilitates the flow of information to and from communities, decision-makers, national emergency/disaster authorities, and key sector-specific actors in the territory. The centre provides municipal authorities with an estimation of the risks that threaten the territory, assistance with monitoring events, and information for territorial disaster planning and development processes.

In Cuba, disaster risk reduction is supported by a strong legal framework that includes laws, decrees, statutes, and ministerial resolutions. This institutional base guarantees the implementation and oversight of the disaster risk reduction strategy. The RRMCs are one feature of a civil defence system that collects and manages risk information, facilitates the organization and compliance of disaster management measures, and strengthens risk awareness among the population. Within the Cuban context, the RRMC demonstrates results related to an increased preparedness for risk, higher awareness in the population, better informed local decision-makers, and most importantly, more effectively managed disaster situations with minimal losses.

The RRMC model establishes the possibility of mitigating disaster impacts through an informed, coordinated, multidisciplinary, and decentralized approach, which focuses on identifying hazards and acting preemptively to reduce risks. This approach has contributed to the excellent track record in Cuba of protecting human life, property and livelihoods at a local level.

Components of an RRMC

1. Early Warning Points

Early warning points (EWPs) are individuals or teams located in settlements which have been identified as remote or could be isolated in a disaster situation. The EWPs are tasked with monitoring natural or other hazards that could threaten the population, and are responsible for transmitting this information to the RRMC. In turn, the EWP personnel are sufficiently trained to serve as first responders, and to communicate information to the population regarding the situation and what measures to take.

2. Multidisciplinary Group

The multidisciplinary group provides technical and scientific information and analysis of vulnerabilities and risks to local authorities for disaster prevention and preparation, as well as sustainable territorial development. The group is composed of specialists and representatives from multiple sectors in the territory that play a key role in territorial development. One key function of the group is to revise, update and add to standardized risk and vulnerability studies on a periodic basis.

3. Risk and Vulnerability Studies

Conducting risk and vulnerability studies (RVS) involves a process of research, identification, characterization, and qualitative and quantitative assessment of hazards, vulnerabilities and risk at all stages of the disaster management cycle. Such studies emphasize prevention measures, and take into account the variability of risks, including those associated with environmental degradation and the effects of climate change. RVS are organized and directed by an accredited public entity in coordination with the national disaster management agency, and are based on a standardized methodology. Specialized national or territorial level scientific or research institutions support and contribute to the studies. The RVS form the basis for the territorial disaster risk reduction plan.

4. Databases

The RRMC manages territorial level databases with relevant disaster risk information, including data on the population, housing, settlements, infrastructure, institutions, available materials, natural resources, public health and historical events, as well as any other relevant indicators. A key feature of the database should be that it is simple to construct, and easy to input and extract required information.

5. Geographic Information System

Visualized data constitutes a key tool in decision-making for land-use planning and assessment of risk and disaster impact. Geographic information systems (GIS) permit the generation of visual information instantly so that prognosis and action can be taken in real time.

6. Communication

The RRMC is equipped with communication technology so that it can facilitate information flow to EWPs, remote communities and local disaster management structures. The communication role of the RRMC supplements and complements national disaster authority communication systems; it is integrated in a coordinated fashion prior to a disaster situation.

7. Public Awareness and Community Preparation

The RRMC supports community preparation activities in conjunction with the national disaster management agency. It works to raise public awareness to reduce the impact of imminent hazards through information distribution, use of mass media and community outreach. The RRMC also strengthens community capacity through workshops and training.

Adapted from CRMI, 2012

Systematizing the Cuban Experience

Starting in 2009, Cuban authorities worked with UNDP to document the RRMC model, resulting in the publication "Risk Reduction Management Centres: Best Practice in Risk Reduction". The publication led to a two-day national workshop, which brought together various municipal RRMC units to share their application of the model and resulted in a distillation of optimal conditions and key components for successful implementation of an RRMC. These findings were published in a guide, aimed at providing an outline to municipalities interested in utilizing the model. This systematization process demonstrated a high-level of support for the RRMC model by mayors, decision-makers and local authorities in Cuban municipalities.

Engaging the Region

In 2010, the systematized tools were shared with the Caribbean region through workshops and conferences, generating interest in the model. Cuban National Civil Defence authorities expressed interest and willingness to provide guidance and training to countries in the region, working with UNDP in a facilitation role. The guide was circulated to increase the understanding of the RRMC model and to enable countries to assess their context against the conditions for involvement in a south-south cooperation initiative.

In accordance with the minimal conditions established in the guide, five countries in the Caribbean and their supporting UNDP country offices elected to participate in the initiative and to learn from and adapt the Cuban model to their local context: Trinidad and Tobago, Jamaica, the Dominican Republic, Guyana and the British Virgin Islands. As part of exploring the relevance of the SSC pilot, most countries received a mission during which the RRMC model and the SSC process were discussed with national and local authorities. Meetings were held to select a pilot territory based on both the vulnerability criteria and requirements for local political support; site visits were conducted.

Transferring the Model

"THE ESSENCE OF RRMCS IS DISASTER RISK REDUCTION, TO PROMOTE COLLECTIVE KNOWLEDGE AND INFORMATION MANAGEMENT FOR DECISION MAKING AT THE LOCAL GOVERNMENT LEVEL. THIS INSTRUMENT REPRESENTS AN INVESTMENT FOR DISASTER RISK REDUCTION, WHICH IS IN LINE WITH THE MESSAGE SENT FROM THE UNITED NATIONS: FOR EVERY ONE DOLLAR WE INVEST IN PREVENTION AND PREPAREDNESS TO REDUCE RISK, WE WILL SAVE SEVEN DOLLARS DURING RESPONSE AND RECOVERY."

Claudio Tomasi,
Deputy Resident Representative,
UNDP Cuba[14]

The transfer of knowledge and practices from Cuba to the pilot countries has employed various mechanisms. Sensitization and technical workshops were organized by Cuban authorities to meet the needs of different actors; each workshop featured training, exchange and RRMC site visits. Coherency in understanding the model and its application at all levels was crucial for successful implementation, as each level has a specific and distinct role to play.

In December 2010 in Havana, Cuba, the Cuban National Civil Defence hosted the first in a series of study tours, exposing directors of disaster management agencies and UNDP country level disaster focal points to the RRMC model and the Cuban approach to risk reduction. The first two-day study tour provided an opportunity to discuss next steps at a country level and reassess each country's readiness and commitment to the SSC pilot initiative.

In February 2013, a second RRMC Awareness Study Tour was held. This three-day study tour was attended by the national pilot project lead and the local territory representative from each of the five pilot countries. The workshop highlighted the importance of investing in risk reduction, and laid the groundwork for each country to develop an implementation plan for the transfer and adaptation of the Cuban model.

In April 2013, a technical training programme was held in Havana, targeting the individuals responsible for pilot implementation. The Cuban National Civil Defence, the Cuban Environmental Agency (AMA), and CUJAE University provided an intensive two week training to technical specialists, covering a broad array of topics including risk and vulnerability studies (RVS), risk analysis, GIS mapping, multidisciplinary groups, community-based early warning systems, information collection and presentation, and database management. The training incorporated site visits to EWPs, RRMCs, and hazard monitoring centres. The training aimed to build skills and understanding of risk reduction, so that participating countries could apply these processes and practices to their RRMC pilot.

In addition to study tours and workshops, Cuban specialists provided direct technical assistance to pilot countries during three missions. In Jamaica, two specialists from AMA helped guide and adapt RVS for St. Catherine Parish. In the Dominican Republic, specialists from the Cuban National Institute of Hydraulic Resources and the Pinar del Rio provincial RRMC reviewed the early warning mechanisms and community-based protocols for flooding, and shared their experience in RRMC implementation. In Trinidad and Tobago, specialists from Cuban National Civil Defence and Camagüey provincial RRMC provided technical assistance for leveraging GIS at the local level, establishing communication protocols with communities in the pilot region, and integrating a risk perspective into disaster management at the local level.

Implementing the Transfer

Informed by the study tours, national and local authorities from each country submitted an implementation plan which outlined cost-sharing agreements, how the model would be adapted to their local context, and key activities. The plan focused on a maximum of three of the seven RRMC components - those which were considered most relevant to the specific needs of the country and pilot region. Each country also submitted baseline information to allow for monitoring and evaluation, and to inform the Cubans of the context, vulnerabilities and structure in which the pilot RRMC was to be implemented. Once the implementation plans were submitted and approved, UNDP provided financial support of $25,000 per pilot project, along with a dedicated project manager and an assistant at the regional level. At a national level, UNDP country offices provided support, assigning a focal point to guide and assist the pilot where needed.

Sharing Knowledge 2013

The UNDP Regional Service Centre for Latin America and the Caribbean launched the 2013 Sharing Knowledge competition to encourage "knowledge transfer for promoting social and sustainable development." UNDP Cuba and UNDP Jamaica, together with the Cuban Environmental Agency (AMA) and the Jamaica Office for Disaster Preparedness and Emergency Management (ODPEM) were chosen as one of three winners to receive $8000 in support, for their proposal *Methods for Determining Disaster Risk at the Local Level.*

The initiative builds upon and is directly linked to the RVS component of the RRMC model. An initial workshop was held in November 2013 in Havana, Cuba to familiarize participants with the Cuban RVS methodology, and explore ways to adapt this methodology to the risk management context in Jamaica. Participants redesigned the tool so it could be applied in Jamaica. The next steps included an evaluation of the methodology by Jamaica stakeholders and planning for its application to coastal hazards on Jamaica's southern shore.

Sharing the Experience

In collaboration with UNDP, authorities from all six partner countries worked throughout the pilot process to capture the knowledge generated by the SSC initiative in order to share it with the wider disaster risk reduction community. One aspect of this collaboration was the production of a series of five videos, in both English and Spanish, which outline the essential components of the RRMC model and introduce the viewer to the role that RRMCs play in informing local decision-making for risk reduction.[15] The process was also supported by the production of publications, guides and tools related to the RRMC model, which have served to facilitate the implementation process.

As the pilot progressed, partner countries could share the tools, outputs and results via the CRMI website and social media channels. An internal UNDP platform (Teamworks) was also set up so that project documents and reports could be accessed. Webinars and newsletters also provided a space to update partners. The pilot experience was further shared at events in and beyond the region, including the Caribbean Conference on Comprehensive Disaster Management, Global and Regional Platforms for Disaster Risk Reduction, the 9th International Congress on Disasters and the 3rd International Conference on Small Island Developing States.

A mid-point workshop was held in Jamaica in December 2013. Participants included local implementing partners, UNDP focal points, national stakeholders, representatives of CDEMA, and other interested parties. The objective of the workshop was to bring representatives from the six countries together to review the RRMC pilot project implementation process, share experiences to date, identify lessons learned, and discuss next steps to ensure sustainability and strengthen local risk management mechanisms. A final workshop to share results with Cuban counterparts and examine lessons learned was held in Havana in November 2014.

LESSONS LEARNED

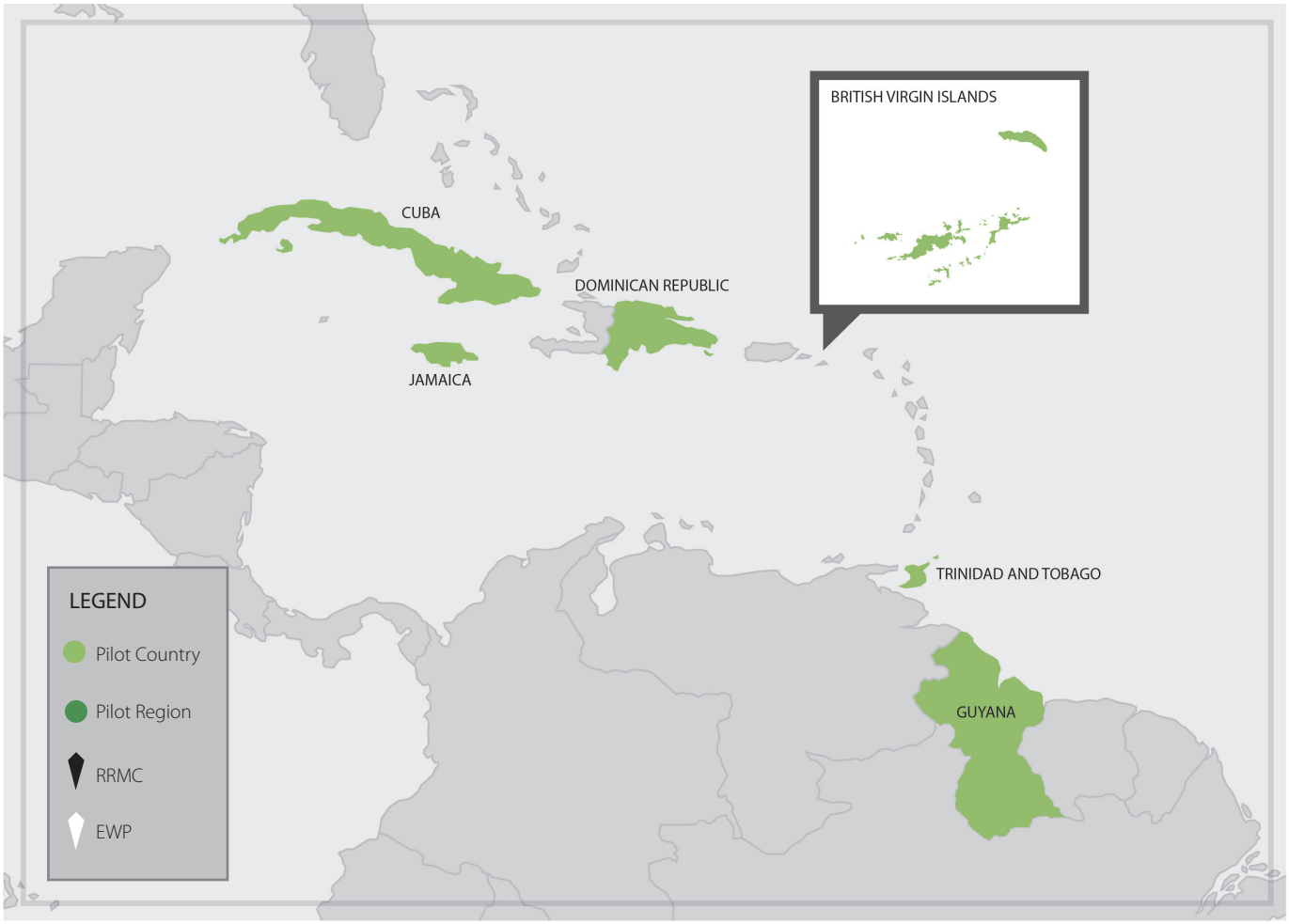
IMPLEMENTING SSC PILOT PROJECTS

- Assess scale and adaptability, as well as vulnerability criteria, when selecting pilot sites.
- Analyze the multiple components of the model when defining the scope and design of country-level pilot, keeping in mind impact and most efficient use of financial resources.
- Allocate budgets to reflect specific in-country costs.
- Ensure that the length and timing of the project implementation period is flexible and takes into account country context.
- Clearly define roles, responsibilities and management arrangements at a country-level to ensure smooth project implementation, communication and project continuity particularly where more than one sector is involved.
- Take local political and administrative contexts into account to accurately estimate the amount of time needed to execute a given task.
- Integrate project roles and responsibilities into existing structures to allow for greater project sustainability.
- Hold a formal project opening with high level stakeholders in each participating country to secure high level commitment and to ensure model and process understanding at the national level. This also allows for more authoritative resourcing, staffing and implementation arrangements.
- Facilitate the participation of all relevant technical institutions to maximize the exchange of experiences. A local technical committee which informs trainings and implementation processes is one such vehicle.
- Explore synergies with existing projects to add value, particularly in capacity development and use of methodologies.
- Document the in-kind contribution of local/national counterparts. The in-kind support is critical to project results and lays the foundation for project sustainability.
- Have both country-level and regional level monitoring plans in place to track activities and results.
- Formalize the pilot handover and conduct a sustainability exercise to strengthen commitment.

RRMC drill exercise in Mayaro Rio Claro, Trinidad and Tobago

3. PILOT CASE STUDIES

The RRMC pilot process provides a rich example of how SSC can embody multiple steps and modalities in support of knowledge transfer and development solutions. Each country adapted the RRMC model to fit the needs of a specific context; the respective achievements, challenges and outcomes reflect the unique approach used. The following case studies provide an overview of the territory, the approach and initial results of each participating pilot.



"IT IS AN IDEAL BOTTOM UP APPROACH TO DISASTER RISK REDUCTION. RRMC IS THE FRAMEWORK FOR BUILDING RESILIENCE AT THE COMMUNITY LEVEL, WHICH WILL TRANSLATE INTO NATIONAL RESILIENCE."

Shelly Bradshaw
Mitigation Manager, ODPM

RRMC drill exercise in
Mayaro Rio Claro, Trinidad and Tobago

3.1
Trinidad and Tobago

In Trinidad and Tobago, the RRMC project took place in the Mayaro Rio Claro Regional Corporation (MRCRC), located in the south east of Trinidad. MRCRC is largely rural in character, with 27 communities located along major river systems and the coast. The region is impacted by natural hazards such as flooding, landslides, high wind events, soil erosion and coastal erosion, and also by anthropogenic hazards such as domestic fires. The region is also vulnerable to tropical storms and hurricanes, earthquakes, and other disaster events, and must address risks associated with industrial zones. The vulnerability of the region is intensified by factors such as remoteness, relatively poor access and low levels of community resilience.

One of the primary reasons for MRCRC's participation in the pilot initiative was a weak local capacity for the capture and use of risk information necessary to inform decision making. In addition to providing the opportunity to build capacity in marginalized communities in the area, the pilot offered the chance to highlight and address specific concerns in the local disaster risk reduction landscape. The willingness of the local government and its Disaster Management Unit (DMU) to assist with the pilot, coupled with an encouraging level of community support, provided a sound basis for implementation.

Critical gaps to be addressed by the pilot process included the lack of community-based early warning capacity, and the limited access to technology for the support of risk data management. Prior to the pilot, there was no consolidated programme for early warning; the few existing community-based early warning systems were inefficient, and risk management tools such as GIS were grossly under-utilized. It was expected that implementation of EWPs and enhancing GIS capacity would assist in the gathering of information from high-risk communities and increase the quality of information available for decision making, while serving to increase community ownership of risk reduction activities. The Cuban RRMC model was a means to provide a framework for addressing these gaps, improve the disaster risk reduction performance of local governance institutions, and enhance dialogue and engagement with key territorial and national actors.

Pilot data

Pilot Region: Mayaro Rio Claro Regional Corporation (MRCRC) **Population:** 34,846 **Land area:** 814km^2 **RRMC location:** Rio Claro (pop. 3,552) **EWP locations:** Biche (pop. 2,350) and Radix (pop. 1,514) **Primary hazards:** Flooding (river line and coastal, storm surge); high winds; soil and coastal erosion; landslides, potential risk from offshore drilling **Primary pilot focus:** Early Warning, GIS **Primary beneficiaries of the pilot:** MRCRC Ministry of Local Government, RRMC/MRCRC Disaster Management Unit and EWP staff, Biche and Radix community members **Instititutions involved in pilot:** Government of Trinidad and Tobago via the Office of Disaster Preparedness and Management (ODPM), MRCRC Ministry of Local Government (Disaster Management Unit), UNDP Trinidad and Tobago, UNDP-CRMI **RRMC Managing Body:** Office of Disaster Preparedness & Management (Ministry of National Security) **Value of financial and in-kind contributions:** USD 103,483 (Sources: ODPM, local government, UNDP Trinidad and Tobago)

The pilot process

Coordination between various government ministries, including the Ministry of National Security and the Ministry of Local Government, was a central part of the pilot roll-out. Relevant ministries were kept aware of project activities through reports and the appointment of liaisons, and were able to meet and strategize when issues arose. The UNDP Trinidad and Tobago country office provided oversight and facilitated discussions from a neutral standpoint, playing an important role in managing the expectations of the various local and national stakeholders, while focusing and re-focusing the pilot objectives as needed.

In 2013, the local DMU building in Rio Claro was upgraded to serve as the RRMC, and two EWPs were established in the high-risk communities of Biche and Radix, Mayaro. To support this newly formed network, the Office of Disaster Preparedness and Management (ODPM) and MRCRC organized training workshops, knowledge exchange activities, equipment acquisition and physical site improvements.

The RRMC pilot implementation in Trinidad and Tobago was largely focused on capacity building in GIS and early warning, targeting the DMU system. Training was directed at specific groups and included participatory exercises in order to both extract community information and ground the topic in the local context. While the training budget was limited, technical expertise in areas such as radio communications and GIS was made available from ODPM while other training-related costs were absorbed by local and national partners, allowing project funds to be used elsewhere. Limited national capacity in the key areas of the pilot project posed an additional challenge, and meant that external networks had to be used to find suitably qualified training personnel.

"COMMUNITIES THAT WERE PRONE TO FLOODING AND HARD TO REACH BECAUSE OF THEIR REMOTENESS ARE ABLE TO COMMUNICATE AND BETTER RESPOND THROUGH THE RRMC MECHANISM INSTALLED."

Shivastri Ramawadh
Administrative Office II,
Ministry of Local Government

GIS Training

A two-day technical training workshop in September 2013 introduced GIS and developed technical capability in 25 participants from stakeholder groups in MRCRC. Participants were introduced to basic GIS concepts, skills, tools and techniques; they collaboratively discussed the main goals of GIS for MRCRC and gained an understanding

of the specific GIS applications that would support their work, including the collection and analysis of risk and vulnerability data for the region. Participants were also trained in the use of open source software and GPS for field data collection. Through practical scenario exercises, participants learned about spatial data and how GIS can be used for the standardized visualization, sharing and communication of critical information to other stakeholders.

Early Warning Point Training

In support of the new network of EWPs, the DMU and other supporting stakeholders and community leaders were brought together for a two-day training workshop on community-based early warning in October 2013. The training focused on early warning for hydro-meteorological events, such as floods and high winds, and introduced participants to early warning concepts, tips for developing a communications plan, radio communications and provided an overview of risk assessment and monitoring basics. Understanding the roles and responsibilities of the EWPs was a key component of the training. The MRCRC hopes to explore future opportunities to leverage participatory community approaches in risk mapping, in order to incorporate existing local knowledge at the community level and allow for the rapid identification and location of at-risk persons and sites in an emergency situation.

A major challenge to project implementation in Trinidad and Tobago was the length and timing of the implementation period, as the execution of planned activities was constrained by task interdependencies and concurrent events, including a lengthy rainy season, the end of the fiscal year, and local government elections. In order to overcome this challenge, intensive and extensive planning and preparation was undertaken by the project technical team in the first few months of implementation. This allowed for the activities to be scheduled appropriately and executed on time. High rates of staff turnover, particularly within the local government, further complicated the pilot implementation process. Extensive project documentation and regular meetings allowed new staff to become familiar with the pilot activities in as timely a manner as possible.

"ONE OF THE MAJOR BENEFITS IS THAT THE RRMC PROGRAM HAS LED TO MORE STAKEHOLDER INTERACTION, RELATIONSHIPS BEING BUILT AND STRENGTHENED WITH THE COMMUNITY AND SUPPORTING EMERGENCY AGENCIES."

Kyle Bernard
Planning & Development Officer, ODPM

Technical Assistance Mission: Cuba - Trinidad & Tobago

Two Cuban delegates traveled to Trinidad in October 2013 as part of a technical assistance mission to support the RRMC implementation. The mission consisted of meetings, a Cuban-led training seminar and site visits to the RRMC and EWP locations; it served to facilitate both knowledge exchange with local authorities and assessment of the disaster management mechanisms by the Cuban technical experts. The visiting delegates also provided additional training on the application of GIS, including using GIS as a means to define and classify at-risk areas, database creation, and the creation and placement of community EWPs.

Emergency Simulation Drill

In order to test and evaluate the RRMC system, ODPM executed a field drill exercise in February 2014. The drill simulated a multiple hazard impact scenario, including flooding caused by coastal storm surge, bush fires and residential house fires. The scenario was designed to test the operations of the RRMC and EWPs in four functional areas; radio communications, GIS, information management and overall coordination preparedness and response. The exercise demonstrated how the pilot system would perform in a real disaster situation, and helped to illustrate where more work was needed. It also served to strengthen the overall understanding of the RRMC functions and the working relationships between key stakeholders.

Performance was rated satisfactory in each of the areas tested, with key strengths noted in communications, overall coordination between the RRMC and EWPs, and the high level of indigenous knowledge incorporated at the EWP sites. Areas marked for improvement included information management through improved record keeping and reporting, GIS application for incident management and human resource capacity for the EWPs. It is expected that proper documentation of operating practices, extended training and periodic drill exercises will bring further improvements.

Initial results

Initial pilot results demonstrate a successful alignment of the RRMC model with the existing local disaster management structure in MRCRC. Standard operating procedures and guidelines for RRMC, EWP and GIS operations have been produced and aligned with existing structures. Local level data is now being collected and shared in a more standardized manner, which supports national level disaster risk reduction activities. GIS is being used to create situational awareness during disaster response, through facilitating the geo-location of incidents. These newly developed tools have laid the groundwork for more data-intensive risk assessments.

Pilot coordinators have documented an overall strengthening of stakeholder relationships and improved quality of engagement between the local and national levels, which has been evidenced by an increase in communication and collaborative efforts. Buy-in to the pilot project in Trinidad and Tobago has been encouraging, as demonstrated by the high level of in-kind support and cost sharing contributions from national and local partners. Support from strategic partners at all levels has allowed for the production of knowledge products and toolkits, which will help ensure the sustainability of the pilot and educate the population on risk reduction.

The pilot project has successfully highlighted the importance of a decentralized approach to disaster risk reduction; one that puts more power in the hands of those at the community level and leverages community participation in risk mapping. A major achievement of the pilot project in MRCRC has been that it has prompted discussions on national-level replication of the Cuban model. In response to government request, UNDP has tabled a proposal to roll-out the RRMC model in other regional corporations across Trinidad and Tobago, building on the lessons learned in the pilot. Plans for the roll-out are in their early stages and are contingent on a national capacity assessment; however, there is a high-level of support for the replication plan stemming from the success of the MRCRC pilot.

"THE RRMC ST. CATHERINE WILL BE SUSTAINED BY ENSURING THAT THE RRMC MODEL IS INTEGRATED INTO THE WORK PROCESSES AND WORK FLOWS OF THE LOCAL AUTHORITY TO REMAIN RELEVANT IN ADVANCING LOCAL RISK REDUCTION EFFORTS."

Horace Glaze
Deputy Director General, ODPEM

Flood early warning system,
Rio Cobre, St. Catherine Parish, Jamaica

3.2 Jamaica

Jamaica established its National Disaster Risk Management Framework in 1980, following devastating floods in 1979 which resulted in 40 deaths and US$27 million in economic losses.[16] The Parish Council has served as the operational and political focal point for disaster risk management in Jamaica since the establishment of the Framework, and is designed to mimic the national disaster management structure and functions. The Jamaican RRMC pilot was implemented in St. Catherine Parish, a region prone to hazards such as flooding, landslides and storm surges. St. Catherine is one of the largest and most at-risk parishes in the country, and is home to more than fifty vulnerable communities.

Despite having a disaster risk management structure and mechanisms in place, the Jamaican model has not been as effective as desired. An assessment of the National Disaster Management Framework conducted in August 2010 found several local-level barriers to successful risk management, including weak parish-level accountability structures, a lack of structured resource systems, weaknesses in the numbers and capacity of human resources assigned to local risk management roles, insufficient consideration of disaster risk in local development planning, and low performance in disaster preparedness, risk prevention, mitigation and response.

The primary problem identified in St. Catherine Parish was an absence of synergized information necessary to make well-informed evidence-based decisions to support disaster risk management, spatial planning and development. In order to address this issue, the RRMC pilot was designed to enhance existing local governance and disaster risk management mechanisms. It was hoped that the RRMC model would strengthen both the Physical Planning Unit and the Disaster Services Unit of the St. Catherine Parish Council. Of the seven RRMC components, Jamaica chose to focus their pilot efforts on strengthening capacity in databases, GIS, RVS and early warning systems.

Pilot data

Pilot Region: St. Catherine **Population:** 516,218 **Land area:** 1,197km^2 **RRMC location:** Spanish Town (pop. 162,359) **EWP locations:** Old Harbour (pop. 23,610) and Linstead (pop. 15,046) **Primary hazards:** Riverline and urban flooding; landslides; hurricanes **Primary pilot focus:** Databases; GIS; Risk and Vulnerability Studies; Early Warning **Primary beneficiaries of the pilot:** Citizens of St. Catherine Parish **Instititutions involved in pilot:** Office of Disaster Preparedness and Emergency Management (ODPEM); St. Catherine Parish Council (STCPC); Ministry of Local Government and Community Development (MLGCD); UNDP Jamaica; UNDP-CRMI **RRMC Managing Body:** St. Catherine Parish Council Planning Department and Disaster Services Unit; Old Harbour Zonal Committee; Linstead Zonal Committee **Value of financial and in-kind contributions:** USD 50,507 (Sources: ODPEM, MLGCD, UNDP Jamaica, STCPC, CEAC Solutions)

The Pilot Process

One of the first challenges faced during project implementation was deciding where to house the RRMC. The project team recognized the importance of having a dedicated space which met the requirements specified by the Cuban guidelines, such as adequate security, internet and intranet capabilities and ease of access to the St. Catherine Parish Council. It was decided that the Planning Unit, located within the Parish Council building in Spanish Town, would be retrofitted to also serve as the RRMC. This transformation was made possible through in-kind support from both the Ministry of Local Government and Community Development and the UNDP Jamaica Country Office, and has facilitated efforts to synergize the activities of the Planning Unit and the Disaster Services Unit.

"THE CHANCE TO PARTNER ON THE DEVELOPMENT OF THE DRIP PROVIDED NSDMD AN OPPORTUNITY TO BE PARTAKING IN ANOTHER PIONEERING AND INGENIOUS NEXT STEP."

Karema Aikens-Mitchell
Senior Director, ODPEM

EWPs were established in two locations - in the rapidly expanding fishing village of Old Harbour, and in Linstead, a bustling urban centre located in central St. Catherine. Both EWPs were equipped to monitor river levels and use various technologies to emit public health warnings. These communities were selected because of their strong zonal and community emergency response teams, with the hope of leveraging the existing pool of residents trained in basic disaster management to support EWP implementation. EWP staff and volunteers in Old Harbour and Linstead were provided with training on the function of the EWPs, their roles and responsibilities, and radio telecommunication technologies. Each of the EWP communities now has more than five individuals capable of executing EWP functions.

A central activity in the Jamaican pilot has been the development of the Disaster Risk Information Platform (DRIP) for St. Catherine Parish. The user-friendly platform allows for improved management of disaster risk information, to be used to further community planning, development and disaster risk reduction efforts. While the development of the platform initially faced budgetary challenges, an agreement was brokered with the National Spatial Data Management Division (NSDMD), the leading source of spatial information in Jamaica, to make the platform a reality. The expertise of NSDMD in the development of information platforms and web based maps was vital to the success of this initiative. As data sharing was initially identified as one of the obstacles in Jamaica's approach to effective risk reduction, St. Catherine Parish and ODPEM have also signed a data sharing agreement, which will help support the DRIP and allow ODPEM to benefit from data collection in the Parish communities.

Initial Results

A one-year sustainability plan for the RRMC is being developed by ODPEM as part of their project closing activities, as a means to ensure that there is full ownership and buy-in for sustainability from the Parish Council. To ensure the sustainability of the pilot RRMC system in St. Catherine, measures have been put in place using a consultative multi-stakeholder approach, and sustainability concerns have been tackled collaboratively across all levels:

- To ensure that staffing and human resources in the RRMC will be sustainable, a training programme for student interns was developed, a permanent

coordinator position was created, and private sector capital injections are being sought.

- To support the integration of RRMC protocols into the existing work processes and flows of the local authority, the strategic goals of the Planning and Disaster Services Units have been aligned with those of the RRMC, and risk and vulnerability assessments have been standardized.
- In order to promote data collection and input into the RRMC, guidance notes for data input have been created, a report template has been adopted, and GPS units have been acquired for the development of new spatial datasets.

The St. Catherine RRMC is projected to serve as a reference for disaster risk management in Jamaica, through a program of activities that includes success indicator monitoring, so that the results and lessons learned may be applied in other parishes. In terms of plans for implementing the model in other areas of Jamaica, interest has been demonstrated by the Kingston and St. Andrew Corporation and the Portmore Municipal Council. Other parishes that may benefit from adopting the RRMC model include Clarendon Parish Council and St. Elizabeth Parish Council.

Technical Assistance Mission: Cuba-Jamaica

A Cuban technical assistance mission to support Jamaica's RRMC pilot project took place in September 2013, during which two visiting specialists from AMA provided Jamaican participants with an overview of the RRMC model, focusing on RVS. Discussions during the mission focused on the need for improved disaster risk reduction regulations, and the need to make funds available for the timely evacuation of people and property during disaster events.

The mission served to provide information which will help ODPEM develop guidelines in two areas: hazard and vulnerability assessments in development planning, and risk and vulnerability methodologies for coastal areas. The mission also served as one step in the longer process of adapting the Cuban RVS methodology to the Jamaican context, as outlined by Cuba and Jamaica's winning proposal in the 2013 Sharing Knowledge competition (see page 12 for more information). The Jamaican pilot RRMC will act as a hub for coordinating the completion of this activity, in collaboration with counterparts in Cuba.

The technical assistance mission provided the groundwork for further risk assessments and data collection activities in St. Catherine Parish. Seismic assessments, rapid visual screening, asset mapping, and storm surge analysis and modelling have since been completed in the EWP communities, and geodatabases have been developed to support data management.

Those who benefitted from the mission activities include representatives from ODPEM, the St. Catherine Parish Council, the Planning Institute of Jamaica, the Ministry of Local Government and Community Development, the Caribbean Coastal Area Management Foundation, and the National Environment and Planning Agency.

"…THE RISK REDUCTION MANAGEMENT CENTRE WILL ALLOW US TO PREVENT, MITIGATE AND RESPOND TO FLOOD EVENTS THROUGHOUT THE YEAR. ALL INSTITUTIONS WILL BE COMMUNICATING CONSTANTLY AND MAKING DECISIONS THAT WILL PREVENT AND REDUCE DAMAGE AND LESSEN THE EFFECT ON THE POPULATION."

Leonardo Valdez Recio
Fire Corps Superintendent, La Victoria

Flood mapping, La Victoria, Dominican Republic

3.3 Dominican Republic

In the Dominican Republic, the primary RRMC pilot project took place in the municipality of La Victoria, Santo Domingo province. The district is marked by a complex hydrography, where numerous rivers, streams and creeks flow into the Ozama river basin, and one of the major risks facing the population of La Victoria is frequent flooding caused by the overflow of the Ozama River tributaries during the heavy rains of hurricane season. Many communities and various productive sectors such as agriculture, poultry and livestock are significantly affected two or three times each year.

In addition to the risk of flooding, there are several other areas of vulnerability in the region, such as the poor socio-economic status of the population, the need for reforestation in some areas along the Ozama River basin, the illegal construction of houses near rivers, and the saturation of community drainage systems. La Victoria is also home to an overpopulated national penitentiary which is located on a natural flood zone. This prison is the oldest in the country and houses approximately 5,000 inmates.[17]

The combination of these variables has resulted in a high risk situation, with recurring human, economic and environmental losses. The decision to adapt the Cuban model in La Victoria was based on the need to strengthen the capacities of institutions involved in local risk reduction and to better prepare vulnerable communities for impending floods.

The Pilot Process

During the pilot process, various activities were executed within the framework of the RRMC implementation plan. The RRMC itself was located in the town of La Victoria, while an EWP was installed in the community of Hacienda Estrella, where 58 homes were flooded and one home was completely destroyed during Hurricane Sandy in 2012. This strategic point will serve as the base for first response to impending disasters, and will facilitate the collection and transmission of information on rainfall monitoring and measuring water levels in the area. As flooding has been of key concern in this region, national actors were incorporated into the project to ensure the implementation of an early warning system for flooding. These actors include the National Hydraulic Resources Institute, the Bureau of Meteorology and the Santo Domingo Aqueduct and Sewerage Corporation.

Pilot data

Pilot Region: Santo Domingo North **Population:** 529,390 **Land area:** 387.92 km^2 **RRMC location:** La Victoria (pop. 60,922) **EWP locations:** Hacienda Estrella (pop. 12,000) **Primary hazards:** Flooding, earthquakes, hurricanes **Primary pilot focus:** Early Warning; Risk and Vulnerability Studies; Multidisciplinary Groups **Primary beneficiaries of the pilot:** Authorities, staff and technicians of local and national institutions; members of the Municipal Committee for Prevention, Mitigation and Response (CM-PMR); Civil Defence and Fire Corps volunteers; leaders and members of the affected communities. **Instititutions involved in pilot:** La Victoria Municipal Council; Civil Defence; Fire Corps; local representatives of the health, public works, communications and education sectors; National Police; Neighborhood Councils and civil society; National Emergency Commission; Bureau of Meteorology; National Institute of Water Resources; Water and Sewerage Corporation of Santo Domingo; UNDP Dominican Republic; UNDP-CRMI **RRMC Managing Body:** La Victoria Municipal Council; Civil Defence; Fire Corps **Value of financial and in-kind contributions:** USD 16,082 (Sources: La Victoria Municipal Council; UNDP, DIPECHO-UNDP)

"THE MOST VULNERABLE AREA HERE IN VICTORIA IS THE PRISON. WHEN THE RIVER LEVEL RISES, IT FLOODS, TO THE POINT THAT PRISONERS HAVE TO MOVE TO THE SECOND FLOOR AND SEVERAL DROWN DURING THE STRUGGLE TO GET UPSTAIRS."

Maribel Veras,
Chief of the Municipal Council
Archives of La Victoria

In order to manage the RRMC and EWP, the Municipal Committee for Disaster Prevention, Mitigation and Response (CM-PMR) was formed. An initial challenge facing the committee was gaining the support and participation of local institutions, beyond the town council, the Fire Corps and the Civil Defence. Through the commitment of La Victoria's town council, and awareness training provided to the members of the CM-PMR, the pilot was able to attain the support of a wide range of local and national institutions. The CM-PMR is currently presided over by the Mayor of La Victoria, and is made up of representatives of the town council, the Civil Defence, the Fire Corps, the education, health, public works and communications sectors, neighborhood councils, civil society and the national police corps. Another challenge to forming the CM-PMR was finding dedicated, full-time RRMC and EWP staff to perform the day-to-day functions. Most committee members have responsibilities and workloads outside the pilot, with many acting as Civil Defence volunteers, and were therefore unable to dedicate the necessary amount of time to maintain the RRMC. In order to address this issue, the Municipal Board of La Victoria, the Fire Corps and the Dominican Civil Defence decided to each assign one member of their staff to the pilot on a full time basis.

Many training sessions for the CM-PMR members and other stakeholders have been held throughout the pilot process, and have included workshops on the RRMC model, local risk management law, and the various elements of disaster risk reduction including GPS and GIS. As the focus of the pilot capacity-building efforts, a unique and intensive disaster risk reduction training programme was executed from August to November, 2013. The training programme targeted the CM-PMR and certified 40 participants in RRMC and EWP operations. As a result of this training programme, the committee was able to develop an emergency plan, a contingency plan for floods, and an action plan for disaster risk reduction in community development.

Initial Results

The successful adaptation of the Cuban model in La Victoria has served to strengthen capacity and facilitate decision making for effective prevention, mitigation, preparedness, response and recovery. The RRMC functions as a platform for information management which will identify threats, vulnerabilities and risks to the territory.

A major challenge for this pilot project will be to ensure sustainability through the political commitment of local and national partners. Actions for achieving sustainability which will be undertaken include continuous training of RRMC and EWP technical staff, technical monitoring by the Cuban Civil Defence, increasing awareness and integration of the project in local communities, the replication of the model in other municipalities, and obtaining new sources of funding.

In order to plan for sustained success, a Risk Reduction Action Plan for La Victoria Municipal District was developed, defining a series of short and medium term actions for conducting evaluations and risk reduction processes. Many of the activities outlined in the Action Plan are designed to give continuity to the achievements of the pilot project, including the geo-referencing of threats, vulnerabilities and risks of the territory, implementing more EWPs along the Ozama River basin, the development of an early

warning protocol, and regular training for the RRMC and EWP teams, the members of the CM-PMR, and local communities.

As an important outcome, the pilot experience has given stakeholders a new appreciation of risk reduction. Disaster risk reduction in the region is now based in inter-agency coordination, with improved information management, and in education for the promotion of a culture of prevention. This paradigm shift was a significant achievement of the pilot project, and has notably impacted many of the authorities, officials and technicians of local institutions.

Technical Assistance Mission: Cuba-Dominican Republic

In order to provide support for the pilot implementation of the RRMC model in the Dominican Republic, a Cuban technical assistance mission took place in October 2013. The mission focused on providing guidance and support for the implementation of an early warning mechanism for flooding and community-based early warning protocols, and was facilitated by visiting experts from the Cuban National Institute of Hydro Resources and the Cuban Civil Defence.

The visiting delegates led workshops on the work of the RRMCs and EWPs, and conducted site visits to the Bajobonico and Ozama River basins in order to analyze vulnerabilities and prospects for early warning. As a result of technical recommendations developed and submitted by the Cuban specialists, the opportunity for interagency collaboration in the implementation of an early warning system for flooding for Ozama River basin has emerged. This initiative will contribute to the sustainability of the pilot project. The collaborative framework is expected to provide technical advice, access to national water and weather information, the provision and installation of monitoring equipment, and training for observation teams in order to be better equipped to provide information on possible flood events to the local institutions and communities.

This proposal will not only benefit the people of La Victoria Municipal District, but will also benefit the other towns and communities located along the Ozama River Basin which have a high risk of flooding. In addition, the participating institutions can use the initiative to expand their hydrometric and meteorological networks, while individual municipalities can use the information for prevention, mitigation and response planning.

"IN ORDER TO ENSURE THE VIABILITY OF THIS PILOT PROJECT, IT WAS NECESSARY TO HAVE THE SUPPORT AND INSTITUTIONAL COMMITMENT OF THE DOMINICAN CIVIL DEFENCE AND THE MUNICIPAL COUNCIL OF LA VICTORIA THROUGHOUT THE IMPLEMENTATION PERIOD, AS WELL AS THE NATIONAL TECHNICAL INSTITUTIONS, ONAMET AND INDRHI, WHICH TOOK PART IN THE CUBAN TECHNICAL MISSION. WE HOPE THIS INITIATIVE WILL BE REPLICATED AND ADAPTED BY THE OTHER TOWNS AND VILLAGES OF THE OZAMA RIVER BASIN."

Ana María Pérez
Lead, Risk Management Projects, UNDP

Getting Creative in La Victoria

"WE VALUE THIS SOUTH-SOUTH COOPERATION INITIATIVE AS GOOD AND VALID. IT HAS COME AS A HELPING HAND PROVIDING REAL SUPPORT FOR THE DOMINICAN REPUBLIC'S RISK MANAGEMENT SYSTEM, BRINGING THE SELECTED COMMUNITIES DURABLE SOLUTIONS TO THE PROBLEMS IDENTIFIED BY EACH OF THE [CM-PMR] COMMITTEE MEMBERS".

Pedro Santana Marte
Ozama Regional Director,
Dominican Civil Defence

During the Cuban technical assistance mission to La Victoria in October 2013, the Chief Executive of the municipal council, Mr. Juan Francisco Moreno, composed a song inspired by the SSC project. The song "Let's Prevent" aims to sensitize members of local institutions and community members to the importance of prevention and mitigation to safeguard human lives.

Vamos a prevenir (Let's prevent)

By Juan Francisco Moreno

Para no llorar mañana,
Vamos a prevenir,
A construir un futuro,
Un mejor porvenir.

Unamos nuestros esfuerzos,
Vamos a diagnosticar,
Construyamos un buen plan y
Así mucha gente salvar.

Somos el PMR,
Y a todos vamos a invitar,
A integrar este proyecto,
Que a La Victoria va a cambiar.

Con la Defensa Civil,
Bomberos y el PNUD,
Y todas las instituciones,
Lo vamos a lograr.

So we won't cry tomorrow,
We will prevent,
To build a future,
A brighter future.

Let's unite our efforts,
We will diagnose,
Build a good plan and
Through it, save many people.

We are the CM-PMR,
And we invite you all,
To join this project,
That will change La Victoria.

With the Civil Defence
Fire Corps and UNDP
And all other institutions,
We will succeed.

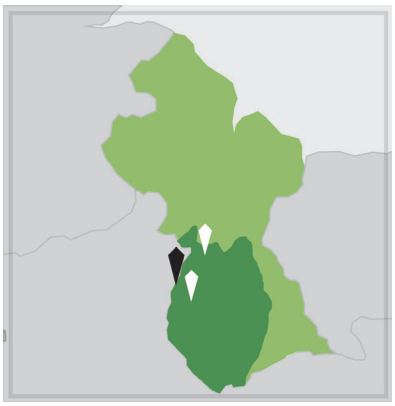
Disaster risk reduction training activities,
Dominican Republic

"THE CRMI PROJECT IS SOMETHING VERY GREAT, AND THE RDC IS BETTER PREPARED. DUE TO THE RRMC WE ACTUALLY HAVE A SYSTEM IN PLACE TO ACT SWIFTLY – WE ACTUALLY HAVE A PLAN"

Karl Singh
District Development Officer,
Regional Democratic Council, Administrative Region 9

GIS Data Collecting,
Masara Village EWP, Guyana

3.4 Guyana



Guyana`s pilot RRMC project was implemented in Region 9, an area vulnerable to flooding, fire and drought. These events often result in potentially disastrous situations, including losses in physical, environmental and socio-economic infrastructure, particularly in low-lying and flood prone areas. In 2005, flooding from torrential rains caused 34 fatalities and affected 85% of Guyana's population, in addition to causing nearly US$45 million in damage.[18] Floods in 2006, 2011 and 2012 severely affected Region 9.

UNDP Guyana and the Civil Defence Commission (CDC) teamed up with CRMI to pilot the RRMC model, in an effort to mitigate disaster impacts through an informed, coordinated, multidisciplinary and decentralized approach. The selected focus of the pilot was on identifying flood hazards and acting pre-emptively to reduce risks. A central motivating factor to participate in the pilot initiative was the need to address the many challenges associated with reoccurring floods, and to support local disaster risk reduction efforts at the community level.

Key objectives of the pilot included improving capacity for early warning, RVS, and increasing community awareness of disaster risk reduction. It was expected that the RRMC model would improve information flow between the personnel in disaster-affected areas, decision makers, and the national disaster authorities. Other objectives of the pilot included addressing the issues of data collection and management for disaster preparedness, response mitigation and prevention.

Pilot data

Pilot Region: Region 9 **Population:** 23,000 **Land area:** 57,790km^2 **RRMC location:** Lethem (pop. 12,000) **EWP locations:** Mickey's Landing, Massara (pop. 418) and Sand Creek (pop. 805) **Primary hazards:** Flooding, fire and drought **Primary pilot focus:** Early warning, communications, Risk and Vulnerability Studies **Primary beneficiaries of the pilot:** The residents of administrative Region 9, especially those within RRMC and EWP communities. **Instititutions involved in pilot:** Civil Defence Commission (CDC), Ministry of Local Government and Regional Development - Regional Democratic Council (RDC) of Region 9, UNDP Guyana, UNDP-CRMI **RRMC Managing Body:** The Region 9 Democratic Council (RDC) and respective community councils **Value of financial and in-kind contributions:** USD 14,824 (Sources: Civil Defence Commission, UNDP Guyana)

The Pilot Process

As a necessary first step in the pilot process, an awareness workshop was held with stakeholders from various agencies in and around the proposed pilot sites to introduce the pilot project and discuss the establishment of the RRMC. Region 9 stakeholders decided that the existing Disaster Preparedness Committee, which coordinates disaster relief activities, would oversee the operations of the RRMC and EWPs. In recognition of the new emphasis on identifying and reducing risks, the committee`s name was changed to the Regional Disaster Risk Management Committee.

"THE PROJECT HAS HELPED US TO BETTER REDUCE THE IMPACT OF ANY DISASTER, BECAUSE WE NOW KNOW HOW TO MONITOR, REPORT FLOODS, AND WHEN TO INFORM VILLAGES AND HOW TO ACT"

Lenny Moses
Village Leader,
Massara Village Council

Following the conclusion of the awareness workshop, a regional-level multidisciplinary group was established, consisting of representatives from key agencies including, among others, Guyana Red Cross Society, Rupununi Chamber of Commerce and Industry, and the Ministries of Agriculture, Health, and Public Works.

The RRMC itself was established in the town of Lethem, which serves as the administrative centre for the region. EWPs were established in the communities of Massara, Sand Creek, and a point along the Ireng River known as Mickey's Landing. Site evaluations of the designated RRMC and EWP locations were initially conducted during a mission by CDC officials and community stakeholders in July 2013, however, accessibility constraints caused by flooding delayed the visit to Sand Creek.

Preliminary risk and vulnerability assessments of the region were undertaken during a second mission to Lethem in November 2013. The team, made up of representatives of the CDC, UNDP, and a GIS consultant, visited the EWP communities, collected baseline data and developed maps and a database to feed into risk reduction analysis at the local level. The GIS consultant also served to facilitate knowledge transfer between the residents of the EWP and RRMC communities and the implementing partners. This involved both information gathering, stakeholder meetings and training exercises on the use and updating of the risk assessment spatial database, data gathering, GIS and the use of GPS.

The coordination of workshops and missions proved challenging from a cost and logistical standpoint, due to the distance of Region 9 from Guyana's capital, Georgetown. In order to facilitate planning, the Georgetown-based implementation team partnered with local officials in the community of Lethem to coordinate site visits and training sessions. Several activities were executed during each mission in order to reduce the number of trips needed, while the CDC provided in-kind support in the form of transportation. To save the cost of sending technical personnel from Georgetown, the implementation team sourced the services of suitably qualified individuals within the pilot region to install the necessary equipment at the RRMC.

Another notable challenge facing the pilot project in Guyana was the lack of technical exposure of the training participants, many of whom had no experience using computers. This resulted in a lengthy familiarization process, with training needed on basic concepts of computer use before disaster risk reduction software could be introduced. To address this challenge, training administrators modified their strategy to include short, simplified training segments to address learning issues as they arose. To increase simplicity and clarity for low-level users, Microsoft Access was used to develop the database.

Initial Results

The implementation of the RRMC pilot project in Guyana has resulted in increased resilience, awareness, and capacity within the four community districts involved. At the regional level, a disaster risk management committee has been established and is now operational. Following the conclusion of the RRMC pilot project, the CDC will continue to evaluate the progress of the pilot, work to build on the technological gains from the project activities, and collaborate with various organizations in promoting efficient information management and sharing. In keeping with the best practices of the RRMC model, the CDC intends to coordinate training sessions to familiarize key agencies with the newly developed GIS database.

In recent years, disaster risk reduction has fuelled national level dialogue and partnerships among key agencies in Guyana. The introduction of the RRMC pilot project has accelerated and widened these discussions, which have focused on the critical role of information and communication technology as an indispensable component of decision making and early warning. Though there are no immediate mobilization plans to implement the Cuban model in other regions of Guyana, the CDC intends to facilitate continuous follow up measures and training in the community of Lethem. At the national level, the pilot project has stimulated a considerable amount of stakeholder engagement and dialogue on the Cuban model as a potential national-level framework for disaster risk reduction, but moving forward is dependent on future evaluations of the pilot project.

Leveraging Community Support for Data Acquisition

"REGION NINE HAD A SIGNIFICANT NEED FOR DRR INITIATIVES AND INTERVENTIONS BECAUSE OF ITS SUSCEPTIBILITY TO NATURAL AND ANTHROPOGENIC HAZARDS AND IT GEOGRAPHIC LOCATION BEING 300 MILES FROM GEORGETOWN - DEPENDING ON THE HAZARD IMPACT THE ENTIRE AREA MAY BECOME IMPASSABLE, HENCE THE NEED TO DRIVE DRR INITIATIVE AND INTERVENTIONS"

Captain Sean Welcome
Assistant Operations and Training Officer,
Civil Defence Commission

As part of the RRMC implementation, a GIS consultant was contracted to conduct data collection, risk map development, risk analysis, and spatial database development for the pilot region. Despite expert technical knowledge, the GIS consultant faced challenges as a non-resident of Region 9 in compiling the necessary data, due to his lack of a grassroots understanding of the local indigenous approach for monitoring and responding to various hazards.

By embracing a participatory approach to data collection and training, the technical personnel developed a better understanding of the local perspective, and developed a rubric for effective communication with indigenous communities. This was achieved through involving local community members in every aspect of technical intervention; four community districts in Region 9 are now involved in using and updating the GIS database. In terms of facilitating two-way knowledge transfer, the participatory approach to data acquisition and analysis proved effective in this context. This type of approach was only made possible through the support and engagement of stakeholders at the local and regional levels; a critical component of the RRMC pilot project in Guyana.

Risk Assessment and Database training
for EWP teams, Lethem, Guyana

"GIVEN THE PARTICULAR VULNERABILITIES OF THE ANEGADA COMMUNITY, TRAINING SESSIONS HELP TO EMPOWER RESIDENTS TO PLAY A MORE ACTIVE ROLE IN THEIR COMMUNITY, WHILE BUILDING THE CAPACITY REQUIRED TO ACHIEVE AN APPROPRIATE LEVEL OF DISASTER PREPAREDNESS."

Carishma Hicks
Training Officer, Department of Disaster Management

Community disaster preparedness training, Anegada Island, BVI

3.5
British Virgin Islands

Anegada is one of the four main population centres in The British Virgin Islands (BVI), an archipelago consisting of 60 islands. While the estimated population of Anegada is just 308, the population can increase ten-fold during peak tourism months. Anegada is naturally vulnerable to hazards such as storm surges, as well as the more permanent, long-term impacts attributed to the rise in sea level due to global warming. Significant coastal erosion is already being experienced on the western part of the island. The vulnerability of Anegada is further exacerbated by its composition of flat, limestone terrain and close proximity to the convergence of two major tectonic plate boundaries, increasing the island's susceptibility to earthquakes and tsunamis.

The impracticality of duplicating all government services and resources on each island of BVI means that the smaller islands are dependent on the main island of Tortola for most services. The BVI adaptation of the RRMC model sought to address the limited capacity of Anegada to manage the disaster risk it faces due to its unique topography, its limited resources and its distance from Tortola. Expected outputs included the establishment of a Zonal Disaster Management Team and EWP, the development of a vulnerability and disaster risk profile for Anegada, tsunami evacuation maps and signage, and enhancement of the Anegada District Office's ability to communicate with the Zonal Disaster Management Team and the Department of Disaster Management (DDM) on Tortola.

A pre-RRMC adaptation assessment of Anegada identified existing resources, studies and trained personnel which could be mobilized in support of the pilot implementation. Based on the needs of the island, it was decided that the pilot process would focus on early warning, RVS and communications. The adaptation process was led by the DDM in close collaboration with the Anegada District Officer and Sister Islands Programme Coordinator.

Pilot data

Pilot Region: Anegada **Population:** 308 **Land area:** 36.2 km^2 **RRMC location:** Anegada District Office **EWP locations:** Anegada Fire Station **Primary hazards:** Flooding, hurricanes, earthquakes, tsunamis **Primary pilot focus:** Early Warning, Risk and Vulnerability Studies, communications **Primary beneficiaries of the pilot:** Residents of Anegada **Instititutions involved in pilot:** Department of Disaster Management; Virgin Islands Fire and Rescue Service; BVI Red Cross Society; Anegada District Office; Anegada Community Library; UNDP Barbados; UNDP-CRMI **RRMC Managing Body:** Department of Disaster Management with assistance from the District Office **Value of financial and in-kind contributions:** USD 24,110 (Source: DDM)

The Pilot Process

As part of the RRMC adaptation process, the DDM reviewed the dormant zonal disaster management committee structure, and established the Anegada Zonal Disaster Management Team (AZDMT). The role of team is to roll out the disaster risk reduction programme for the island, coordinate regular general meetings and ensure close collaboration with the District Officer responsible for Anegada. The AZDMT has also taken on the role of local advocacy and planning for disaster risk reduction activities at the community level, along with all matters relating to prevention, mitigation, preparedness, response and recovery. The organizational structure developed for the 19-member AZDMT will be used to establish similar teams on the other sister islands. In addition to the AZDMT, a nine-member Community Emergency Response Team has also been established, equipped and trained to serve as first responders.

"THE ESTABLISHMENT OF THE ZONAL DISASTER MANAGEMENT TEAM AND THE ATTITUDE OF RESIDENTS TOWARDS THIS TEAM SHOW THAT THE RESIDENTS ARE SERIOUS ABOUT DISASTER MANAGEMENT. THE ACCEPTANCE AND COOPERATION OF THE LEADERSHIP AND ASSISTANCE GIVEN BY SUCH BODIES AS THE RED CROSS AND DDM TO THE RESIDENTS OF ANEGADA IS MOST APPRECIATED AND WELL SUPPORTED. ANEGADA IS A MUCH SAFER PLACE TODAY BECAUSE OF THIS INITIATIVE."

Vincent Wheatley
Sister Islands
Programmes Coordinator

In order to improve their ability to provide emergency support in the event of a hazard impact, the AZDMT was provided training in emergency communications and shelter management, and the team's response capacity was tested during a simulation exercise involving 40 participants. The team's capability was once again demonstrated during a real-life scenario when they were involved in local search efforts for two missing residents; one of whom was found within hours of being reported missing.

The RRMC site was established in the Anegada District Office, while the Anegada Fire Station serves as the early warning and communications point between the island and the DDM on Tortola. The emergency communications capacity of these sites was assessed, and guidance was provided to enhance the existing systems. Six members of the AZDMT received training in using, operating and maintaining the new emergency communications equipment. The updated system has enhanced the capacity of Anegada to effectively exchange transmissions with rest of the territory, expanding the coverage area by over 90%.

A key activity of the pilot process was the development of the Anegada Vulnerability and Disaster Risk Profile. The profile highlights the natural and technological hazards on Anegada, assesses the risk of disaster losses and evaluates the social, economic and environmental vulnerability of the island. Community involvement was crucial for the development of the Risk Profile, as community meetings and surveys were used to identify pertinent issues of risk and the residents' attitudes towards disaster risk reduction. The AZDMT provided instrumental guidance and local knowledge for this process.

As an outcome of the risk profile activities and complementary tsunami modelling, tsunami evacuation maps and signage have also been developed and placed in high-traffic areas identified by the AZDMT and other residents. The outdoor evacuation routes signage will assist the population of Anegada by educating them on the spatial distribution of the tsunami hazard and indicating the safe evacuation routes as well as the approved assembly areas. The tsunami evacuation products will also serve tourists visiting Anegada, as tourism is a major economic activity for the island. These tsunami evacuation products are a necessary step towards obtaining the Tsunami Ready Certification for Anegada.

The most notable challenges experienced during the pilot process in Anegada were related to procurement, given the nuances of working on a small island with a limited number of service providers. Local peculiarities translated into difficulties securing service provider options and significant delays in contracted vendors completing the mandatory paperwork. These challenges were address by the DDM, which found that creativity and flexibility were the best available tools to working under tight constraints.

Anegada SAFE School Project

Four members of the AZDMT are teachers at the only educational facility on the island, and are working with the island's Fire Officer and the DDM towards helping the school attain the SAFE school certification. This certification is awarded following an assessment of the school's compliance with the School Health and Safety Policy, which establishes minimum health and safety standards for elements such as location, design, construction, operations, retrofitting, environment, playgrounds, evacuation and disaster planning procedures. The AZDMT's involvement in the SAFE school project on Anegada speaks to their ability to act as disaster risk reduction advocates and champions

Initial Results

As a result of the pilot project, the population of Anegada is more sensitized to the hazards they face and the ways they can help mitigate their risk and reduce their vulnerability. The adaptation of the RRMC model on Anegada has not only assisted the DDM in prioritizing disaster risk reduction interventions on Anegada, but has highlighted that appropriate planning can help community members work together to reduce injuries, loss of lives, and property damage, and preserve livelihoods, the environment and overall quality of life in the face of disasters.

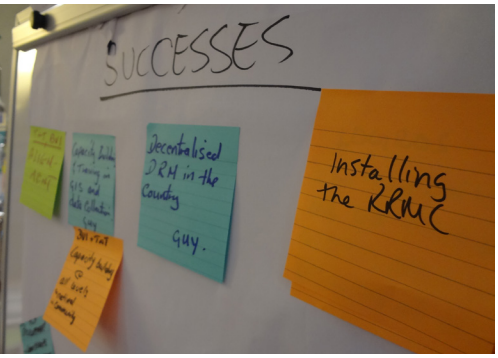
Visits from representatives of the DDM and the BVI Red Cross during the pilot process helped to strengthen existing relationships and established new connections with residents and officials on the island. Residents who were intimately involved in the project noted that the increased presence of DDM and Red Cross personnel had improved the residents' level of trust and their willingness to participate in the disaster risk reduction programme. Having successfully completed the pilot, the DDM has already initiated the process of replicating the model on the other two main Sister Islands. Although part of the same territory, efforts to replicate the process on the other islands have highlighted the need for adaptation, rather than replication, due to diverse community contexts.

As BVI seeks to implement their 2014-2018 Comprehensive Disaster Management Strategy and Programming Framework, it is expected that the relationships fostered with Cuba during the RRMC adaptation process will continue to develop in a manner which allows the DDM to learn and adapt a number of effective components of Cuba's disaster risk reduction programme.

"THIS PROGRAM WAS A TREMENDOUS ASSET TO THE ANEGADA COMMUNITY AND IT DEMONSTRATED HOW VARIOUS AGENCIES CAN WORK TOGETHER TO SUPPORT CAPACITY AND RESILIENCE BUILDING ON A REMOTE SISTER ISLAND. THE PROVISION OF THE RADIO EQUIPMENT HAS SIGNIFICANTLY ENHANCED OUR COMMUNICATIONS ABILITY AND PROVIDES A DIRECT LINK TO DDM. THE COMMUNITY SPIRIT IS MORE EVIDENT NOW THAN EVER AND MANY RESIDENTS ARE ASKING FOR MORE TRAINING. THEY ARE MORE COMMITTED AND THEY SEE DISASTER RISK REDUCTION AS EVERYBODY'S BUSINESS AND NOT THE WORK DONE BY THE DEPARTMENT OF DISASTER MANAGEMENT."

Elnathan White
Fire Officer, Anegada

4. ENSURING SUSTAINABILITY



As with all development projects, sustaining positive results is crucial to achieving long-term objectives, and requires dedication from a variety of actors. In the case of a multi-country initiative, it was recommended that each implementing body tailor its own sustainability plan in accordance with local conditions. It was important that each plan consider factors that may negatively impact the longevity of the project, and work to find solutions that are both feasible and effective. At the end of the pilot, each country was provided with a checklist as a tool for developing a sustainability plan. One of the lessons learned is that the discussion regarding sustainability planning should take place at the beginning and continue over the course of the SSC process.

These ideas represent some of the solutions outlined in the sustainability plans that have been developed by the participating countries in the RRMC pilot initiative.

Capacity Building

As staff and volunteers rotate in and out, it is important to maintain full operational capacity in the RRMC system. In terms of training, technical exchanges, knowledge platforms and regularly scheduled workshops can assist in ensuring that skills are continuously developed. Simulation exercises are a way to identify system weaknesses and improve plans and strategies.

Staffing & Workload

Having trained and available staff or volunteers to operate the RRMCs is vital for their effectiveness. It is important to have a plan to maintain sufficient human resources to effectively manage the RRMC workload. In Jamaica, an intern training programme for final-year students has been developed to provide support for the permanent RRMC staff, as well as educate younger community members about risk reduction. When staff members of other organizations are given roles within the RRMC, feedback shows that it is more effective to redistribute the workload rather than to add new responsibilities to existing duties.

Strategic Alignment

Sustained effectiveness can be facilitated by aligning the project with existing structures and integrating the workflow into ongoing operations. In Jamaica, the strategic goals of the government planning and disaster units have been aligned with those of the local authority to facilitate collaboration. This has also facilitated the creation of standardized methods across organizations which share similar objectives.

Monitoring

To ensure that the RRMC system continues to work effectively, adequate monitoring systems must be put in place. In Trinidad and Tobago, ODPM regional coordinators have been assigned to each local DMU, and will be responsible for monitoring the pilot RRMC. In Guyana, the CDC will continue to evaluate the progress of the pilot in Region 9.

Advocacy & Partnerships

Building strong partnerships from the outset of project development is a key tool for impacting project sustainability. Effective partnerships can create support and advocacy from national and local stakeholders. A best practice identified by participants in the RRMC pilot project was to identify partners at each level and in all roles, and establish technical networking groups that are both virtual and physical in nature. This provides networking and relationship building opportunities, and also supports capacity development through knowledge sharing.

Guidance

In order to provide direction on functions and activities related to the Cuban model, it was important that each pilot develop guiding materials for the RRMC's day to day operations. In Trinidad and Tobago, toolkits were created to provide an adequate level of guidance to local implementers, while Standard Operating Procedures were established to integrate and streamline workflows between the national disaster office and the RRMC.

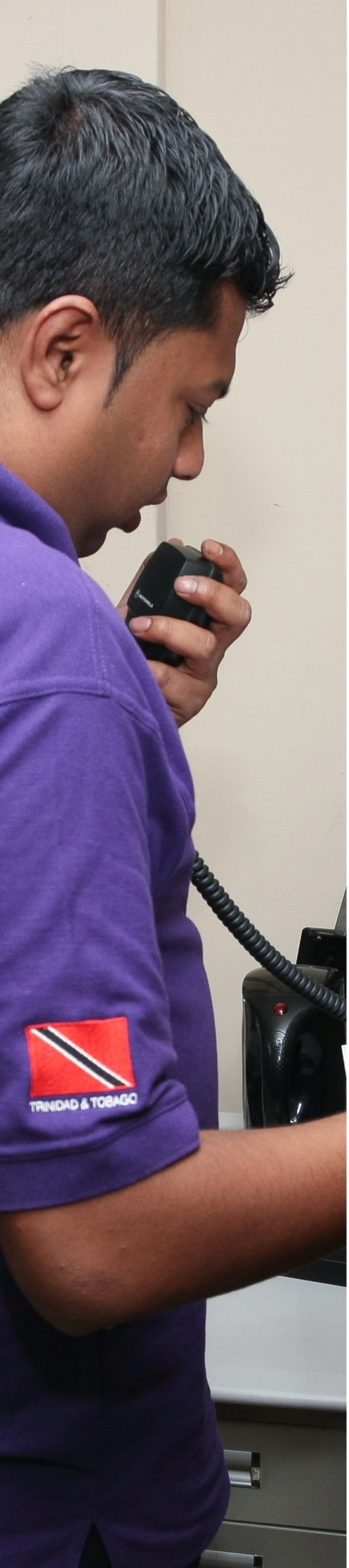
National Support

It is crucial that the regional and national bodies involved in the pilot process continue to support those working on the ground, by providing assistance and advocacy where needed. In the Dominican Republic, the Civil Defence is committed to providing ongoing training and technical support for the RRMC. Memorandums of Understanding between local and national authorities can be used to secure support.

LESSONS LEARNED

EMBEDDING DISASTER RISK REDUCTION AT THE LOCAL LEVEL

- Apply a participatory approach to stakeholder engagement. Involve local stakeholders when planning and executing projects in order to overcome barriers, facilitate coordination, and build ownership.
- Draw on local knowledge and increase awareness of disaster risk through participatory approaches, such as community risk mapping and community-design of public education materials.
- Drive public education campaigns to enhance reach, understanding and buy-in at the community level.
- Capitalize on the community's existing resources, such as volunteers, NGOs, women's groups and other community groups and include them in disaster preparedness trainings, where appropriate.
- Adapt technology and learning tools to the community in an appropriate manner. For example adapt database management to MS Access instead of GIS where local technical ability is low.
- Make greater effort to increase coordination and interconnectivity among the relevant local level institutions, with regards to disaster risk governance and communication channels, as well as tools and resources necessary to support an early warning system.
- Engage the community continuously in order to ensure sustained understanding and implementation of DRR practices and to drive the RRMC model at the community level. Though continuous training, local actors will become more willing to endorse DRR and the RRMC model as best practice tool for effective decision making.
- Take local disaster coping mechanisms into account. Local knowledge should be considered as the centerpiece and explored thoroughly, prior to the introduction of an external model.



Financing

As UNDP financial support was for the pilot phase only, it was important that each country discuss the procurement of funding needed to maintain the RRMC in terms of staffing, updating equipment, administrative costs and other expenses. In the project planning phase, there is a need for correct and feasible cost assessments and financial planning, which should include memorandums of understanding for cost sharing and leveraging of other funds after project wrap-up. All financial planning should take into account an understanding of the local market.

Several countries, including the Dominican Republic, are interested in looking for new sources of financing. Jamaica has advocated for private sector injection of capital to support the continued functioning of the RRMC, and hopes to generate interest by prioritizing key aspects of the project. Trinidad and Tobago is interested in national level scale-up under the cooperation of the two Ministries involved.

Ownership

Perhaps the most important element of sustainability is stakeholder ownership, especially at the level of those operating and benefiting from the system. By involving all stakeholders from the project outset and assisting them in making the project activities and outcomes their own, the implementation team can promote a feeling of ownership in the impacted communities.

Sustainability Checklist

This tool was developed to help national and local authorities to assess the sustainability and next steps for the RRMC.

Activity

RRMC activities are ongoing:

- Community/EWP training_____ ☐
- Public awareness campaigns_____ ☐
- Risk and Vulnerability mapping and analysis_____ ☐
- Multi-disciplinary teams provide input_____ ☐
- Data collected is adequate_____ ☐
- Databases are functional and utilized_____ ☐
- Local government is informed of potential risk and vulnerability_____ ☐
- Information and communication protocols_____ ☐

To advance DRR in the territory, further activities are planned with:

- Public sectors bodies_____ ☐
- Private sector actors_____ ☐
- UNDP_____ ☐
- Civil society actors_____ ☐

Logistics

The following components are operational:

- Human resources_____ ☐
- Utilities and facilities_____ ☐
- Equipment procurement and maintenance_____ ☐
- Information management systems_____ ☐

Financial

RRMC pilot costing analysis has been conducted_____ ☐
Risk Reduction cost benefit analyzed_____ ☐
Critical financial issues have been analyzed_____ ☐
Budgetary support beyond pilot has been requested_____ ☐
Budgetary support is provided annually_____ ☐
If there is a funding shortfall, a plan for resource mobilization is in place____ ☐
Additional resources have been secured_____ ☐

Community

Communication protocols have been established with community EWPs___ ☐
Equipment maintenance arrangements in place_____ ☐
Community focal points identified_____ ☐
Upgrade training planned_____ ☐
Public awareness building strategy in place_____ ☐

Institutional

RRMC focal point identified for operations and follow-up_____ ☐
Institutional arrangements made with:

- local disaster management authority/unit_____ ☐
- local government_____ ☐
- national disaster management authority_____ ☐
- role of private sector_____ ☐
- public sector actors: water resource, agriculture, transport etc._____ ☐

Policy or guidelines in place to strengthen risk reduction approach_____ ☐
Disaster Plans incorporate risk reduction_____ ☐

LESSONS LEARNED

INSTITUTIONAL STRENGTHENING IN DISASTER RISK REDUCTION

- Conduct an institutional capacity assessment to identify strengths and weaknesses; review existing structures to determine if and where improvements could be made.
- Facilitate strategic linkages with relevant agencies, ministries and others organizations to form a core consultative group on DRR.
- Foster communication between the various levels of administration and across ministries.
- Facilitate regular engagement with members of the district and municipal governments to continuously strengthen their capacity in relevant areas.
- Advocate for the development of a legal framework which supports the integration of the disaster risk reduction principles into the operational plans and procedures of national agencies.
- Raise awareness and empower local authorities, including meteorological and water resources agencies, through training processes which increase their understanding of risk reduction as a diagnostic and planning process, rather than just response and recovery.

5. LESSONS LEARNED FOR TRIANGULATING ACTORS

Entities such as UNDP have a strong role to play in supporting south-south and triangular cooperation. In the UNDP Strategic Plan 2014-2017 this role is envisioned to include: brokering knowledge on scalable development solutions and analysis on what has worked or has not; enabling harmonization of policies, legal frameworks and regulations to increase opportunities and maximize mutual benefits of SS exchanges while supporting capacity development of partners to better implement SSC; and facilitating partnerships, fostering innovation and promoting scale-up.[19]

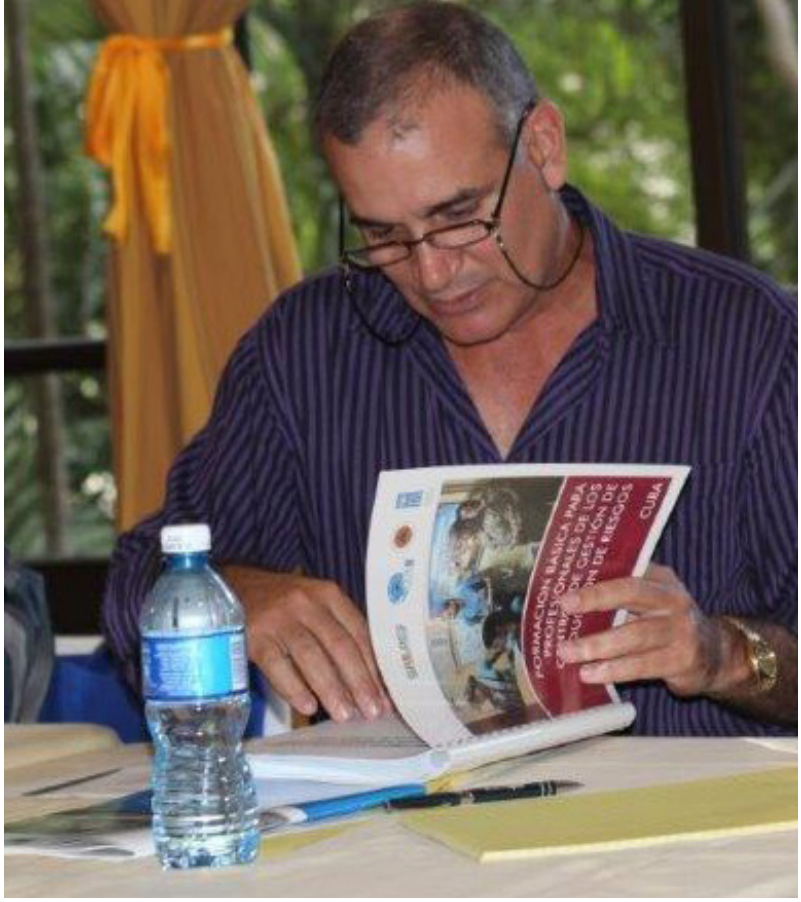
Facilitating the RRMC SSC pilot with many diverse stakeholders and implementation contexts presented unique challenges and has resulted in robust learning for the role of UNDP at a country and regional level.

Adaptive Approach

SSC lends itself to a flexible approach to development. When the objective is to share or transfer a best practice to another context, the focus should be on adapting and adjusting methods to each setting it is applied to. This has implications for project design, implementation and support.

Systematization

The provider country experience must be well-systematized, captured and documented. Systematization should take into account: how to systematize for the benefit of the provider country, so it can strengthen its model and delivery at a national level; and how to systematize for the purpose of assisting the recipient country. These are two different processes, with different outputs; one is targeted at improving the existing national experience, and the other is targeted at explaining and providing tools on the original model to another country. SSC benefits from well-thought out and designed



systematization of the provider country experience. Systematization of best practices should be incorporated into project planning, outputs and budgets.

Needs Analysis

It is critical to take the time and employ objective tools to assess how the provider country's experience can respond to the recipient country's need. The RRMC pilot project relied on self-assessment of vulnerability and criteria for success – which worked to varying degrees. SSC planning should be based on a robust articulation of vulnerabilities, needs, gaps and resources; in this particular case, more thorough analysis of a) gaps in disaster management structures and b) readiness to integrate risk reduction at a local level would have strengthened the project impact.

Capacity Development

This SSC initiative was a rich and complex experience, with five distinct contexts. A comprehensive capacity assessment at each country level, that includes both individual and institutional analysis, is recommended so that technical tools, training and assistance can be tailored to each country needs. While time and resources must be allocated to the capacity assessment step, it results in more effective capacity development.

LESSONS LEARNED

BUILDING CAPACITY AT A LOCAL AND NATIONAL LEVEL

- Consider the demographics, culture and education levels of participating communities so that training can be tailored to have the maximum impact.
- Value participatory training methodologies at a community and national level.
- Develop critical thinking skills, alongside knowledge transfer, at the trainings to support flexible thinking and action. Scenario exercises are a useful way of developing critical thinking.
- Continuously test skills in order to identify gaps in training or address staff turnover. Schedule follow up activities such as refreshers, drill exercises and additional training to facilitate continuous improvement.
- Schedule training activities with an awareness of national and local peculiarities. Include national and local level project management skills in the trainings.

LESSONS LEARNED

SSC AND CAPACITY DEVELOPMENT

- Undertake a capacity assessment of the recipient country as first step to cement project design and inform the provider country's approach to training and content development.
- Adjust training content, methodology and instruction to audience's needs. Use participatory and interactive exercises which emphasize relevant participant knowledge. Problem based approaches which address possible implementation challenges are valuable.
- Set aside sufficient funds to allow for translation services to prevent language barriers from limiting transfer of knowledge.
- In terms of adapting a model, place greater emphasis on the intricacies of the model and how best to mitigate various implementation challenges in terms of scale and replicability. More emphasis should be placed on probing the requirements for efficient data management and transfer. Sharing standard operating procedures provides useful guidance material.
- Plan capacity development activities as a follow up to training in the provider country, such as technical exchange programs with provider country experts, train-the-trainer workshops, knowledge platforms, expert provider review of work plans and tools, and possibly policy arrangements to ensure compatibility with new model elements.
- Consider more specialized training in pilot recipient countries by the provider country; provision of more technical support to countries over the project period would build better capacity and results.
- Prioritize the development of a resource guide, which should include contacts directory, funding sources, available training expertise, and links to reference materials.
- Define a standard set of information products for the pilots, such as templates or workflow charts. This will allow them to be more organized and will support better monitoring.
- Consider facilitating 'train the trainer' workshops which develop competencies that will contribute to the local or national resource pool and can be tapped into for future initiatives.

Sharing Experiences

This SSC initiative utilized multiple tools to encourage horizontal sharing, including social media, webinars and face-to-face meetings. However, according to the feedback received, they simply were not horizontal enough. SSC should facilitate opportunities for the multiple stakeholders to discuss, look for solutions together and exchange in real-time, to meet an emerging demand. This can occur face to face, but there is also a role for improved virtual platforms that are designed to be user-driven, where stakeholders could actively share their achievements, queries, and recieve guidance on implementation problems.

Coordination

A multi-country SSC initiative benefits from an overarching coordinating role which provides bigger picture and strategic direction, ensures consistency in information flow from provider to recipient countries, provides support to COs, monitors and collects results with greater degree of uniformity, and documents the SSC process. At a regional level, it is the responsibility of the coordinating body to also keep the provider country informed of the results – particularly when there are multiple countries and multiple activities happening simultaneously. This creates open doors for bi-directional learning.

Support

The country office role is equally important in terms of liaison work with local and national authorities, helping to establish realistic implementation plans, timelines and budgets for activities, providing support to the development and implementation of monitoring plans, and assisting with managing the expectations of both recipient and provider country partners. Country offices are critical in "setting the stage" for SSC through convening initial meetings, hosting a formal induction to ensure buy-in and commitment by all actors, and communicating with relevant stakeholders throughout the process of SSC implementation to ensure continual coordination and information flow. Country offices can also help document results, support the hand-over to local authorities and engage in discussion of sustainability and follow-up. In this experience, just as it is essential for the recipient country partners to understand the proposed SSC development solution, the UNDP country office actors also need to understand it so they can work with local and national authorities to analyze linkages in the model to local reality and help define scope and design of adaptation.

Techniques

SSC can leverage a wide-range of techniques, moving from sharing ideas to adapting and implementing them.

Mechanisms	Possible Actions
Agreements and Diagnosis	• Agreement on terms and components to be transferred • Mission from provider to recipient country to assess context and design SSC • Capacity assessment of recipient country system • Field visits to learn about provider country experience • Review SOPs and processes
Knowledge Exchange	• Workshops or technical roundtables for exchange • Experience exchange in regional and bi-national forums • Use of virtual forum for sharing experience. • Construction of knowledge networks • Online courses
Capacity Development	• Technical assistance in process design, planning and follow-up • Technical visits from recipient to provider country for training • Mentoring from provider to recipient country • Internships or study tours to provider country by recipient country • Technical working panels for methodological transfer
Tools	• Development of didactic aids • Methodologies, templates, guides, procedures, and operations adapted • Training for provider country on implementing SSC, including theoretical approach, methodology and training materials
Implementation	• Short, medium and long term action plans are constructed to facilitate the adaptation process • Pilot projects used to test provider country model • Adaptation and implementation of SOPs, protocols, and processes • Strategic support by provider country in SSC implementation process • Process monitored in order to reorient and reformulate, as necessary • Evaluation conducted to assess effectiveness and possible continuity

6. CONCLUSION

The RRMC pilot initiative allowed UNDP to deepen and better articulate a framework and logic under which SSC can be facilitated. If one has the benefit of starting from square one and designing a SSC project, it is recommended that the following key steps be taken into consideration. The first step is to understand both demand and supply. On the recipient side, the need should be well articulated and resonate with development priorities. On the provider side, the experience must be sufficiently documented. Tools, methodologies and capacities of the provider country should be evaluated in order to ensure that the experience can be transferred. A preliminary exchange whereby both countries can become familiar with the problem and proposed solution will greatly assist the development of an effective SSC agreements and work planning.

The next step is to adapt the model to another context, based on understanding the existing demand and capacity. Technical tools, training and assistance can be tailored to specific needs; mechanisms and processes can be adapted and/or created to implement in the recipient country. The RRMC pilot demonstrated the value of integrating the transferred model into existing structures.[20]

A third step involves actually implementing the transfer. The work plan is finalized and implemented, with feasible and measurable outcomes in terms of human, operational and institutional capacities. A monitoring system is put into effect to support the process. Networks and lateral communication channels help reinforce engagement among the participating countries and build a mutually beneficial learning experience over the long term.[21] The experience is consolidated in the recipient country.

Finally, the documentation of the SSC experience, both between participants in different countries and in the wider development community, should be considered an equally important activity. This focus on capture and sharing of knowledge will allow for the continuous improvement and sustainability of the SSC initiative.

This framework represents one viable model of south-south cooperation. It draws on tested expertise and best practice, calls for adaptation and application, and champions ongoing horizontal cooperation. While the focus of the RRMC SSC initiative was on disaster risk reduction, the process which emerged and the lessons learned can be utilized to address multiple thematic areas. South-south cooperation has potential and relevance in addressing such development challenges, where there is a confluence of demand, development issue, context, transferrable solution and ownership; all these ingredients are necessary for one country to benefit from another's experience.[22] Setting a framework for analysis, action and accompaniment strengthens the effectiveness of such cooperation, and provides a vehicle for a more collective approach to development challenges. It is the spirit of collaboration, across cultures and contexts, that moves solutions from discourse to action and change.

Endnotes

1. United Nations General Assembly, 2010 **2.** United Nations High-Level Committee on South-South Cooperation, 2012 **3.** United Nations Office for South-South Cooperation (UNOSSC),2014b **4.** OECD Task Team on South-South Cooperation, 2011, p.1 **5.** United Nations Development Programme (UNDP), 2013b **6.** UNDP, 2013a, p. 40 **7.** Fairholm, 2014 **8.** CRMI, 2014 **9.** OECD Task Team on South-South Cooperation, 2011, p.1 **10.** Fairholm, 2014
11. OECD Task Team on South-South Cooperation, 2011, p.4 **12.** UNDP Cuba, 2012 **13.** Model developed by the Cuban Civil Defence, with financial assistance from NGO Movement for Peace, Disarmament and Liberty, within the framework of existing European Commission's Disaster Preparedness Humanitarian Aid and Civil Protection (DIPECHO) Action Plan.
14. Opening remarks at the RRMC Awareness Study Tour, Havana, Cuba; February 2013
15. The video series is available on the CRMI Youtube page: www.youtube.com/user/crmiundp
16. ODPEM, 2000 **17.** Dominican Republic, National Office of Public Defence, 2012
18. UNECLAC, 2005, p.13 **19.** UNDP, 2014 **20.** OECD Task Team on South-South Cooperation, 2011, p.4 **21.** Fairholm, 2014 **22.** Fairholm, 2014

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The Caribbean Risk Management Initiative (CRMI) is a knowledge network designed to promote best practices and build capacity in the region in the fields of risk management and climate change adaptation. CRMI aims to provide a platform for sharing the experiences and lessons learned between different sectors, languages and cultural groups across the Caribbean in order to facilitate improved disaster risk reduction.

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