Republic of the Marshall Islands

NATIONAL ACTION PLAN FOR DISASTER RISK MANAGEMENT 2008 – 2018

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Government of the Republic of the Marshall Islands

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A Collaboration between the
National Task Force for Disaster Risk Management and the
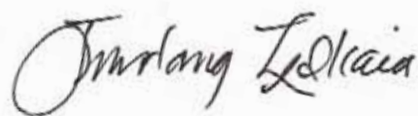Office of the Chief Secretary

Foreword

The Marshall Islands is a relatively small country of about 70 square miles in land area spread over an expanse of ocean of more than 700 square miles. As such we are vulnerable to a range of natural and human-induced hazards perhaps more so than our larger island neighbours in other parts of the Pacific. Recognising the vulnerable nature of our country we have embarked on this endeavour to identify risk reduction and disaster management measures and activities that will help to make our country a better place to live and our people more safe and secure.

In late 2006 the Government had requested support through the Pacific Islands Applied Geoscience Commission (SOPAC) to develop a Disaster Risk Management National Action Plan. Over 6 months, commencing in March in 2007, representatives of SOPAC, the Pacific Islands Forum Secretariat and United Nations Development Programme - Pacific Centre and Secretariat for the Pacific Community assisted government officials and other stakeholders representing community interests to develop this plan. Following the articulation of the various actions these regional partners have also worked with us to develop a pathway for implementation.

This Disaster Risk Management National Action Plan is an important and integral supportive element towards the achievement of our sustainable national development imperatives. Our national sustainable development strategy is known as Vision 2018. We realise that in order to move forward meaningfully with the development priorities articulated in Vision 2018 and other linked development plans and programmes, it is important that we fully take into account those risks associated with the many hazards that we face. We must plan to mitigate and wherever possible prevent risks posed by hazards. We must also prepare ourselves to effectively manage those disasters which may be unavoidable and will impact our shores and our limited resources. If we don't take any action then it is almost inevitable that we will have a higher price to pay further down the line. It will take us longer to recover and our efforts to move forward will actually result in taking steps backwards.

I commend this DRM National Action Plan to all our development partners and donors and invite them to work with the Republic of the Marshall Islands to address the various measures and actions that it identifies. We see this document not as a signal of accomplishment but as a staring point for a better future for the Marshall Islands.

HE Jurelang Zedkaia
President, Republic of the Marshall Islands

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List of Acronyms

AG	Attorney General
AMI	Air Marshall Islands
CHARM	Comprehensive Hazard and Risk Management
CMI	College of the Marshall Islands
CMT	Coastal Monitoring Team
COFA	Compact of Free Association
CSO	Chief Secretary's Office
DHS	Department of Homeland Security
DM	Disaster Management
DRM	Disaster Risk Management
DRR	Disaster Risk Reduction
EIA	Environmental Impact Assessment
EPA	Environmental Protection Authority
EPPSO	Economic, Policy, Planning and Statistics Office
ERP	Emergency Response Plan
EWS	Early Warning System
FEMA	Federal Emergency Management Agency
HLAT	High Level Advocacy Team
HPO	Historic Preservation Office
IA	Ministry of Internal Affairs
ICAM	Integrated Coastal Area Management
KAJUR	Kwajalein Atoll Joint Utility Resources
M&E	Monitoring and Evaluation
MEC	Marshalls Energy Company Inc.
MIMRA	Marshall Islands Marine Resources Authority
MoE	Ministry of Education
MoF	Ministry of Finance
MoH	Ministry of Health
MoTC	Ministry of Transport and Communication
MWSC	Majuro Water and Sewage Company
NAP	National Action Plan
NAPIU	NAP Implementation Unit
NDC	National Disaster Committee
NDMO	National Disaster Management Office
NEMCO	National Emergency Management and Coordination Office
NEOC	National Emergency Operations Center

NGO	Non-Governmental Organization
NTA	National Telecommunications Authority
NTC	National Training Council
OEPPC	Office of Environmental Policy and Planning Coordination
PDRMPN	Pacific Disaster Risk Management Partnership Network
PIFS	Pacific Islands Forum Secretariat
PIP	Provisional Implementation Program
PRIPPP	Pacific Regional Influenza Pandemic Preparedness Project
RANET	Radio and Internet Information Network
R&D	Ministry of Resources and Development
RMI	Republic of the Marshall Islands
RO	Reverse Osmosis
SDP	Strategic Development Plan
SOP	Standard Operating Procedures
SPC	Secretariat of the Pacific Community
TA	Technical Assistance
T&C	Ministry of Transport & Communications
TF	Task Force
UNDP	United Nations Development Programme
US	United States
USAID	United States Agency for International Development
WSO	Weather Service Office

Acknowledgement

The Office of the Chief Secretary, as the agency responsible for leading the development and implementation of the Disaster Risk Management National Action Plan would like to acknowledge and extend its gratitude to all members of the National Disaster Committee, National Action Plan Task Force, non government and civil society organisations and also Mayors and other community leaders for their contributions.

In addition we would also like to acknowledge the contributions of the members of the Pacific Disaster Risk Management Partnership Network.

We look forward to working closely with all of you in implementing the actions under the plan and realising its outcomes.

Casten Nemra
Chief Secretary
Office of the President

Background Information

Introduction

Geographical setting

The Republic of the Marshall Islands (RMI) is located in the central Pacific, approximately mid-way between Hawai'i and Australia. The RMI is made up of 29 low-lying atolls and five islands, together comprising 70 square miles. This is in contrast to the 700,000 square miles of ocean which forms part of its Exclusive Economic Zone. The atolls and islands are unusual in that they are essentially coral caps set on underwater dome volcanoes rising from the ocean floor. The atoll and islands lie in two parallel chains: Ratak (Sunrise) to the east; and Ralik (Sunset) to the west. The two atoll chains are approximately 129 miles apart and are aligned diagonally northwest to southeast between 160° E – 173° E and 04° N – 15° N. The capital is situated on Majuro atoll in the southeast which has a land area of 3.56 square miles. The distance between Majuro and the furthest outlying atoll (Ujelang) is approximately 700 miles. Majuro lies some 2,300 miles southwest of Honolulu and nearly 2,000 miles southeast of Guam. Over two thirds of the population of the Marshall Islands is concentrated on Majuro and Kwajalein. These two atolls are essentially urban in nature while the remainder of the atolls and islands – commonly referred to as the 'outer islands' – are rural. Administrative district centers are located at Majuro, Kwajalein, Jaluit and Wotje.
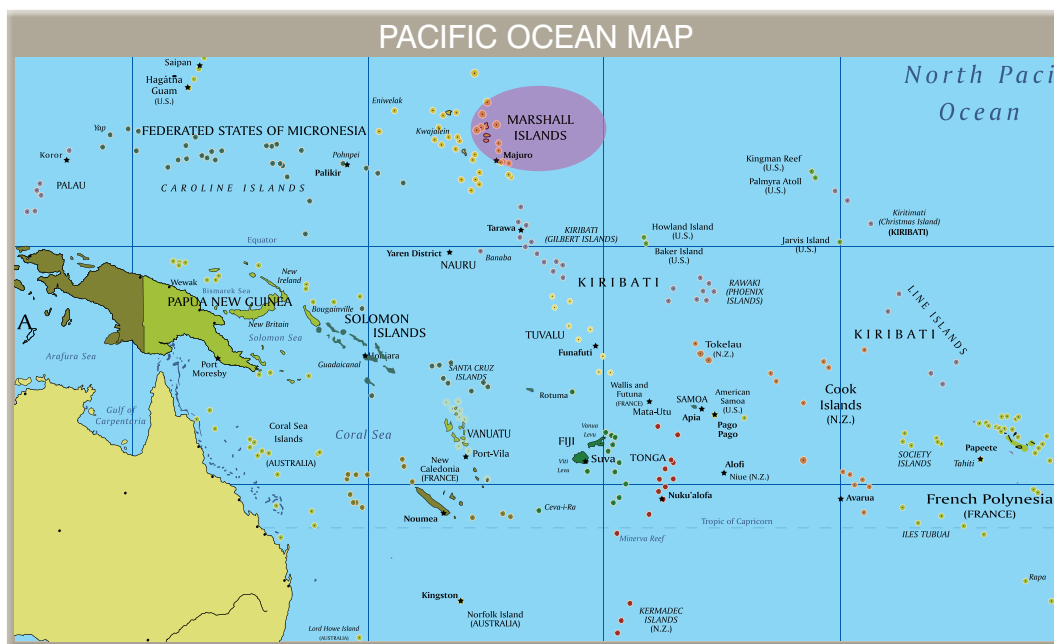

Figure 1 – Map of the Republic of the Marshall Islands[1]

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[1] Documentation consulted in the source of formulating the plan is listed in Annex 6.

Population

In 1988 the population of the Marshall Islands was estimated at approximately 57,000 people. Despite one of highest birth rates in the Pacific, the annual population growth rate since the official census in 1988 is 1.2 %. The national population growth is moderated by a net positive rate of out-migration[2], however, of greater concern for planners is the rapid (and largely unregulated) growth of populations in urban centers due to internal migration. The Community and Household Survey of 2006 estimated the population in Majuro to be in excess of 28,000. This represents a seven-fold increase in population between 1958 – 1999 and a doubling of population density between 1980 – 1999. Population density in Majuro is in the order of 7,500 people per square mile. In contrast it can be said that population density on the islet of Ebeye (Kwajalein Atoll) is approximately equivalent to 83,000 people per square mile, similar to a highly populated Urban area. In reality, the Island only has a land area of 0.12 square miles and is inhabited by approximately 10,000 people. Overall population density in the RMI has increased by a factor of five over the past 50 years, estimated at approximately 800 people per square mile in 2006.

Governance

In 1986[3], the Marshall Islands attained independence after almost four decades under US administration. Prior to independence it formed part of the Trust Territory of the Pacific Islands, a United Nations trusteeship administered by the United States Navy from 1947 – 1951 and by the United States Department of the Interior from 1951 – 1994. Elections are held every four years with each of the twenty-four constituencies electing a senator to the lower house of Republic of the Marshall Islands' bicameral legislature, the *Nitijela*. The upper house – the Council of *Iroji* – is an advisory body comprising twelve tribal chiefs. The Council of *Iroji* is consulted on all customary and land issues. The President, who is head of state as well as head of government, is elected by the *Nitijela*. The executive consists of the Presidential Cabinet – ten ministers appointed by the President with the approval of the *Nitijela*. The public service is headed by a Chief Secretary who is responsible to the Cabinet for the general direction of the work of all departments and offices of government.

Local government is administered by the Ministry of Internal Affairs. Each inhabited island has a local council headed by a mayor. Funds are disbursed to the local councils on an annual basis in relation to the size of the population being served. Local council activities include: local police services, solid waste collection, and maintenance of local roads. Additional funding for capital projects is sometimes allocated from donor funding or US federal grants. Mayors report back to the Ministry of Internal Affairs every three months.

District centers have their own locally appointed officials and police force. Funding for the district centers comes in the form of grants from the national government and revenue raised locally.

The judicial power of the Marshall Islands is independent of the legislative and executive powers and is vested in a Supreme Court, a High Court, a Traditional Rights Court, and District and Community Courts.

The Republic of Marshall Islands and the United States have a very strong relationship of mutual assistance as encapsulated under the Compact of Free Association (COFA) which came into effect in 1986. Certain provisions of the Compact, including economic assistance, expired in 2001 and were subsequently renegotiated for an additional 20 years commencing in May 2004.

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[2] Between 1990 and 2004, departures from the country outnumbered arrivals by more than 13,000, according to data on net embarkations.

[3] Internal self-governance was attained in 1979.

Under the COFA relationship, the United States provides guaranteed financial assistance administered through the Office of Insular Affairs in exchange for certain defense rights, including the lease of eleven islands on the Kwajalein Atoll by the Ronald Reagan Ballistic Missile Defense Test Site. Compensation claims continue as a result of US nuclear testing on some of the atolls.

Marshall Islands actively participates in all Office of Insular Affairs technical assistance activities and has unique access to many US domestic programs, including disaster response and recovery and hazard mitigation programs under the Federal Emergency Management Agency (FEMA). Under the COFA, Republic of the Marshall Islands citizens have free access to the US and do not require a visa or work permit.

Apart from the United States (US) other key international development assistance partners include the Republic of China (ROC), Japan, the European Union (EU), and the Asian Development Bank.

The most important Civil Society Organizations (CSOs) in the Marshall Islands are local community organizations, including parents-teachers associations, sports clubs, women's clubs, and the very active churches (many of which also provide important school services). The Marshall Islands has a small number of Non-government organizations (NGOs), all based in Majuro, that provide an assortment of services from education to vocational training, to advocacy on women's issues. The NGO sector in RMI is not, however, particularly vibrant and only plays a limited advocacy role. This is, in part, the result of dependence on government funding, as well as the pervasiveness of non-confrontational cultural norms. The private sector is represented by the Chamber of Commerce, also located in Majuro. The business sector has a history of greater influence over public policy. The Republic of the Marshall Islands has a relatively open and active media community. Radio is the primary media source and foremost Marshallese, particularly the government-controlled AM station, which reaches the outer islands. There is also an independent newspaper in Majuro that has a weekly readership of roughly 20,000 (print and electronic versions) and several privately-run FM radio stations.

National development policy and priorities

In 2001 the Government charted Vision 2018 as the first segment of the Government's Strategic Development Plan for the next 15 years. It incorporates the broad Vision of the Nation as to where the people would like to be in the year 2018 in terms of sustainable development. In this document the Vision is spelled out with respect to the long-term goals, objectives and strategies, which were developed through an extensive consultative process starting with the Second National Economic and Social Summit and then followed by extended deliberations by various Working Committees established by the Cabinet. The second and third segments of the Strategic Development Plan will consist of master plans focusing on major policy areas, and the action plans of ministries and statutory agencies. This National Action Plan (NAP) for Disaster Risk Management (DRM) is an example of an inter-sectoral action plan. These documents will show programs and projects together with the appropriate costing. It is also the intention for all Atoll Local Governments to develop action plans tailored towards the achievement of the national Vision.

The national goals for the Republic of the Marshall Islands can be summarized as 1) increased self-reliance; 2) renewed economic growth; 3) equitable distribution; 4) improved public health; 5) improved educational outcomes; 6) international competitiveness; and 7) environmental sustainability.

Priority sectors for the Marshall Islands Government are: education, health, environment and infrastructure development and maintenance.

Economy

The RMI has a small national economy that is primarily driven by public sector spending and contributions from the US Government. The latter takes place under the auspices of the Amended Compact of Free Association through which the US will continue to support the Marshall Islands through to 2023, at which time a Trust Fund made up of US and Republic of the Marshall Islands contributions would begin perpetual annual payouts. Commerce in the Republic of the Marshall Islands is highly dependent on government expenditures and as of 2004, the Government sector, including sate-owned enterprises accounted for some 40% of GDP and 41% of formal employment.

Ebeye and the US Ronald Reagan Missile Test Site at Kwajalein Atoll are key components in the Marshall Islands economy and are estimated to provide about one-third of economic activity.

A continuing challenge for the Marshall Islands is achieving economic and fiscal stability in the face of a weakly developed private sector. This is because the economy is highly vulnerable to the negative repercussions of external markets and other forces that disturb economic growth prospects and endanger living standards. Examples where this has happened in the past include: the decrease of tourism brought about by 9/11 and the Avian bird flu crisis in the 2001 – 2004 period; the migratory nature of the fisheries for which decreases of fishing and associated revenue were experienced in 2003 and 2004. Recently, increases in fuel prices in 2004 and 2005 have reverberated throughout the entire economy. The private sector has grown steadily over the past decade, however, the rate of growth is too slow to make significant reduction to the 31% unemployment rate. The tourist industry, now a small source of foreign exchange, employs less than 10% of the labor force and remains the best hope for future income.

Republic of the Marshall Islands has a GDP of approximately $144 million and a per capita GDP of approximately $2,900. Key sectors in the economy include:

* Agriculture and fisheries: 31.7%
* Industry: 14.9%
* Services: 53.4% (2004 est.)

Important export products include: copra cake, coconut oil, handicrafts and fish. Important industries include: copra, tuna processing, tourism, craft items from seashells, wood and pearls. As with most Small Island States, the value of imports ($54.7 million) greatly exceeds the value of exports ($9.1 million)[4]. A combination of Government downsizing, drought, a drop in construction, the decline in tourism, and less income from the renewal of fishing vessel licenses have restricted GDP growth to an average of 1% over the past decade.

The total budget of RMI is about $150 million. Only 25% of the revenue raised to fund the budget is raised domestically. Over 60% of government revenue originates from Compact of Free Association funding, federal grants and nuclear compensation funding. The largest contributors to government revenue are taxes (income tax and import tax), fishing licenses, ship registration fees, gross revenue tax and tourism.

Since 2004, the government has concentrated spending to its priority sectors: education, health, environment and infrastructure development and maintenance. The strategic approach to government spending includes: streamlining government and making public services more efficient and effective; creating an environment for private sector-led economic growth and employment generation; and improving the living standards for all Marshall Island citizens.

[4] 2000 values.

Risk context

Risk is considered the product of hazards and vulnerabilities combined. While RMI is not directly in the typhoon corridor, it is exposed to a number of hazards and vulnerabilities that are linked both to its physical characteristics and unsustainable development processes.

Key natural hazards that have the potential to negatively impact on the RMI include:

> tropical storms and typhoons, high surf, and drought all expected to increase in frequency and intensity due to climate change. However they are considered to be at low risk to earthquakes, volcanic eruptions and tsunami.

Key man-made or human-induced hazards include: fire, contamination of water supply, outbreaks of epidemic diseases, exposure to hazardous waste, and commercial transport accidents (including marine oil spills).

Factors contributing to the high risk profile of RMI include the following:

- Extremely high population densities on some islands, e.g. Ebeye, Majuro etc;
- High levels of poverty – 20% of the population lives on less than $1 per day. In addition to increasing incidence of poverty on the outer islands, pockets of deep poverty have taken hold in the urban centers of Majuro and Ebeye;
- Low elevation (the average elevation in the Marshall Islands is seven feet above sea level);
- Wide dispersal of the country over a large area of ocean;
- A fragile island ecosystem – including the invaluable ecosystem services offered by coral reefs protecting the coastline;
- Limited and fragile fresh water resources that are highly vulnerable to overuse and contamination; and
- A weakly developed economy that is vulnerable to global influences.

The risk posed by these socio-economic and physical frame conditions are compounded by weak management of various human activities and little consideration of the risk that is created through these development activities. This serves to increase general vulnerability. Waste management in Majuro and Ebeye, for instance, is a growing problem given the limited land space available. While the management of waste collection and the land fill site has improved following the appointment of a private sector company, the potential for pollution of critical water sources and the general threat to public health remains.

Apart from solid waste, sanitation also remains a key challenge for the Republic of Marshall Islands. While much of Majuro and Ebeye have reticulated sewerage, treatment of raw sewerage before disposal at sea is inadequate. Thus people living close by to uncovered settling ponds, as well as those living in close proximity to sea outlets are exposed to health threats, especially women and children. In addition, there are a significant number of households that make use of septic tanks – increasing the potential for contamination of groundwater. A failure to regularly empty septic tanks means that overflowing is not uncommon, a factor contributing to increased potential for the outbreak of disease.

In Jenrok Village, a densely populated suburb on Majuro, a recent study revealed that 25% of households did not have toilets and that 67% of households had septic tanks. Water quality testing revealed high levels of contamination of wells and of coastal waters. Growing poverty in Jenrok was indicated by the fact that 102 of the 211 households subscribing to the city's reticulated water system were disconnected due to the non-payment of their bills. Of the remaining 109 subscribers, more than two thirds were 90 days behind in meeting their water payments.

Recent testing of water sources on the outer islands similarly revealed high levels of contamination. While many households rely on rainwater, catchment tanks are often poorly sanitized. During drought periods, when stored rainwater is no longer available, many people are forced to use polluted sources of groundwater. Based on a study done by Economic, Policy, Planning and Statistics Office (EPPSO) in conjunction with the Ministry of Health (MoH), one in 15 people in Majuro suffer from gastroenteritis, while in Ebeye it is one in every 8 persons. EPPSO calculated that in 2004, the MoH spent over $358,309 to address the needs of outpatients with gastroenteritis. Given the conditions at Ebeye, it is not surprising that there was an outbreak of cholera in 2000 – 2001. There were 103 positive cases identified and 6 people died.

Another activity which increases the vulnerability of the Marshall Islands is the mining of the coral reef for building aggregate. This is a growing problem, particularly on Majuro, as the modernization process leads to increased construction activities. This applies both to individual housing projects where residents are making the switch to cement-brick solid structures, as well as to large private-sector funded building projects. As a result of coral mining there is less reef protection against wave action, rendering the islands more vulnerable to storm surges as well as coastal erosion.

Construction of poorly-designed causeways to link islands within an atoll chain upsets the natural flow of sediments and is another cause of coastal erosion. Construction of solid seawalls can have the same impact. Solid cement-brick houses may be better equipped to withstand extreme weather events, but unlike traditional houses they do not allow for relocation in the face of coastal erosion.

Until recently, development in the coastal zone has been largely unregulated. A renewed emphasis on enforcing Environmental Impact Assessment regulations as well as new revised Coastal Management Regulations will hopefully begin to put in place the conditions for a more sustainable management of the Marshall Island's fragile coast line.

A particular challenge in the context of the Marshall Islands is the complex land tenure system in operation. Government itself owns very little land and most land is leased from land-owners (iroij, alap or rijerbal). Given the shortage of land in the Marshall Islands it is perhaps not surprising that ownership of land is considered sacrosanct. Landowners wield tremendous power and influence making it difficult for agencies tasked with land management to apply planning and environmental management regulations. It is critical that landowners be brought on board in order to better manage the scarce and fragile land resources of the Marshall Islands.

Linked to the above is the issue of settlement planning and building codes. Inadequate management of rapid urbanization has led to densely populated and poorly planned settlements, often containing structurally deficient buildings. The potential for fires is exacerbated by the high use of kerosene (43% of households) and charcoal/wood (20% of households), and due to the compaction of dwellings, fire can spread rapidly from house to house. A lack of adequate settlement planning and management means that emergency access lanes often do not exist – making it difficult for fire trucks to reach the fire or to gain access to fire hydrants. A lack of fire and accident preparedness is equally evident in the commercial and industrial areas.

The risk profile of the outer islands is largely linked to their isolation as well as to behavioral changes linked to modernization. While population numbers on these islands tend to be small, there is little emergency infrastructure to assist in times of disaster. The main hazards affecting these islands are typhoons and droughts, and resultant water and food shortages. Due to integration into the monetary economy, the island communities have lost much of their self-sufficiency, and now rely heavily on remittances and purchased commodities, including food. This makes them particularly reliant on air and sea links with Majuro and Ebeye.

Traditional coping strategies, such as food preservation and building methods, are similarly eroding. Previously diverse sources of livelihood activities are becoming more limited due to dependence on remittances.

The risk profile of RMI is a function of its fragile island environment combined with the negative impacts of modernization (rapid urbanization, loss of traditional knowledge, etc.) and unsustainable development processes that do not consider future risk. While the government and the people of Marshall Islands rightly strive to better their lives through development processes, increased attention needs to be given to managing the less desirable outcomes of modernization, including the management of risk. As development processes are not sector specific but span across government and the whole of society, it becomes important that increased emphasis be placed on a 'whole-of-government' and 'whole-of-country' approach to disaster risk reduction, including the need to involve all relevant non-government development players. Such an approach is advocated in the DRM NAP.

Existing DRM arrangements

Formalized Disaster Management first entered the political arena in the Marshall Islands in 1987 with the passing of a National Disaster Management Plan. It became firmly entrenched seven years later with the enactment of the Disaster Assistance Act which provided for the establishment of a National Disaster Management Committee and a National Disaster Management Office (NDMO)[5] located in the Office of the Chief Secretary. The year 1994 also saw the passing of a Hazard Mitigation Plan, a National Disaster Manual, and an Airport Disaster Plan. A Drought Disaster Plan was passed in 1996, followed by the drafting of a revised National Disaster Management Plan in 1997. The most recent legislative activity on the Disaster Risk Management front was the development of a Standard Hazard Mitigation Plan in 2005.

In terms of the Compact of Free Association[6], the RMI qualifies for disaster preparedness, response and recovery programs from the US Government, delivered through the Department of Homeland Security (DHS)/Federal Emergency Management Agency (FEMA). The last arrangement expired in December 2008. The US and the RMI will seek to reach an agreement to modify the arrangement for disaster response to include a greater role for USAID, as well as the United Nations. The transition from FEMA to USAID will require a review and amendment of existing protocols and operating procedures between relevant agencies. This process will need to be carefully managed to ensure that all parties are aware of their roles and responsibilities at all times.

Under the amended Agreement, the RMI will be able to request disaster assistance from USAID in a declared state of emergency, after utilizing the national Disaster Assistance Emergency Fund, (established by the amended Agreement as a first resource for disaster response), and requesting international assistance through the United Nations.

Existing DRM arrangements have to date been heavily focused on the conventional approach to Disaster Management; i.e. preparedness, response and recovery, with less attention being focused on the equally critical component of disaster risk reduction. The current context of institutional change provides a 'window of opportunity' to not only review existing DRM legislative and institutional arrangements, but also to ensure a better balance between the response based Disaster Management (DM) and Disaster Risk Reduction (DRR) in RMI.

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[5] Subsequently renamed to the National Emergency Management and Coordination Office (NEMCO).

[6] Article X of the Special Programs and Services Agreement.

While disaster management to date has been largely the preserve of the National Disaster Committee (NDC) and its operational arm, the National Emergency Management and Coordination Office (NEMCO), this DRM NAP strives to mainstream DRM into a broader sectoral arena. This is because DRR requires an integrated and cross-sectoral approach, one in which disaster risk considerations form an integral consideration in all development related planning. This includes integration of DRM considerations in budgetary allocations.

Key sectors for DRM in RMI, as identified in the situation analysis, include:

- Planning;
- Finance;
- Local government;
- Environment;
- Fisheries;
- Health;
- Agriculture;
- Tourism;
- Utilities (Power, Water, Transport, etc.);
- Private sector; and
- Civil Society Organizations

Development of the National Action Plan for Disaster Risk Management

Introduction

The impetus for RMI to develop a DRM NAP stemmed from the realization that although there have been earlier initiatives to address DRM issues. The communities of RMI are becoming increasingly vulnerable to both natural and human-induced hazards. This DRM NAP gives an opportunity for RMI to re-examine existing policy and develop a coordinated program of action focusing on key vulnerability and risk issues and on priority gaps.

Secondly, RMI has further demonstrated the commitments made by the President, Honorable Kesai Note, when he spoke in the Hyogo Conference on Disaster Risk Reduction to endorse the Pacific Regional Disaster Risk Management Framework for Action 2005 – 2015.

The Pacific Regional Framework for Action was endorsed by the Pacific Forum Leaders decision in Madang 2005, and called for national governments to develop an integrated approach using national action plans involving a whole-of-government approach to disaster risk reduction and disaster management with key agencies coordinating closely with relevant local, national, regional and international stakeholders. The Pacific Regional Framework for Action vision was for 'Safer, More Resilient Pacific Island Nations and Communities to Disasters, so that Pacific peoples may achieve sustainable livelihoods and lead free and worthwhile lives'.

Similarly, the Marshall Islands Minister for Foreign Affairs, Honorable Gerald Zackios in his opening address at the national workshop for the DRM NAP echoed the same commitments by saying that:

"I believe this is the beginning of a new era of addressing disaster in RMI. Instead of our reacting to disasters – with our disaster preparedness and response plans, we are giving equal importance to reducing the potential impacts of hazards before they strike our islands. I also believe that this current process of developing a National Action Plan for Disaster Risk Reduction and Disaster Management gives us the opportunity to re-examine RMI's capacity to deal with reducing risk as well as responding to risk. Unless we recognize the fact that disasters have the potential to set back the achievement of our economic, social and political development goals of the people; we will continue on our current response to disasters".

Regional Policy Context

Disasters can result in short-term and long-term social, economic and environmental consequences with effects often felt country wide. These impacts are often magnified in small atoll island environments and have the potential to set back development gains. Recognizing the multi-faceted nature of the problem, the Pacific DRM Regional Framework for Action calls on Pacific Island Countries to develop strategic national action plans for disaster risk reduction and disaster management. This regional policy document further advocates for the use of 'whole-of-government', integrated approaches with key agencies coordinating closely with relevant local, national, regional and international stakeholders.

The overall goal of RMI DRM NAP mirrors the vision of the Pacific Framework for Action in aiming to promote and achieve 'a safer and resilient RMI'. While the RMI DRM NAP is first and foremost a national document highlighting DRM priorities within Marshall Islands, it does this within the broad framework of the regional policy. In the same context, the RMI DRM NAP is also a national response to the Kalibobo Roadmap – and relevant objectives of the Pacific Plan and the Pacific Regional Framework for Action on Climate Change 2006 – 2015.

A mapping of the RMI DRM NAP to the Regional Framework indicates a high degree of alignment between the two planning frameworks (Table 1 below), and a good balance between DRR, DRM and cross-cutting actions.

Table 1 – Alignment of the Marshall Islands DRM NAP with the Pacific Regional Framework for DRR and DM.

Outcomes	Regional Framework for Action (Themes)	RMI NAP (Goals)
DRR Focus (mitigation, prevention, adaptation or transfer of disaster risk, early warning*) Note: those marked with * have DM focus aspects as well	Theme 3: Analysis and Evaluation of Hazards, Vulnerabilities and Elements at Risks Theme 6: Reduction of Underlying Risk Factors	Goal 5: Access to safe and adequate water at all times* Goal 6: Sustainable development of coastal zone Goal 7: Reduce economic dependency of outer islands* Goal 8: Improve understanding of the linkages between zoning, building codes and vulnerability to disasters
DM Focus (preparedness, early warning, response and recovery)	Theme 4: Planning for effective Preparedness, Response and Recovery Theme 5: Effective, Integrated and People-Focused Early Warning Systems	Goal 3: Improve capacity for emergency preparedness and response at all levels Goal 4: Build a strong and resilient DM early warning and emergency communication systems
Cross Cutting (governance, capacity building and awareness and education)	Theme 1: Governance – organizational, institutional, policy and decision-making framework Theme 2: Knowledge, Information, Public Awareness and Education	Goal 1: Established enabling environment for improved DRM in RMI Goal 2: Mainstream DRM in planning, decision making, budgetary processes at the national and local levels Goal 9: Raise awareness of DRM amongst the public

NATIONAL ACTION PLAN FOR DISASTER RISK MANAGEMENT

National Policy Context

In 2001 the Government charted the Vision 2018 as the first segment of the Government's Strategic Development Plan (SDP) for the next 15 years, which was informed by an extensive national consultation process. It lays out the long-term goals, objectives and strategies needed to achieve the national development vision.

The second segment of the SDP consists of Master Plans focusing on major policy areas, such as human resources development, outer island development, culture and traditions, environment, resources and development, information technology, private sector development, infrastructure and tourism. The third segment, which complements the Master Plans, is developed through more detailed Action Plans for Ministries and Statutory Agencies in order to state the respective programs of action aimed at achieving the targets identified in the Master Plans.

The DRM National Action Plan (DRM NAP) is in essence a cross-sectoral action plan DRM located within the third segment of the SDP (as illustrated in Figure 2). As such, the DRM NAP is developed in light of direct and indirect linkages with the SDP. The rationale for this approach is that it will help to reduce the impact of disasters on the achievement of the development vision i.e. disasters can undermine the achievement of more than half to almost all of the goals stated in the Vision 2018. In this regard, the implementation of the DRM NAP can help to achieve the majority of goals in Vision 2018 as well as the Master Plans.

A mapping exercise took place in order to identify where and how the DRM NAP is linked to achieving the Vision 2018. An initial screening of the each of the goals within the draft DRM NAP indicates a number of direct linkages, such as between goal 3 of the DRM NAP (improve arrangements for emergency preparedness and response at all levels) to goal 10 objective 2 of the Vision 2018 (to develop and have in place a contingency/adaptation plan to counter the emerging threats resulting from the adverse effects of climate change including a National Disaster Plan). Other direct linkages have been identified within goals 4, 5, 6 and 7 and indirect linkages within goals 1, 2, 8, 9 and 10 of the DRM NAP to the Vision 2018.

In a parallel mapping exercise DRM issues were identified within the Vision 2018. The objective of this exercise was to help inform subsequent revisions to the Vision 2018 to ensure that disaster risk management is adequately reflected in national strategic priorities. All other references to risk reduction were classified as indirect, such as in goal 2 objective 1 of the Vision 2018 (developing, diversifying and strengthening the economic base) which can help to reduce vulnerability to disasters.

Vision 2008
1. Operating in an interdependent world
2. Enhanced socio-economic self-reliance
   Obj 4: access to water supplies
3. An Educated people
4. A Healthy people
5. A Productive people
6. Law-abiding people
   Obj 3: accountability and transparency
7. God-loving people
8. Respecting individual and fundamental human rights
9. Respecting culture and traditions
10. Environmental sustainability

Master Plans
Infrastructure development
Human resources development
Outer Islands development
Culture and traditions
Environment
Private sector
Information technology
Resources and development

Action Plans
Ministerial Action Plans
Statutory Agencies Action Plans
Atoll Local Governments Action Plans
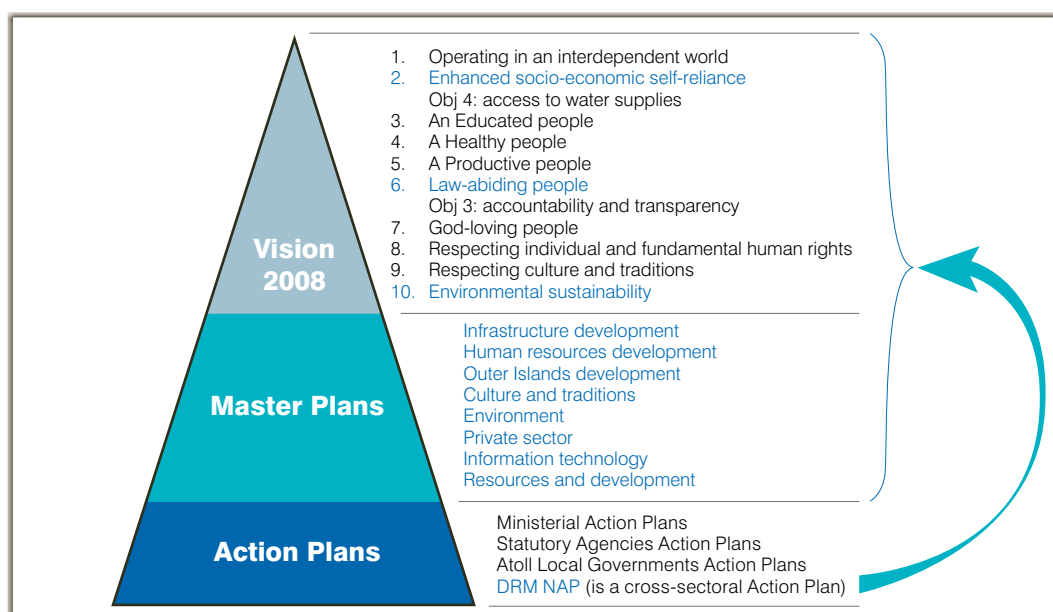DRM NAP (is a cross-sectoral Action Plan)

Figure 2 – Marshall Islands Vision 2018 and linkages to DRM NAP

DRM NAP Development Process

A High Level Advocacy Team (HLAT) for the Pacific Regional Disaster Risk Management Framework for Action 2005 – 2015 visited RMI in response to the Government's request for assistance in developing a DRM NAP in December 2006. The HLAT was coordinated by SOPAC in collaboration with the PDRMPN. The purpose of the HLAT visit was to promote the Pacific Regional Disaster Risk Management Framework for Action 2005 – 2015 and the need to develop a National Action Plan through a whole-of-country and whole-of-government approach to disaster risk reduction and disaster management.

The Government of the RMI established a 'reference group' to guide the NAP development process. The reference group mirrored the existing national disaster committee. A cross sector representative 'Task Force' (TF) was established to be the core group in facilitating national consultation and to provide in-country assistance for the NAP development.

A sub-group of the PDRMPN made up of SOPAC, Pacific Islands Forum Secretariat, UNDP Pacific Centre, Secretariat for the Pacific Community and East-West Center assisted the Marshall Islands TF in developing their NAP through the steps set out below.

DRM Situation Analysis

The first step in the planning process was conducting a situational analysis of the status of DRM in RMI. The approach adopted was based on a combination of desktop research and in-country consultations with key stakeholders. A sectoral approach was adopted in writing up the findings of the situational analysis. Through this process it was possible to begin to identify the nature of disaster risk and the 'root causes' of vulnerability in each development sector. Key issues for DRM in each sector were highlighted. The situation analysis helped identify how disaster risk is eroding development and how development generates risk in the RMI. It also addressed institutional and organizational arrangements for DRR&DM, covering the legal and institutional framework, sector plans, strategies and activities, capacity assessment, hazards, historical disaster experience, development challenges and links with national development strategies.

Leadership & Change Management Training

The TF underwent three days of training on leadership and change management. The training was to empower key national players so that they can collectively provide leadership and build a national team to mainstream disaster risk management through an integrated and whole-of-country approach.

National Stakeholder Workshop

The TF and representatives from the Government, communities, NGOs, and the private sector participated in a two-day national stakeholder workshop for the development of the DRM NAP. The purpose of the workshop was to consult a wide range of stakeholders on the strengths and weaknesses of current disaster risk management arrangements and activities in the RMI and to gain a deeper understanding of the social, economic and political development priorities that are currently being impacted. Stakeholders were given the opportunity to brainstorm issues they wished to raise. The workshop then proceeded to rank the issues emerging and the six issues that emerged as most important were taken further into group discussions. The national stakeholder workshop also included a number of presentations on DRM in order to enhance understanding amongst the stakeholders present.

Drafting of the NAP

Key issues that had been identified by the situation analysis, the national stakeholder workshop, and the TF leadership training workshop[7] formed the basis for a more detailed planning exercise undertaken by the TF with technical support from the PDRMPN. In brief, the planning was conducted through a combination of plenary and working groups where a problem/solution tree approach was adopted to prioritize key issues and derive goals, outcomes, objectives and actions for the NAP. Each issue was tackled in turn in a systematic manner, and objectively analyzed by identifying the causes and effects. The resultant NAP matrix reflects the outcomes of these discussions. The planning process is depicted in Figure 3.
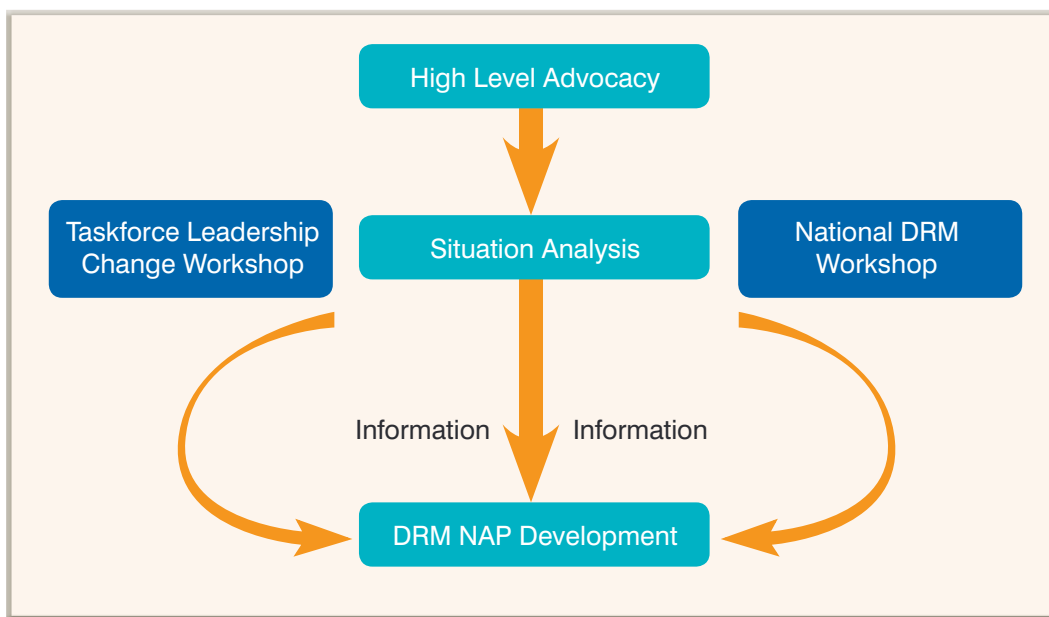
Figure 3 – The process adopted in developing the DRM NAP.

It should be borne in mind that the resultant DRM NAP does not claim to be comprehensive in the sense that it covers each and every issue relating to DRR and DRM in RMI. Rather, the scope of the DRM NAP is determined by the key issues that were identified during the situation analysis, the TF leadership and change management workshop and the national stakeholders workshop. These key issues were a combination of the 'gaps' that were identified in the situation analysis as well as issues that were considered 'priority issues' by national stakeholders.

DRM NAP Implementation Program

Critical to the success of the DRM NAP is the commitment of the Government of Marshall Islands to its implementation. Implementation arrangements, including costing, for the NAP are contained in Section 5, while Section 6 contains a detailed framework for implementation.

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[7] Problem/Solution Tree exercises conducted during the leadership and DRM change management training workshop used real situation analysis and some of this information was fed into the DRM NAP drafting.

The National Action Plan for Disaster Risk Management

Vision

The Vision of the National Action Plan (NAP) for Disaster Risk Management (DRM) is:

A Safer and more Resilient RMI to all Hazards through Well Informed and Prepared People Today and for Generations to Come

In order to achieve the Vision, disaster risk management needs to be mainstreamed into national and local policies, plans, budgetary provisions and decision-making processes. This has to happen across all sectors and all levels of government and communities, with an emphasis on disaster risk management being the responsibility of the whole country and that it is everyone's business. The mechanism for delivering the vision is the DRM NAP.

In developing the DRM NAP, the TF was cognizant of the following four guiding principles:
- A whole-of-country approach to the identification of goals;
- A consultative approach at national, local and community levels;
- A DRM NAP that is achievable both in the short and long term; and
- Outputs that are measurable through on-going monitoring and evaluation.

The DRM NAP, which is presented in the form of a matrix, is framed by ten specific goals each designed to achieve a specific outcome.

Structure of the DRM NAP matrix

The DRM NAP matrix builds on the ten goals outlined in Box 1. Each goal is accompanied by a specified 'outcome'. The outcome describes the change that is expected to take place as a result of the objectives, actions and outputs listed under each goal. The DRM NAP matrix itself is divided into the following column headings:
- **Objectives:** for each of the ten broad goals. Taken together, a collection of objectives can be thought of as the strategy to be used to achieve the higher-order goal.
- **Actions:** an unpacking of each objective into a collection of strategic and/or specific actions
- **Outputs:** the tangible products of the completed actions that will collectively lead to the achievement of the higher-order outcome.
- **Output indicators:** means of monitoring and evaluating progress of each output.
- **Lead agency:** the agency that has been nominated to take the leading role in ensuring that a specified objective and its actions are implemented. Supporting agencies are listed in the Provisional Indicative Implementation Program (PIP).

The logic and structure of the DRM NAP design is illustrated in Figure 4.

Box 1: DRM NAP Goals and Outcomes.

Goal 1:	Establish an enabling environment for improved DRM in Marshall Islands
Outcome:	Well-functioning Institutions and Systems for Disaster Risk Management
Goal 2:	Mainstream DRM in planning, decision making and budgetary processes at national and local levels
Outcome:	DRM is mainstreamed in all relevant processes at all levels, and in all relevant sectors
Goal 3:	Improve capacity for emergency preparedness and response at all levels
Outcome:	Organizations and agencies at all levels are well prepared and resourced to respond to disasters
Goal 4:	Build a strong and resilient DM early warning and emergency communication system
Outcome:	Effective early warning and communication between Majuro, Ebeye and the Outer Islands at all times
Goal 5:	Access to safe and adequate clean water at all times
Outcome:	Vulnerability to water-related hazards and water shortages resulting from hazards reduced
Goal 6:	Sustainable development of the coastal area
Outcome:	Reduced vulnerability to coastal hazards
Goal 7:	Reduce economic dependency of the Outer Islands
Outcome:	Improved Outer Island resilience to hazards
Goal 8:	Improve understanding of the linkages between zoning, building codes and vulnerability to disasters
Outcome:	Decision-makers and public more receptive to the need for adequate zoning and building codes in reducing vulnerability
Goal 9:	Raise the awareness of DRM amongst the public
Outcome:	Public are better informed of national and Outer Island DRM issues
Goal 10:	DRM NAP implementation and impact is monitored and reviewed on a regular basis
Outcome:	The DRM NAP is effectively implemented and kept up to date
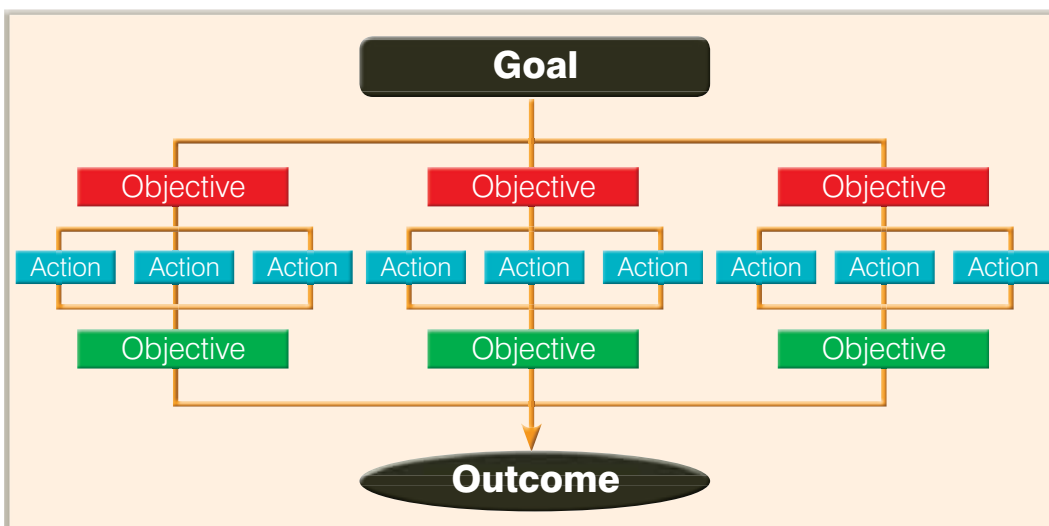
Figure 4 - The logic and structure of the DRM NAP Matrix.

The DRM NAP Matrix

Goal 1: Establish an enabling environment for improved DRM in Marshall Islands

Goal 2: Mainstream DRM in planning, decision making and budgetary processes at national and local levels

Goal 3: Improve capacity for emergency preparedness and response at all levels

Goal 4: Build a strong and resilient DM early warning and emergency communication system

Goal 5: Access to safe and adequate clean water at all times

Goal 6: Sustainable development of the coastal area

Goal 7: Reduce economic dependency of the Outer Islands

Goal 8: Improve understanding of the linkages between zoning, building codes and vulnerability to disasters

Goal 9: Raise the awareness of DRM amongst the public

Goal 10: DRM NAP implementation and impact is monitored and reviewed on a regular basis

The DRM NAP Matrix

Goal 1: Establish enabling environment for improved Disaster Risk Management in Marshall Islands
Outcome: Well-functioning Institutions and Systems for Disaster Risk Management

Objective	Actions	Outputs	Lead Agency	Objective Indicator(s)
1.1 Strengthen DRM organizational arrangements at national and local government levels	1.1.1 Review all relevant DRM policies and legislation (including the Disaster Assistance Act 1987) to assess, clarify and/ or establish DRM organizational arrangements and responsibilities 1.1.2 Implement DRM organizational arrangements as endorsed in the policy framework 1.1.3 Draft new legislation or amendments to effect organizational changes	Strengthened DRM organizational arrangement supported with appropriate policy and legislative framework	CSO	Percentage of DRM NAP actions mainstreamed into key organizations mandates at the national and local levels in the first three years of DRM NAP implementation
1.2 Adequately resource key organizations for DRM at national and local government levels	1.2.1 Assess the resource needs of key organizations for DRM 1.2.2 Develop a resource need implementation program for key organizations for DRM	Key DRM agencies are resourced with priority needs to enhance organizational performance	CSO	Percentage of resource needs as identified by the assessment acquired annually
1.3 Strengthen human resource capacity of key organizations for DRM at national and local government levels	1.3.1 Assess the existing capacity of the human resources and develop minimum standards for human resource capacity to be analysed in line with the organization mandate 1.3.2 Review job descriptions of DRM focal points and key staff at organizations responsible for DRM 1.3.3 Conduct DRM training needs assessment of key organizations responsible for DRM 1.3.4 Develop and implement a long-term DRM training program	Incentives are in place for staff with the right skill and experience to be recruited or stay in the organization	CSO	Level of improved performance from agencies involved in DRM as reported in annual reports following DRM NAP implementation
1.4 Strengthen the capacity of key community groups and NGOs in Marshall Islands	1.4.1 Assess the role and capacity of key community groups in Majuro and the Outer Islands that are playing a role in DRM 1.4.2 Develop and implement appropriate programs to strengthen this role and capacity as required 1.4.3 Commission a study to identify traditional knowledge and governance and its application in DRM 1.4.4 Through consultation, identify appropriate mechanisms to integrate traditional knowledge in DRM at the appropriate level	Community groups and NGOs more active in local-level risk management	IA	Level of integration of appropriate traditional knowledge identified in DRM programs by community groups, NGOs and national and local Government responsible agencies

The DRM NAP Matrix

Goal 2: Mainstream DRM in planning, decision making and budgetary processes at national and local levels
Outcome: DRM is mainstreamed in all relevant processes at all levels, and in all relevant sectors

Objective	Actions	Outputs	Lead Agency	Objective Indicator(s)
2.1 Build capacity for mainstreaming DRM for planners and decision makers at the national and local-government levels	2.1.1 Identify key DRM mainstreaming partners and existing level of mainstreaming DRM at all levels 2.1.2 Review existing planning, decision making and budgetary processes and identify where and how DRM could be mainstreamed 2.1.3 Conduct DRM mainstreaming training with key partners on national development planning and budgetary processes linked to annual budget submissions (linked to 2.2.1)	Organizations have capacity for DRM mainstreaming DRM is an integral component in planning, decision making and budget processes at all levels	EPPSO and CSO	Number of staff from each key organization responsible for DRM that successfully completed mainstreaming training
2.2 Mainstream DRM considerations into macroeconomic policy, fiscal management and national budgetary processes	2.2.1 Collect information on cost of disasters and risk of disasters for incorporation in the macroeconomic and fiscal policy, forward projections and monitoring of economic growth 2.2.2 Establish a sustainable source of fund for DRM through the establishment of separate DRR and DM revolving special revenue fund under the CSO	Organizations at all levels are proactive in DRM DRM practices are implemented in planning and budgetary processes at national and local levels	Finance and EPPSO	DRM programs feature explicitly in macroeconomic policy, fiscal management and national budgetary processes
2.3 Raise the understanding of DRM mainstreaming as a development issue within the Nitijela	2.3.1 Prepare and circulate a DRM brief to parliament	Increased understanding and support for DRM policies amongst members of the Nitijela DRM priorities are high in consideration for funding	CSO	Improved level of support for DRM programs at the Nitijela

NATIONAL ACTION PLAN FOR DISASTER RISK MANAGEMENT

The DRM NAP Matrix

Goal 3: Improve capacity for emergency preparedness and response at all levels
Outcome: Organizations and agencies at all levels are well prepared and resourced to respond to disasters

Objective	Actions	Outputs	Lead Agency	Objective Indicator(s)
3.1 Strengthen the National Emergency Operations Center (NEOC) infrastructure to better prepare for, and respond to, disaster events	3.1.1 Construct an adequately equipped and located NEOC building	A secure, well equipped NEOC that is able to continue to function effectively during disasters	CSO	Disaster assessments (preparedness reports, emergency drills and post-disaster reports) reveal adequate functioning of NEOC
3.2 Strengthen capacity for coordination during disasters	3.2.1 Review and endorse the draft standard operating procedures (SOP) for the operation and coordination of the NEOC 3.2.2 Promote awareness of the SOP amongst relevant focal points and agencies	Improved coordination by DRM agents at national and local levels during disasters	CSO	Improved level of 'team work' and awareness of the SOP following the implementation of these actions
3.3 Strengthen response capacity amongst relevant ministries at national and local levels	3.3.1 Actively maintain a database of emergency response resources and conduct an annual audit of emergency response resources (shelters, emergency equipment, etc.) held by relevant Ministries at national and local levels 3.3.2 Ministries to procure emergency response resources and equipment as needed 3.3.3 Support relevant Ministries to prepare, or update, Emergency Response Plans and SOPs 3.3.4 Conduct regular emergency drills at all levels, including Outer Islands	Ministries well prepared to respond effectively to disasters	CSO	Disaster assessments (preparedness reports, emergency drills and post-disaster reports) indicate timely and effective response by Government
3.4 Inform public about emergency communication and procedures	3.4.1 Conduct ongoing public awareness campaign on basic emergency response procedures (e.g. location of safe shelters, need to save official documents, etc.)	A public that is well prepared to report and react to disasters	CSO	Disaster assessments (preparedness reports, emergency drills and post-disaster reports) indicate a timely and effective response by the public
3.5 Assist communities in the Outer Islands to develop their own mechanisms to supplement the national and local government plan for emergency preparedness and response	3.5.1 Assist NGOs and community groups to conduct awareness programs in the Outer Islands (linked to 3.4) 3.5.2 Community preparedness and response plans developed by all groups in community and exercised	Capacity of isolated communities to respond to disasters strengthened	IA	Number of casualties and affected people at the community level

The DRM NAP Matrix

Goal 4: Build a strong and resilient DM early warning and emergency communication system
Outcome: Effective early warning and communication between Majuro, Ebeye and the Outer Islands at all times

Objective	Actions	Outputs	Lead Agency	Objective Indicator(s)
4.1 Build capacity for effective use and maintenance of communications infrastructure at the local level	4.1.1 Review infrastructure and policies for emergency communications 4.1.2 Train mayors and relevant council members in emergency communications procedures once every two years 4.1.3 Continue to provide technical training on radio maintenance for Outer Island radio operators (including a handbook in Marshallese) 4.1.4 Regularly conduct tests to check on all the communications systems 4.1.5 Restrict access to the official emergency broadcasting HF channel	Effective early warning communication between Majuro, Ebeye and the Outer Islands at all times	CSO	Disaster assessments (preparedness reports, emergency drills and post-disaster reports) indicate consistency in communications with Outer Islands
4.2 Ensure that all key focal points are accessible at all times and can contact their communities	4.2.1 Ensure all focal points and agencies have contingency plans in place for equipment failure 4.2.2 Community-based communication infrastructure designed and established	Improvement in response time of Local Government Population warned within 12 hours of available notice	CSO	Disaster assessments (preparedness reports, emergency drills and post-disaster reports) indicate timely and effective communication with Local Government 95% of population reached through tests of community based communication system
4.3 Strengthened capacity of an early warning system (EWS) for all hazards through all stages of communication	4.3.1 Assess the EWS capacity and information needs at national and local levels for all key hazards and links to international early warning systems 4.3.2 Develop technical and human capacity for early warning systems for all hazards at the national and local levels as required	Early warning systems for key hazards strengthened	CSO	Number of functional early warning systems established, tested and made known to the public within a year

The DRM NAP Matrix

Goal 5: Access to safe and adequate clean water at all times
Outcome: Vulnerability to water-related hazards and water shortages resulting from hazards reduced

Objective	Actions	Outputs	Lead Agency	Objective Indicator(s)
5.1 Strengthen national coordination mechanisms for the water services to improve management of freshwater resources	5.1.1 Establish a representative national water planning and coordination committee	Improved planning and coordination of water services to residents of Majuro and Ebeye	EPA	A proactive national water committee established with broad representation
5.2 Strengthen the technical capacity of water service providers on Majuro and Ebeye to improve management of water infrastructure to reduce water wastage and contamination	5.2.1 Develop and implement an ongoing capacity building program for staff at MWSC and KAJUR	Reduced wastage and contamination of water linked to failing infrastructure	MWSC and KAJUR	Number of technically competent staff in MWSC and KAJUR increased by 50 % following the first year of implementation of the capacity building program
5.3 Reduced contamination of ground and surface water from sewerage and solid waste to reduce the risk of disease	5.3.1 Strengthen sewerage collection and treatment infrastructure on Majuro and Ebeye	Improved management of sewerage and solid waste	EPA and MWSC	Number of contamination cases reported decrease in every reporting year
5.4 Strengthen capacity for reducing the impact of water shortages resulting from hazardous events	5.4.1 Equip communities with the means to test and report on water quality/quantity on the Outer Islands 5.4.2 Acquire (centralized) solar-powered reverse osmosis (RO) units and solar powered water purification systems for the Outer Islands 5.4.3 Develop a policy for installing rainwater catchment tanks in all new public and households buildings. 5.4.4 Supply all household in Marshall Islands with rainwater catchment tanks 5.4.5 Include water catchment tanks as qualification criteria for housing loans from local banks	Access to sufficient amounts of clean water during droughts and other disasters	CSO	Disaster assessments (preparedness reports, emergency drills and post-disaster reports) indicate a timely and effective response by the public
5.5 Raise the level of public awareness about water-related risks	5.5.1 Conduct an awareness raising campaign of linkages between water, pollution and public health 5.5.2 Equip communities with knowledge and means to purify water 5.5.3 Facilitate regular consultation meetings between landowners, private sector and regulatory agencies	Improvement in water management at the household level	EPA	Number of reported cases of water shortages, contamination and related sickness decreased from the previous reporting year

The DRM NAP Matrix

Goal 6: Sustainable development of the coastal area
Outcome: Reduced vulnerability to coastal hazards

Objective		Actions	Outputs	Lead Agency	Objective Indicator(s)
6.1 Strengthen policy for Integrated Coastal Area Management (ICAM) to improve environmental management and reduce vulnerability to hazards	6.1.1 Strengthen policy for integrated management of coastal natural systems 6.1.2 Integrate DRR criteria in EIA regulations		Strengthened enabling policy in place for ICAM	EPA	Timely approval of integrated policy for ICAM implementation
6.2 Improve information available for decision making for sustainable development in the coastal area	6.2.1 Compile baseline information on coastal ecosystems (linked to 6.2.2 & 6.2.3) 6.2.2 Map high risk coastal areas (linked to 6.2.1 & 6.2.3) 6.2.3 Conduct coastal hazard and vulnerability assessments of high risk areas 6.2.4 Share with other DRM actors		High-quality scientific and spatial information exists to inform decision makers for sustainable development of coastal areas	EPA	Informed decision making on coastal area management and development improved in every reporting year
6.3 Strengthen capacity for planning and development of ICAM plans to improve the management of the coastal environment	6.3.1 Develop integrated coastal area plans for all atolls in collaboration with other DRM actors		Management plans for improved coastal area management to reduce human impacts on the environment and to reduce disaster risk	EPA	Number of ICAM plans approved in a year
6.4 Strengthen technical skills for monitoring coastal systems to strengthen management of coastal area in restoring its ecological and environmental resilience	6.4.1 Develop and implement targeted on-the-job training on coastal ecosystem monitoring		Skills exist for effective integrated coastal management and planning to reduce disaster risk	EPA	Established monitoring program is carried out during DRM NAP implementation
6.5 Improve enforcement of coastal management regulations	6.5.1 Provide training on regulations for managing coastal ecosystems, coastal natural and man-made hazards and on other regulations relevant for sustainable development of the coastal area for enforcement agencies 6.5.2 Appoint dedicated environmental personnel in the Attorney General's Office 6.5.3 Facilitate regular consultation meetings between landowners, private sector and regulatory agencies		Improved compliance with disaster risk reduction and environmental regulations	EPA	Improved level of compliance as reported annually
6.6 More effective public awareness programs focusing on the linkages between coastal degradation and disaster vulnerability	6.6.1 Develop a well-coordinated and innovative public awareness program		Greater support and participation of the public in management of the coastal area	EPA	Level of public awareness before and after awareness programs are executed monitored annually

The DRM NAP Matrix

Goal 7: Reduce economic dependency of the Outer Islands
Outcome: Improved Outer Island resilience to hazards

Objective	Actions	Outputs	Lead Agency	Objective Indicator(s)
7.1 Strengthen local capacity for food production and preservation as a means of increasing economic self-reliance and decreasing dependency on the mainland during periods of isolation caused by natural hazards	7.1.1 Assess scope for increased local food production and preservation 7.1.2 Identify and implement key practical strategies for increasing and diversifying local food production 7.1.3 Conduct public awareness programs about the link between local food production and disaster vulnerability	Increased levels of local food production and preservation	R&D	Fewer requests for Government food relief at times of hazard events compared to previous hazards
7.2 Strengthen and diversify income generating activities for Outer Islanders as a means to reduce vulnerability to disasters	7.2.1 Review current income generating activities on Outer Islands and identify alternative financially viable income generating activities suitable for local conditions 7.2.2 Identify key constraints to alternative income generating activities and develop appropriate response strategies, including group savings and micro-credit systems 7.2.3 Develop program to promote alternative income generating activities, including developing capacity in small businesses by extending Small Business Development Program to Outer Islands	Greater resilience due to diversified livelihoods and income sources	R&D	Increase in household incomes
7.3 Reduce reliance on off-island energy sources for Outer Islands by developing on-island renewable energy sources	7.3.1 Review current renewable energy production practices in Outer Islands 7.3.2 Support and strengthen existing initiatives aimed at the local production of biofuel derived from coconut oil in Outer Islands 7.3.3 Support and strengthen existing initiatives aimed at the use of solar electrification in Outer Islands	Affordable and more reliable supply of energy	R&D	More houses electrified Decrease in the price of energy

The DRM NAP Matrix

Goal 8: Improve understanding of the linkages between zoning, building codes and vulnerability to disasters
Outcome: Decision makers and public more receptive to the need for adequate zoning and building codes in reducing vulnerability

Objective	Actions	Outputs	Lead Agency	Objective Indicator(s)
8.1 Build the knowledge base for decision makers at all levels (National and Local Government; landowners, private sector, etc) regarding the link between land-use and settlement planning and vulnerability to disasters.	8.1.1 Review the current situation regarding landuse and settlement planning and vulnerability to disasters 8.1.2 Develop a coordinated public awareness program regarding the link between land-use and settlement planning and vulnerability to disasters for Republic of the Marshall Islands	Decision makers more receptive to need for building codes and formalized planning	CSO	Government re-introduction of land-use planning and building codes policies during the first three years of DRM NAP implementation
8.2 Strengthen the role of the private sector in ensuring the adoption of safe and risk sensitive building practices and a building code for disaster proof buildings	8.2.1 Actively encourage lending institutions to include building code requirements in home loan applications	Public more receptive to need for land-use and settlement planning and building codes	CSO	Reduced resistance to initiatives to introduce planning

The DRM NAP Matrix

Goal 9: Raise the awareness of DRM amongst the public
Outcome: Public are better informed of national and Outer Island DRM issues

	Objective		Actions	Outputs	Lead Agency	Objective Indicator(s)
9.1	Strengthen existing capacity for raising public awareness of DRM	9.1.1	Review existing capacity for raising public awareness of DRM	Improved capacity for staging coordinated DRM public awareness campaigns	CSO	Number of staff in key agencies that completed training on DRM communication and media skills
		9.1.2	Provide training in communication and media skills for all agencies that engage in public awareness for DRM			
9.2	Develop a DRM knowledge base as a resource for developing public awareness programming material	9.2.1	Establish a 'one-stop' resource center for information on DRM	Up-to-date and easily accessible DRM knowledge base	CSO	DRM information is easily accessible by the public
		9.2.2	Establish and actively maintain a DRM website and other public communication tools			
9.3	Develop and implement an ongoing DRM education and awareness program through the formal education system	9.3.1	Integrate DRM into the school curriculum	Greater public awareness of DRM issues	MoE	Monitoring reveals greater understanding among students of linkages between human actions and disaster risk

The DRM NAP Matrix

Goal 10: DRM NAP implementation and impact is monitored and reviewed on a regular basis
Outcome: The DRM NAP is effectively implemented and kept up to date

Objective	Actions	Outputs	Lead Agency	Objective Indicator(s)
10.1 Ensure that DRM NAP implementation is effectively managed	10.1.1 Establish and equip a DRM NAP implementation unit 10.1.2 Manage and operate the DRM NAP implementation unit	Document impact of DRM NAP implementation and that it maintains relevance to emerging and priority challenges	CSO	Timely implementation of DRM NAP
10.2 Ensure that the DRM NAP is effectively monitored and evaluated	10.2.1 Establish an effective monitoring and evaluation mechanism	DRM NAP relevance to emerging and priority challenges is maintained	CSO	DRM NAP linkages to other national priorities are maintained through its implementation program

DRM NAP Implementation Programme

Introduction

This Section contains a Provisional Indicative Implementation Program (PIP) for the DRM NAP. While the overall period for DRM NAP implementation is from 2008 – 2018, this DRM NAP Implementation Program identifies the priority Actions and Sub Actions for which implementation needs to commence within the 3-year period from 2008 – 2010.

The DRM NAP Implementation Program has been developed by the DRM NAP TF appointed for this purpose by the Marshall Islands Government. It is intended that the TF also play a significant role in the Implementation Program for the DRM NAP.

Approach to the Development of an Implementation Program

The development of the PIP has been carried out through a very inclusive approach involving extensive consultations with the TF and with other Marshall Islands Government officials. The consultations included TF consideration of draft implementation matrices prepared by the Pacific Partnership Network followed up by workshops for the TF and individual consultations with a number of other officials of the Marshall Islands Government.

The PIP was constituted through the following steps:

1. The identification of specific Sub Actions linked to the overall Actions, Objectives and Goals as identified in the DRM NAP;
2. The identification of resources required to facilitate the implementation of each of the Sub Actions;
3. The identification of specific costs or funds required to facilitate resource needs; and
4. The development of a suitable structure and support system to help coordinate and facilitate the implementation of the DRM NAP.

Structure of the Implementation Matrix

For purposes of consistency and ease of implementation the Implementation Program Matrix (Implementation Matrix) borrows extensively from the DRM NAP. The Implementation Matrix (Section 6) uses the following structure to set the basis for identifying resources and cost requirements for each of the Goals, Objectives, Actions and Sub Actions:

Objective 1.1:				
Output:				
Actions	Sub-Actions	Supporting Agencies	Action Indicators	Start Date

Given the need to identify the specific resource requirements for each of the Sub Actions, a standard project management costing tool was adapted for use in the PIP exercise. The costing tool takes the form of an MS Excel spreadsheet but is excluded from this document in view of its size. It can be obtained from the Office of the Chief Secretary, Government of the Marshall Islands.

Indicative Costing Methodology

The Implementation Matrix is associated with a total cost figure for the implementation of the DRM NAP. It is important to note that this total cost figure includes the 'incremental' cost required to implement the DRM NAP i.e. the additional costs required to implement the DRM NAP over and above items already accounted for in existing budget lines (national or donor). Therefore, the total cost figure for implementing the DRM NAP is broken down into the following:

(i) total cost of all Actions and Sub Actions in the three-year Implementation Program;

(ii) cost of all Actions and Sub Actions that are projected to be the responsibility of the Marshall Islands Government through in-kind or cash contributions; and

(iii) cost of all Actions and Sub Actions that are projected to be met by donors.

The method for estimating the costs (and other related information for developing a financing strategy for the DRM NAP) are based on the following broad steps, the starting point for which has been the development of Sub Actions:

Step a: Develop Sub Actions for each action

Step b: Estimate the level of key resource needs (or inputs) required for the Sub Action, in terms of recurrent and non-recurrent items required over the three-year implementation period

Step c: Estimate the cost of these resource needs, using mainly unit cost estimates and multiplying through by resource needs

Step d: Identify whether these costs have been allocated for under existing (donor and/ or government) budgets, or are incremental costs

Indicative Costs

The overall indicative costs for implementing the DRM NAP over the period 2008 – 2010 is illustrated in the following table. Note that the total cost estimate does not include any items that may already be assigned to a donor budget. This is mainly due to the absence of Actions and Sub Actions that could be identified under existing (or forthcoming) donor programs or projects in RMI.

Table 2 – DRM NAP Indicative Costing

DRM NAP Goal	RMI Budget ($)	Incremental ($)	Total ($)
1. Establish enabling environment for improved DRM in Marshall Islands	112,613	179,202	291,814
2. Mainstream DRM in planning, decision making and budgetary processes at national and local levels	31,054	47,600	78,654
3. Improve capacity for emergency preparedness at all levels	39,858	36,900	76,758
4. Build a strong and resilient DM early warning and emergency communication system	683	65,665	66,347
5. Access to safe and adequate clean water at all times	79,989	203,159	283,148
6. Sustainable development of the coastal area	62,949	297,540	360,489
7. Reduce the economic dependency of the Outer Islands	78,400	207,439	285,839
8. Improve understanding of the linkages between zoning, building codes and vulnerability to disasters	11,550	11,280	22,830
9. Raise the awareness of DRM amongst the public	37,992	324,471	362,463
10. DRM NAP implementation and impact is monitored and reviewed on a regular basis	55,500	662,980	718,480
TOTAL	$510,587	$2,036,235	$2,546,822

The overall implementation cost for the initial 3 years is estimated at around $2.5 million. Of this figure, around $2 million (80%) will be required as additional funding, whilst the remaining $0.5 million (20%) will come through Marshall Islands Government 'in-kind' provisions in personnel time.

Implementation Approach

It is of critical concern to the implementation of the DRM NAP is the need for an appropriate arrangement or coordination body to provide oversight of implementation on behalf of the Marshall Islands Government. Such an arrangement is deemed most effective if it is an extra-establishment mechanism given that providing oversight and coordination of the DRM NAP is considered a full-time need. It is therefore unreasonable to expect an existing unit within a Ministry or agency to perform this function.

A related concern for implementation is the need to continue with the momentum for improved disaster risk management that has been generated through the DRM NAP development process. In this connection it is considered essential that the responsibilities of oversight and coordination should not be assigned to an existing functional unit in Government as DRM NAP implementation may be subjected to resourcing issues in terms of other competing priorities.

In order to facilitate DRM NAP implementation the following broad approach is proposed:

1. The PDRMPN to provide funds/resources/technical support to establish an implementation mechanism that would in turn facilitate/coordinate the implementation of the priorities under the DRM NAP;

2. An implementation team designated by the Marshall Islands Government working in close consultation with the DRM NAP TF and the PDRMPN (and other donors and partners) to provide overall leadership and coordination of the implementation of the remaining DRM NAP priorities; and

3. The implementation mechanism to be gradually phased out and replaced by strengthened National Emergency Management and Coordination Office (NEMCO), or by the successor organization following a review of the disaster arrangements and legislation, to ensure and facilitate on-going support work for disaster risk management mainstreaming at all levels across RMI.

Implementation Structure

In order to facilitate the overall leadership, management and coordination of the DRM NAP implementation an implementation structure, to be known as the DRM NAP Implementation Unit (NAPIU) is to be established under the Office of the Chief Secretary. The NAPIU is to be under the direct supervision of the Deputy Chief Secretary and will comprise of the following positions:

- Deputy Chief Secretary
- Technical Expert
- Administrative Assistant
- Public Affairs/Communications Adviser

The NAPIU is to have the following functions:

- Coordinate and lead the implementation of the DRM NAP in close consultation with the DRM NAP TF;
- Arrange the terms of reference and recruitment of relevant technical experts in consultation with the DRM NAP TF and the Public Service Commission to facilitate the implementation of Actions and Sub Actions of the DRM NAP;
- Facilitate liaison with donor governments and agencies with a view to securing funding for the implementation of the DRM NAP;
- Develop and implement a communications strategy in partnership with DRM NAP TF to ensure high levels of awareness at national and community level of the DRM NAP and more particularly the hazard risks facing Marshall Islands and the measures being identified to address these risks;
- Facilitate regular meetings with the DRM NAP TF to ensure timely and effective implementation of selected Actions and Sub Actions in line ministries;
- Facilitate the six-monthly meeting with the Reference Group to raise policy issues and to report on the implementation progress as part of monitoring and evaluation; and
- Facilitate and implement the development of a suitable monitoring and evaluation mechanism to ensure reporting against NAP implementation.

The NAPIU is to have a defined lifespan and may thus not be required to provide oversight of DRM NAP implementation beyond the three initial years. It is intended that the NAPIU would be phased out as soon as is practicable following the strengthening of the NEMCO. The strengthening of NEMCO is anticipated to occur shortly following the review of the disaster management arrangements and legislation (Action 1.1.1 of the DRM NAP) has been completed. The review of the current disaster arrangements and legislation is a major Action to be implemented within the first three years of DRM NAP implementation.

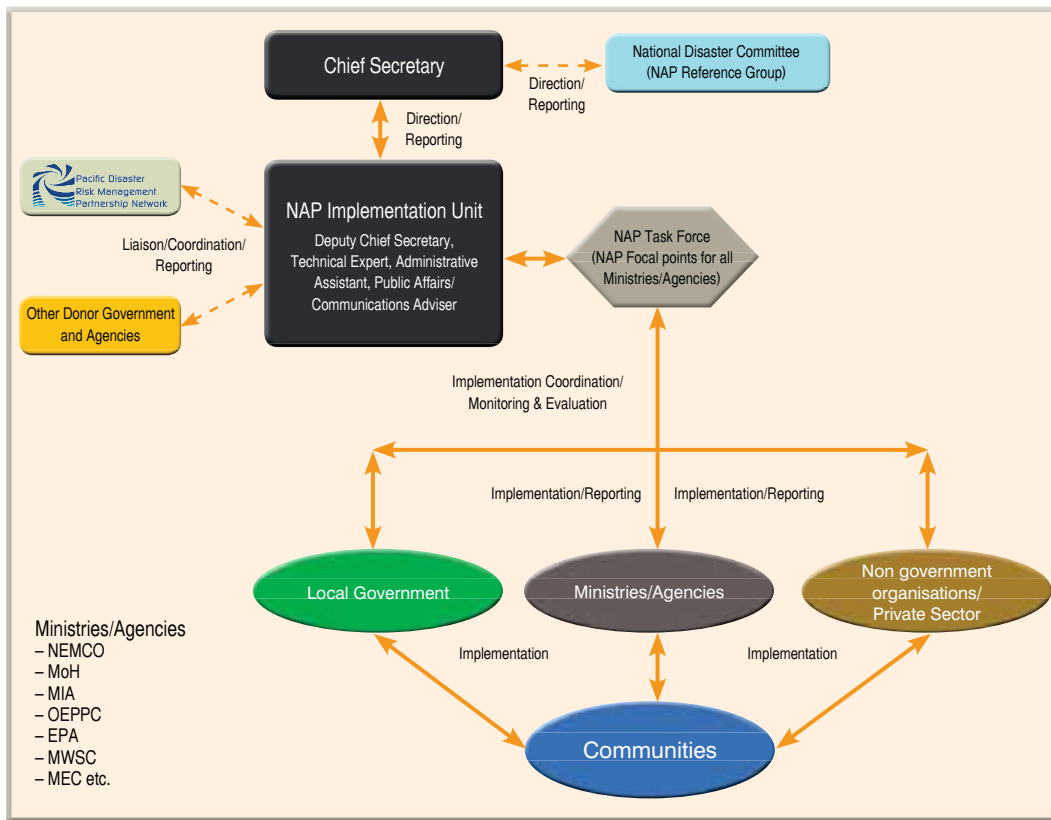The organizational structure of the NAPIU is as shown in Figure 5.

Figure 5 – Institutional structure for DRM NAP implementation.

Some Key Roles in DRM NAP Implementation

Deputy Chief Secretary and the National Disaster Committee

The Deputy Chief Secretary will be required to provide overall leadership and guidance for the NAPIU and will be the principal counterpart for the Technical Expert in terms of all matters that may have a bearing on DRM NAP implementation. The Deputy Chief Secretary will also need to ensure the on-going support of the DRM NAP TF by continuing to convene regular meetings to help provide guidance for DRM NAP implementation at agency level and also to receive feedback on progress. The Deputy Chief Secretary will provide the conduit for the NAPIU to the Chief Secretary and through him to the National Disaster Committee (which has formally been designated by the Marshall Islands Government as the DRM NAP Reference Group).

The DRM NAP Reference Group is the main policy coordination committee for the DRM NAP implementation. The Reference Group is to have at least one meeting on a six-monthly basis to discuss DRM NAP implementation progress, consider key policy issues and to discuss and approve a six monthly or annual implementation programme. The NAPIU will provide the secretariat role for the Reference Group meetings on DRM NAP implementation.

Technical Expert

The Technical Expert in the NAPIU is a key position. The incumbent will largely be responsible for ensuring and coordinating the implementation of each of the agreed Actions. In this regard therefore, the Technical Expert will typically fulfill a project management role as well being in a position to provide sound DRM advice and support.

In view of the critical contribution anticipated from the Technical Expert it is essential that the recruitment of a suitable individual for this role is undertaken prior to the formal establishment of the NAPIU. Indeed it is expected that the Technical Expert would feature prominently in the recruitment of other personnel to fill positions in the NAPIU and for the formal setting up of an office.

Public Affairs/Communications Adviser

This position will provide the expert advice in terms of any awareness activities or public relations campaigns. The Adviser will need to develop the specifics of awareness activities, provide the link to media and other relevant organizations and provide the relevant support to the DRM NAP TF members to ensure the implementation of awareness activities.

DRM NAP Task Force (TF)

The DRM NAP TF has been the major element in terms of NAP development and will continue to play a major role in DRM NAP implementation. It is anticipated that the TF members will have two key roles in DRM NAP implementation. Firstly, the NAPIU and the TF shall be the key DRM NAP implementation committee. The NAPIU and the TF are to meet regularly (monthly or quarterly) to map out the actual implementation on the ground and to discuss any issues that would hinder effective implementation. The second role of the TF members would be to serve as NAP (or DRM) focal points within their respective agencies and will thus be critical in terms of providing advice to the NAPIU with regard to the implementation of Actions and Sub Actions in their respective agencies. The TF members will also feature prominently in relation to the monitoring and evaluation of DRM NAP implementation progress as it is expected that each will assist in the compilation of regular reports.

Financing Strategy

The main objective of a financing strategy is to help identify sustainable sources of finance to help implement the ten goals in the DRM NAP. These can come from existing national budgets (as can be identified from annual budgetary submissions and the medium-term expenditure framework) and from external sources (such as donors, regional partners, etc).

The provision of finances to support implementation is a critical concern. It is proposed that the financing of the DRM NAP be facilitated in the following manner:

1. The Chief Secretary's Office, in consultation with the PDRMPN should, as soon as is practicable, convene a donor round-table meeting to create awareness and general understanding by donors of the DRM NAP;

2. Relevant donors should be approached by the Office of the Chief Secretary, with the support of the Partnership Network, to support the funding and resourcing of the DRM NAP Unit (as a first step prior to funding consideration of specific DRM NAP Objectives and Actions);

3. Project proposals to address specific DRM NAP Objectives/Actions should be prepared by a newly established NAPIU. Proposals should be prepared in consultation with the relevant members of the TF and should be submitted to prospective donors for consideration;

4. In connection with 3, the NAPIU should secure/follow up on Marshall Islands Government contributions for the implementation of Actions;

5. The NAPIU is to ensure that donor funds provided for NAPIU should be channelled into an appropriate account established by the Office of the Chief Secretary or the Ministry of Finance;

6. The NAPIU is to ensure that the PIP of the DRM NAP is facilitated through the expenditure of funds as may be required. Implementation at agency level will be managed through the relevant NAP TF members; and

7. The NAPIU is to ensure that full acquittal of funds be provided to donors in line with their respective funding guidelines.

It should be noted that potential donors such as the European Union, World Bank and AusAID are members of the Pacific Disaster Risk Management Partnership Network.

Some specific funding facilities available shortly for NAP implementation are as follows

European Union (EU)

The European Union has established a funding facility known as the ACP/EU Natural Disaster Facility which will provide Pacific ACP States with funding support for DRM NAP development and implementation. This facility will be managed for the Pacific by SOPAC and so RMI would need to liaise with SOPAC in order to access funds for DRM NAP implementation.

The World Bank

In September 2006, the World Bank established a Global Facility for Disaster Reduction and Recovery. The facility comprises three tracks of funding. Track 2 is the relevant track for the implementation of DRM NAPs and RMI has been listed by the World Bank as a country eligible for funding in the 2009 financial year. The application process for funds commenced in July 2007 and so RMI must shortly initiate the application process in order to enjoy funding in 2009.

The application from the RMI will need to be made directly to the World Bank.

Global Environment Facility (GEF)

The Globlal Environment Facility provides funding support for DRM indirectly in terms of project support in areas such as biodiversity, climate change, law of the sea, ozone depleting substances, land degradation and desertification. Goal 6 of the DRM NAP could qualify for support under the GEF and specific project proposals would need to be submitted by the Marshall Islands Government in this regard.

The Australian Agency for International Development (AusAID)

The Australian Agency for International Development has shown a keenness to support DRM NAP implementation and is developing a facility for this purpose. SOPAC is involved directly in the development of the concept with AusAID and would inform RMI as soon as a substantive arrangement was in place.

A full list of general and specific areas of interest to the members of the PDRMPN (the Partnership Capability Matrix) in relation to the implementation of the DRM NAP is available from SOPAC and from NEMCO and should be referred to in identifying donor agencies and partners to help support DRM NAP implementation.

Communications Strategy

The success of DRM NAP implementation will rely heavily on the ownership and support it receives not only from within the Marshall Islands Government but certainly also from all sectors of the economy and levels of the community. This ownership and support will be made possible through a mechanism that provides on-going and focused awareness and understanding not only of the DRM NAP Actions etc, but indeed and more importantly of the critical importance of DRM to the longer-term sustainable development of RMI.

The communication of the DRM NAP and of DRM in general is to be addressed through a two-pronged effort:

1. Overall communication and awareness creation of the DRM NAP and its intended outcomes particularly in relation to the focus on making the RMI a safer and more resilient country; and

2. Communication and awareness creation of the specific Objectives and related Actions and Sub Actions[8].

The responsibility for the implementation of the broad communications strategy will be vested in the NAPIU. In this connection therefore the NAPIU will develop the specifics of the communication strategy in consultation with the members of the TF and the Partnership Network.

Monitoring and Evaluation

The monitoring and evaluation (M&E) of the DRM NAP implementation program is intended to achieve a number of objectives as follows:

1. To provide for regular reports to the Marshall Islands Government on the progress of DRM NAP implementation;

2. In relation to 1, provide a mechanism to identify new DRM initiatives that may evolve from the implementation of targeted Actions; and

3. To provide a mechanism for feedback and acquittals to donor partners and organizations of the funds used and progress made in relation to DRM NAP implementation.

The responsibility for monitoring and evaluation of the DRM NAP will be vested in the DRM NAP Reference Group (National Disaster Committee) which will receive M&E reports from the NAPIU. All reports that are to be considered by the Reference Group will need the prior endorsement of the Chief Secretary. The NAPIU will develop appropriate templates for all reports.

In order to ensure that the outcome of M&E reports lead to further strategic planning in relation to disaster risk management (and thus in turn ensure that a dynamic process of planning is maintained) the NAPIU will instigate a formal review of the DRM NAP following the first three years of implementation. The result of such a review may be adapted as the "second phase" of a rolling DRM planning program. Ultimately the challenge is to formally mainstream or incorporate the issues related to disaster risk management into the national sustainable development strategy, sectoral and corporate plans and budgets. When such a situation is made possible then the need for a separate DRM NAP program is rendered obsolete.

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[8] In relation to some DRM NAP Goals the awareness creation and communication will only need to extend down as far as Objectives and therefore may not need to cover Actions and Sub Actions.

DRM NAP Provisional Indicative Implementation Matrix

Goal 1: Establish enabling environment for improved Disaster Risk Management in Marshall Islands
Outcome: Well-functioning Institutions and Systems for Disaster Risk Management

Objective 1.1: Strengthen DRM organizational arrangements at national and local government levels

Output: Strengthened DRM organizational arrangement supported with appropriate policy and legislative framework

Actions	Sub-Actions	Responsible Agencies	Action Indicators	Start Date
1.1.1 Review all relevant DRM policies and legislation (including the Disaster Assistance Act 1987) to clarify and or establish DRM organizational arrangements and responsibilities	a) Develop and constitute TOR for Steering Committee for the review b) Develop TOR for the review c) Engage consultant to lead review and 1.1.2 d) Undertake review of relevant literature e) Develop report on feedback from literature review and stakeholder consultation with recommendations for new arrangements f) Present report and recommendations to the Steering Committee for consideration and support g) Present (revised) report/policy paper and recommendations to the NDC for endorsement h) Present policy paper to Cabinet for approval	CSO, NEMCO, IA, Local Govt, NAP Unit	Policy paper for mainstreaming DRM and for strengthening DRM organizational arrangements and mandates, as a result of the review, approved in the first year of DRM NAP implementation	1st Quarter 2008
1.1.2 Implement DRM organizational arrangements as endorsed in the policy framework	a) Draft new national DRM arrangements b) New DRM arrangements presented to Steering Committee for support c) New DRM arrangements presented to NDC for endorsement d) New DRM arrangements presented to Cabinet for approval e) New DRM arrangements published		Program of implementation for new organizational arrangements exists and is being implemented by the second year of DRM NAP implementation	1st Quarter 2009
1.1.3 Draft new legislation or amendments to effect organizational changes	a) Draft new legislation based on approved arrangements b) CSO's Minister introduces to Nitijela c) New Act promulgated d) Awareness campaign implemented for New Act at all levels		Legislation or proposed amendments to effect organizational changes approved	3rd Quarter 2008

Objective 1.2: Adequately resourced key organizations for DRM at national and local government levels
Output: Key DRM agencies are resourced with priority needs to enhance organizational performance

Actions	Sub-Actions	Responsible Agencies	Action Indicators	Start Date
1.2.1 Assess the resource needs of key organizations for DRM	a) Each Department/Ministry undertake a needs assessment	CSO, all relevant line ministries/ departments at national and local governments and NAP Unit	Assessment report completed and endorsed in the first year of DRM NAP implementation	2nd Quarter 2008
1.2.2 Develop a resource needs implementation program for key organizations for DRM	a) Each Department/Ministry undertake implementation program		Resource strengthening and upgrading started in the second year of DRM NAP implementation	1st Quarter 2009

Objective 1.3: Strengthen human resource capacity of key organizations for DRM at national and local government levels
Output: Incentives are in place for staff with the right skill and experience to be recruited or stay in the organization

Actions	Sub-Actions	Responsible Agencies	Action Indicators	Start Date
1.3.1 Assess the existing capacity of the human resources and develop minimum standards for human resource capacity to be employed in line with the organization mandate	a) Develop TOR for review of HR capacity b) Engage consultant based on TOR to address 1.3.1, 1.3.2, 1.3.3 and 1.3.4 c) Assessment undertaken and training needs identified d) Assessment report submitted to NDC & PSC	CSO, DRM NAP Unit, NTC in collaboration with key DRR and DM organization until these organizations are able to function independently	Capacity assessment completed by the second year of NAP implementation	2nd Quarter 2008
1.3.2 Review job descriptions of DRM focal organizations responsible for DRM				3rd Quarter 2008
1.3.3 Conduct DRM training needs assessment of key organizations responsible for DRM	a) Consultant to review report (linked to 1.3.1) b) Review job descriptions c) Develop training needs assessment report based on gap analysis d) Training needs assessment report submitted to NDC for endorsement		Training needs assessment completed by the second year of DRM NAP implementation	2nd Quarter 2009
1.3.4 Develop and implement a long-term DRM training program	a) Consultant to develop training plan based on training needs assessment b) Training plan submitted to PSC for endorsement c) PSC (and NDC) to develop TOR for the engagement of appropriate trainer(s) d) Consultant to review tenders with PSC/Task Force e) Recommendation on selected trainer(s) to be submitted to PSC/NDC for approval f) PSC to provide orientation for trainer and jointly develop unit/course elements g) Trainer to facilitate and coordinate training h) Review of training program undertaken by DRM agencies at appropriate intervals and changes effected to training program as may be required		Key DRM staff receiving regular trainings (ongoing)	

Objective 1.4 Strengthen the capacity of key community groups and NGOs in Marshall Islands
Output: Community groups and NGOs more active in local-level risk management

Actions	Sub-Actions	Responsible Agencies	Action Indicators	Start Date
1.4.1 Assess the role and capacity of key community groups in Majuro and the Outer Islands that are playing a role in DRM	a) Develop TOR for the assessment and for 1.4.2 (see also 1.3.1) b) Allocate a Marshallese counterpart to work with the consultant c) Conduct focus group consultations with key community groups and NGOs in Majuro d) Submit report to NDC for approval e) Consultant to formulate capacity development programs based on report findings and NDC approval	IA, NEMCO, DRM NAP Unit and Local Govt, Council of Iroji	Priority capacity needs for DRM of community groups and NGOs are identified in an assessment report	4th Quarter 2009
1.4.2 Develop and implement appropriate programs to strengthen this role and capacity as required	a) Advertise for providers to implement capacity development programs following a competitive selection process b) Consultant to review tenders with DRM NAP Task Force and advise on providers to implement capacity development programs following a competitive selection process c) Consultant to brief successful tenders d) Selected providers to facilitate training programs as may be required		Number of community groups and NGOs that are active in DRM in a given year	1st Quarter 2010
1.4.3 Commission a study to identify traditional knowledge and its application in DRM	a) Develop TOR for study b) Engage local consultant to undertake the study c) Undertake stakeholder consultations d) Develop report on traditional knowledge e) Submit report to NDC for endorsement f) Develop programs to enhance traditional knowledge as appropriate		Study completed and well disseminated. A document of useful traditional knowledge to be shared.	4th Quarter 2009
1.4.4 Through consultation, identify appropriate mechanisms to integrate traditional knowledge in DRM at the appropriate level				

Goal 2: Mainstream DRM in planning, decision making and budgetary processes at national and local levels
Outcome: DRM is mainstreamed in all relevant processes at all levels, and in all relevant sectors

Objective 2.1: Build capacity for mainstreaming DRM for planners and decision makers at the national and local-government levels

Output: Organizations have capacity for DRM mainstreaming. DRM is an integral component in planning, decision making and budget processes at all levels.

Actions	Sub-Actions	Responsible Agencies	Action Indicators	Start Date
2.1.1 Identify key DRM mainstreaming partners and existing level of mainstreaming DRM at all levels		EPPSO, CSO, DRM NAP Unit in collaboration with ministries	Increase in number of agencies involved in DRM mainstreaming	1st Quarter 2009
2.1.2 Review existing planning, decision making and budgetary processes and identify where and how DRM could be mainstreamed	a) Develop TOR for the review b) Engage consultant to undertake review c) Prepare review report with avenues for mainstreaming clearly identified d) Present report to NDC e) Develop new procedural changes to planning and budgeting processes f) Present new procedures to NDC and Cabinet g) Undertake general awareness on new procedural guidelines		Number of key DRM priorities and NAP activities incorporated and funded in key organizations annual work plan in a reporting year	1st Quarter 2009
2.1.3 Conduct DRM mainstreaming training with key partners on national development planning and budgetary processes linked to annual budget submissions	a) Develop training program based on new guidelines b) Undertake training of trainers program with key officials in selected agencies c) Implement training program in relevant agencies		Number of procedures and processes amended to include DRR provisions	3rd Quarter 2009

Objective 2.2: Mainstream DRM considerations into macroeconomic policy, fiscal management and national budgetary processes

Output: Organizations at all levels are proactive in DRM. DRM practices are implemented in planning and budgetary processes at national and local levels

Actions	Sub-Actions	Responsible Agencies	Action Indicators	Start Date
2.2.1 Collect information on cost of disasters and risk of disasters for incorporation in the macroeconomic and fiscal policy, forward projections and monitoring of economic growth	a) Compile data and information of costs of previous disasters using accepted methodology b) Develop report based on compilation under a) c) Present report to NDC for endorsement d) Present report to Cabinet for approval e) Develop operational guidelines for damage assessment f) Provide training for conducting damage assessments	Finance, EPPSO, NEMCO, DRM NAP Unit	Number of DRM tasks (including DRM NAP actions) incorporated in key ministries/department annual planning, decision making and budgetary processes Develop compulsory risk analysis guidelines for all major development projects and for projects on identified high risk areas	1st Quarter 2009
2.2.2 Establish a sustainable source of funding for DRM through the establishment of separate DRR and DM revolving /special revenue fund under the CSO	a) Develop concept paper for the proposed fund b) Undertake consultation with relevant stakeholders (other Ministries/Agencies) c) Finalize concept document and submit to NDC for endorsement d) Submit concept document to Cabinet for approval e) Submit to Nitijela f) Develop proposals to finance new fund g) Implement new fund		Revolving fund/special revenue fund in place	1st Quarter 2009

Objective 2.3: Raise the understanding of DRM mainstreaming and as a development issue within the Nitijela

Output: Increased understanding and support for DRM policies amongst members of the Nitijela and DRM priorities are high in consideration for funding

Actions	Sub-Actions	Responsible Agencies	Action Indicators	Start Date
2.3.1 Prepare and circulate a DRM brief to parliament	a) Develop broad concept for the brief b) Undertake consultations on draft brief c) Submit brief to NDC for endorsement d) Submit brief to Cabinet for approval e) Present brief to Nitijela	CSO, NEMCO, DRM NAP Unit	Number of DRM submissions approved by Nitijela	3rd Quarter 2008

Goal 3: Improve capacity for emergency preparedness and response at all levels
Outcome: Organizations and agencies at all levels are well prepared and resourced to respond to disasters

Objective 3.1: Strengthen the National Emergency Operations Center (NEOC) infrastructure to better prepare for, and respond to, disaster events
Output: A secure, well equipped NEOC that is able to continue to function effectively during disasters

Actions	Sub-Actions	Responsible Agencies	Action Indicators	Start Date
3.1.1 Construct an adequately equipped and located NEOC building	a) Develop design requirements for NEOC b) Develop the design for the new NEOC c) Review the design report and then approve d) Put out project for tender and commission design of project e) Identify suitable donor(s) to fund construction of new NEOC f) Construction of the NEOC g) Determine and purchase equipment for the NEOC	CSO, NEMCO, DRM NAP Unit	Increase in number of agencies involved in DRM mainstreaming	1st Quarter 2009

Objective 3.2: Strengthen capacity for coordination during disasters
Output: Improved coordination by DRM agents at national and local levels during disasters

Actions	Sub-Actions	Responsible Agencies	Action Indicators	Start Date
3.2.1 Review and endorse the draft standard operating procedures (SOP) for the operation and coordination of the NEOC	a) Develop draft SOPs for the NEOC based on approved DRM arrangements and legislation b) Conduct table top exercise to test draft SOPs c) Finalize SOPs and present to NDC for approval d) Awareness raising workshop	CSO, NEMCO, Local Govt, DRM NAP Unit	Revised SOPs exist	1st Quarter 2009
3.2.2 Promote awareness of the SOP amongst relevant focal points and agencies	a) Design and implement annual exercises to test coordination capacity of the NEOC and response of relevant agencies		Disaster assessments (preparedness reports, emergency drills and post-disaster reports) and/or drills reveal adherence to SOP during disaster	2nd Quarter 2009

Objective 3.3: Strengthen response capacity amongst relevant Ministries at national and local levels
Output: Ministries well prepared to respond effectively to disasters

Actions	Sub-Actions	Responsible Agencies	Action Indicators	Start Date
3.3.1 Actively maintain a database of emergency response resources and conduct an annual audit of emergency response resources (shelters, emergency equipment, etc.) held by relevant Ministries at national and local levels	a) Develop annual audit approach and methodology b) Undertake audit c) Compile audit findings and prepare report d) Submit report to NDC with list of proposed additional resources for each agency	CSO, IA, NEMCO, Local Govt, DRM NAP Unit	Audit conducted	2nd Quarter 2008
3.3.2 Ministries to procure emergency response resources and equipment as needed	a) Procurement of resources by agencies to proceed based on prepared list		Relevant ministries have acquired DRM resources and equipment	3rd Quarter 2008
3.3.3 Support relevant Ministries to prepare, or update, Emergency Response Plans and SOPs	a) Develop TOR for a consultant to review Emergency Response Plan and SOPs to ensure consistency with new DRM arrangements, legislation and NEOC SOPs b) Engage consultant c) Undertake exercises to test revised plans and SOPs		Drills reveal that ERPs/SOPs are effective and consistent with new DRM arrangements	2nd Quarter 2009
3.3.4 Conduct regular emergency drills at all levels, including Outer Islands	a) Design the drill for Outer Islands b) Undertake annual drills for Outer Islands		Annual drills take place	3rd Quarter 2008

Objective 3.4: Inform public about emergency communication and procedures
Output: A public that is well prepared to report and react to disasters

Actions	Sub-Actions	Responsible Agencies	Action Indicators	Start Date
3.4.1 Conduct ongoing public awareness campaign on basic emergency response procedures (e.g. location of safe shelters, need to save official documents, etc.)	a) Develop TOR for a public awareness outreach officer b) Develop concept and specifics of the awareness campaign c) Present concept and specifics to NDC for approval d) Implement campaign	NEMCO, DRM NAP Unit and relevant line ministries/departments	Public awareness campaigns take place on a regular basis	2nd Quarter 2009

Objective 3.5: Assist communities in the Outer Islands to develop their own mechanisms to supplement the national and local government plan for emergency preparedness and response

Output: Capacity of isolated communities to respond to disasters strengthened

Actions	Sub-Actions	Responsible Agencies	Action Indicators	Start Date
3.5.1 Assist NGOs and community groups to conduct awareness programs on the Outer Islands (linked to 3.4)	a) Adjust awareness campaign under 3.4.1 for consumption of NGOs and community groups b) Identify partners to support awareness campaign c) Implement campaign	NEMCO, IA, Local Govt, DRM NAP Unit	DRM awareness programs taking place on the Outer Islands on a regular basis	4th Quarter 2009
3.5.2 Community preparedness and response plans developed by all groups in community and exercised	a) Develop plans in consultation with communities b) Conduct regular annual drills of the preparedness and response plans		Community preparedness and response plans exist and are shown to be effective during annual drills	4th Quarter 2009

Goal 4: Build a strong and resilient DM early warning and emergency communication system
Outcome: Effective early warning and communication between Majuro, Ebeye and the Outer Islands at all times

Objective 4.1: Build capacity for effective use and maintenance of communications infrastructure at the local level
Output: Effective early warning communication between Majuro, Ebeye and the Outer Islands at all times

Actions	Sub-Actions	Responsible Agencies	Action Indicators	Start Date
4.1.1 Review infrastructure and policies for emergency communications	a) Review existing infrastructure and policies at national and local level b) Submit findings of the review to NDC for consideration and action c) Develop/revise policies to incorporate the findings of the review (as mandated by NDC) d) Provide new communications infrastructure (including back-up infrastructure) where necessary	CSO, NDC, NEMCO, Weather Services Office, IA, Police, DRM NAP Unit, Ministry of Transport and Communications (Communications Division), NTA	Timely improvement of policy and capacity for emergency communication achieved	1st Quarter 2009
4.1.2 Train mayors and relevant council members in emergency communications procedures once every two years			Training report available to the NEMCO and DRM NAP Unit	
4.1.3 Continue to provide technical training on radio maintenance for Outer Island radio operators (incl. a handbook in Marshallese)	a) Develop handbooks (in English and Marshallese) b) Conduct training workshops for Outer Island operators		Increased number of technical experts in radio maintenance for the Outer Islands as a result of this action	
4.1.4 Regularly conduct tests to check on all the communications systems			Test reports available to the NEMCO and DRM NAP Unit	
4.1.5 Restrict access to the official emergency broadcasting HF channel			Agreement established	

Objective 4.2: Ensure that all key focal points are accessible at all times and can contact their communities

Output: Improvement in response time of Local Government/Population warned with 12 hours of available notice

Actions	Sub-Actions	Responsible Agencies	Action Indicators	Start Date
4.2.1 Ensure all focal points and agencies have contingency plans in place for equipment failure	a) Ensure that contingency plans are in place for equipment failure as part of SOPs (prepared and updated in 3.3.3)	CSO, NEMCO, NDC, Weather Services Office, IA, DRM NAP Unit, T&C (Communications Division), NTA	At least 75% of focal points and agencies have contingency plans developed, approved and tested within a year	2nd Quarter 2009
4.2.2 Community-based communication infrastructure designed and established	a) Review and identify appropriate community-based EWS systems (e.g. RANET) b) Implement new or enhance existing community-based EWS systems, as per findings of review		Improved (as measured from the existing state) EW and emergency communication systems established at the community level	

Objective 4.3: Strengthened capacity of EWS for all hazards through all stages of communication

Output: Early warning systems for key hazards strengthened

Actions	Sub-Actions	Responsible Agencies	Action Indicators	Start Date
4.3.1 Assess the EWS capacity and information needs at national and local levels for all key hazards and links to international early warning systems	a) Develop TORs for an assessment of all EWS for all hazards at the national and local levels	CSO, NEMCO, Weather Services Office, IA, Local Govt., NAP Unit, T&C (Communications Division), NTA, Public Safety, MoH, Ports Authority, EPA	Improved understanding of EWS capacity and information needs. Strategies for development of an improved national as well as linkages to regional and international early warning systems identified and approved for implementation	3rd Quarter 2009
4.3.2 Develop technical and human capacity for early warning systems for all hazards at the national and local levels as required	a) Commission study by qualified expert to assess the technical and human capacity for early warning systems at all levels and for all hazards		Regular training taken place and resources acquired (to be confirmed after review)	

Goal 5: Access to safe and adequate clean water at all times
Outcome: Vulnerability to water-related hazards and water shortages resulting from hazards reduced

Objective 5.1: Strengthen national coordination mechanisms for the water services to improve management of freshwater resources
Output: Improved planning and coordination of water services to residents of Majuro and Ebeye

Actions	Sub-Actions	Responsible Agencies	Action Indicators	Start Date
5.1.1 Establish a representative national water planning and coordination committee	a) Review existing committee TOR b) Develop national committee TOR and membership c) Consult with relevant agencies d) Prepare and submit Cabinet Paper for endorsement e) Operationalise the committee	EPA, MWSC, IA, CSO, DRM NAP Unit	Timely establishment of a broad representative national water committee Quarterly reports of committee meetings	3rd Quarter 2009

Objective 5.2: Strengthen the technical capacity of water service providers on Majuro and Ebeye to improve management of water infrastructure to reduce water wastage and contamination
Output: Reduced wastage and contamination of water linked to failing infrastructure

Actions	Sub-Actions	Responsible Agencies	Action Indicators	Start Date
5.2.1 Develop and implement an ongoing capacity building program for staff at MWSC and KAJUR	a) Develop TOR and engage technical assistance and local counterparts for the capacity needs assessment b) Conduct a capacity needs assessment of MWSC and KAJUR c) Design a capacity building strategy and plan; as well as a financing and implementation programs d) Secure financing for the implementation of the capacity building program e) Conduct on-the-job training for trainers in MWSC and KAJUR f) Allocate two formal training (under-graduate or post-graduate) for a key field in water management as identified by the capacity assessment g) Initiate short-term attachment for organizations/companies working in water to take in and fund an attachment program – this would be in line with the capacity assessment review	MWSC & KAJUR, NTC, NAP Unit	Number of staff that successfully completed a training program as identified by MWSC & KAJUR on-going capacity building program	2nd Quarter 2010

Objective 5.3: Reduced contamination of ground and surface water resources from sewerage and solid waste to reduce the risk of disease
Output: Improved management of sewerage and solid waste

Actions	Sub-Actions	Responsible Agencies	Action Indicators	Start Date
5.3.1 Strengthen sewerage collection and treatment infrastructure on Majuro and Ebeye	a) Develop TOR for TA to carry out feasibility study for b) b) Upgrade and extend central sewerage system to service identified urban areas c) Acquire tanker trucks equipped with sludge pumps to empty septic tanks d) Acquire water testing equipment for urban waters	MWSC, KAJUR, EPPSO, DRM NAP Unit	Level of infrastructural and technological improvement for sewerage collection and treatment achieved in the first three years of DRM NAP implementation	2nd Quarter 2010

Objective 5.4: Strengthen capacity for reducing the impact of water shortages resulting from hazardous events
Output: Access to sufficient amounts of clean water during droughts and other disasters

Actions	Sub-Actions	Responsible Agencies	Action Indicators	Start Date
5.4.1 Equip communities with the means to test and report on water quality/quantity on the Outer Islands	a) Develop a plan for training and distribution of water testing units for the next three years b) Acquire water testing kits for the Outer Islands c) Monitor and assess the impacts of the plan implementation	EPA, IA, Local Govt., community groups, private sector, Majuro Energy Co., Banks, DRM NAP Unit	Number of communities with improved capacity to test and report as a result of this action in the first three years of DRM NAP implementation	2nd Quarter 2011
5.4.2 Acquire centralized solar-powered RO units and solar-powered water purification systems for the Outer Islands	a) Conduct feasibility studies for all the Outer Islands for centralized solar-powered RO and solar-powered purification units b) Provide centralized solar RO and purification systems for target Outer Islands as recommended by the feasibility study c) Conduct training on installation and maintenance of RO and the purification systems d) Invite tenders for supply of RO and the purification units		Timely completion of the feasibility study and the start of implementation of key recommendations in the first three years of DRM NAP implementation	
5.4.3 Develop a policy for installing rainwater catchment tanks in all new public and household buildings	a) Develop and submit the policy for endorsement		Number of new public and household buildings constructed with rainwater catchment systems and tanks as response to the approved policy	
5.4.4 Supply all households in Marshall Islands with rainwater catchment tanks	a) Develop and cost a plan for supplying rainwater tanks to households without tanks b) Secure funding for plan implementation for the next three years		Percentage of existing households without water tanks that benefit from this program during the first three years of DRM NAP implementation	
5.4.5 Include water catchment tanks as qualification criteria for housing loans from local banks	a) Develop policy for new housing to include tanks in plan and in construction (linked to 5.4.3) b) Develop a partnership agreement with local banks for inclusion of rainwater catchment tanks in housing loan conditions		Agreements with the Banks established/signed Degree of bank's enforcement of the approved partnership agreement	

Objective 5.5: Raise the level of public awareness about water-related risks

Output: Improvement in water management at the household level

Actions	Sub-Actions	Responsible Agencies	Action Indicators	Start Date
5.5.1 Conduct an awareness raising campaign of linkages between water, pollution and public health	a) Assess existing program implemented by EPA and Public Health and design the strengthening program b) Strengthen existing awareness program through EPA, Public Health and the Media	EPA, Public Health, IA, Local Govt., NGOs, community DRM groups, Media, MWSC, KAJUR, NAP Unit	Impacts of awareness raising campaigns monitored before and after the campaigns Evaluation of the training by the communities that participated	2nd Quarter 2010
5.5.2 Equip communities with knowledge and means to purify water	a) Develop three training programs and prepare training materials and resources for a year b) Conduct three training workshops in a year (one in Majuro and two in the Outer Islands)		Number of communities that participated and water-related health incidents from these communities as reported by Public Health decreased by 90 % after these initiatives were implemented	
5.5.3 Facilitate regular consultation meetings between landowners, private sector and regulatory agencies	a) Develop consultation program b) Conduct two consultation programs (one in Majuro and one in the Outer Islands) in a year c) Monitor and evaluate the impact of implementation		Signs of improved water management and closer working relationship between regulatory agencies and communities as reported by the regulating agencies in annual reports	

Goal 6: Sustainable development of the coastal area
Outcome: Reduced vulnerability to coastal hazards

Objective 6.1: Strengthen policy for Integrated Coastal Area Management (ICAM) to improve environmental management and reduce vulnerability to hazards

Output: Strengthened enabling policy in place for ICAM

Actions	Sub-Actions	Responsible Agencies	Action Indicators	Start Date
6.1.1 Strengthen policy for integrated management of coastal natural systems	a) Review existing policy relevant for ICAM and for disaster risk reduction including coastal/land-use planning policy and provide appropriate recommendations for implementation b) Develop a policy paper establishing the need for ICAM focusing on DRM for consideration and approval c) Conduct awareness on the approved policy	EPA, OEPPC, R&D, AG, IA, Local Govt., DRM NAP Unit	Strengthened policy for ICAM approved; and improved coordination among key stakeholders reported in the first three years of DRM NAP implementation	2nd Quarter 2009
6.1.2 Integrate DRR criteria in EIA regulations	a) Develop a TOR for TA b) Contract TA c) Develop the EIA-DRR procedure guideline and conduct appropriate training and awareness program for government and private sector d) Submit amended regulation for endorsement		Approved EIA-DRR provision in the EIA regulation	2nd Quarter 2009

Objective 6.2: Improve information available for decision making for sustainable development in the coastal areas

Output: High-quality scientific and spatial information exists to inform decision makers for sustainable development of coastal areas

Actions	Sub-Actions	Responsible Agencies	Action Indicators	Start Date
6.2.1 Compile baseline information on coastal ecosystems (linked to 6.2.2 & 6.2.3)	a) Develop a TA in consultation with EPA b) Assess quality of existing data and identify any new data requirements, including local government data and information needs c) Assess existing capacity for data collection, management and dissemination d) Develop a program for managing existing data, new data collection and for strengthening data management and dissemination capability e) Conduct on-the-job training on data collection, management and dissemination	EPA, OEPPC, R&D, NEMCO, IA, Local Govt., DRM NAP Unit	Baseline and database for key coastal ecosystems covering physical/biological and socio-economic information established in the first three years of DRM NAP implementation	2nd Quarter 2010
6.2.2 Map high risk coastal areas (linked to 6.2.1 & 6.2.3)	a) Assess mapping capabilities for responsible agencies b) Strengthen capabilities through on-the-job training and on acquiring of mapping technology c) Develop and print maps		Availability of maps to assist in planning and decision making as a result of this action	2nd Quarter 2010
6.2.3 Conduct coastal hazard and vulnerability assessments of high risk areas	a) Conduct training on hazard and vulnerability assessment b) Conduct vulnerability assessment of key areas and disseminate final report		Capacity for coastal hazard vulnerability assessment available and applied as a result of this action	3rd Quarter 2010
6.2.4 Share with other DRM actors				

Objective 6.3: Strengthen capacity for planning and development of ICAM plans to improve the management of the coastal environment

Output: Management plans for improved coastal zone management to reduce human impacts on the environment and to reduce disaster risk

Actions	Sub-Actions	Responsible Agencies	Action Indicators	Start Date
6.3.1 Develop integrated coastal area plans for all atolls in collaboration with other DRM actors	a) Establish a inter-sectoral technical ICAM team to ensure integration and coordination b) Assess the capacity of the ICAM team and develop relevant training programs for the next three years c) Develop three ICAM plans in a year d) Conduct awareness programs on the plans e) Develop and cost an implementation program for three ICAM plans	EPA, OEPPC, IA, R&D, Local Govt., DRM NAP Unit	Three ICAM plans completed within a year and implementation of key strategies started in the first three years of DRM NAP implementation	3rd Quarter 2010

Objective 6.4: Strengthen technical skills for monitoring coastal systems to strengthen management of coastal areas in restoring its ecological and environmental resilience

Output: Skills exist for effective integrated coastal management and planning to reduce disaster risk

Actions	Sub-Actions	Responsible Agencies	Action Indicators	Start Date
6.4.1 Develop and implement targeted on-the-job training on coastal ecosystem monitoring	a) Establish a national coastal monitoring team (CMT) (linked to 6.3.1(a)) b) Assess the capacity of the CMT and develop appropriate training program c) Acquire monitoring equipment for compliance monitoring, field survey and long-term monitoring d) Design a long-term national monitoring program through on-the-job training focusing on key coastal natural and socio-economic systems representative of Marshall Islands e) Conduct training on field monitoring, data management and interpretation and in technical/scientific report writing and dissemination to decision makers and the public	EPA, OEPPC, R&D, DRM NAP Unit	Capacity of scientific monitoring of state of the coastal ecosystems strengthened, as evident in the regular monitoring reports released	3rd Quarter 2011

Objective 6.5: Improve enforcement of coastal management regulations

Output: Improved compliance with disaster risk reduction and environmental regulations

Actions	Sub-Actions	Responsible Agencies	Action Indicators	Start Date
6.5.1 Provide training on regulations for managing coastal ecosystems, coastal natural and man-made hazards and on other regulations relevant for sustainable development of the coastal area for enforcement agencies	a) Develop relevant training program and material b) Conduct the training program c) Promote public awareness of the regulations d) Initiate dialogue with the AG's Office and PSC e) Develop/extend JOD of and AGs existing staff	EPA, OEPPC, R&D, IA, Local Govt., AG's Office, DRM NAP Unit	Level of awareness and compliance improved as indicated by the number of non-compliance cases reported in a year	1st Quarter 2011
6.5.2 Appoint dedicated environmental personnel in the Attorney General's Office			Timely prosecution of non-compliance	
6.5.3 Facilitate regular consultation meetings between landowners, private sector and regulatory agencies				

Objective 6.6: More effective public awareness programs focusing on the linkages between coastal degradation and disaster vulnerability

Output: Greater support and participation of the public in management of the coastal areas

Actions	Sub-Actions	Responsible Agencies	Action Indicators	Start Date
6.6.1 Develop a well-coordinated and innovative public awareness program	a) Prepare TA TOR to undertake assessment of existing programs b) Assess existing programs and consult with agencies that provide relevant programs and the public c) Design a program involving all key stakeholders at the national level-local Government, NGOs, traditional leaders and landowners d) Secure financing for the next three years e) Implement the program in collaboration with NGOs and traditional leaders f) Monitor the impacts of the program	EPA, EOPPC, NEMCO, R&D, IA, Local Govt., DRM NAP Unit, Council of Iroji	Level of awareness before and after implementation are monitored through annual reporting	4th Quarter 2010

Goal 7: Reduce economic dependency of the Outer Islands
Outcome: Improved Outer Island resilience to hazards

Objective 7.1: Strengthen local capacity for food production and preservation as a means increase economic self-reliance and decreasing dependency on the mainland during periods of isolation caused by natural hazards

Output: Increased levels of local food production and preservation

Actions	Sub-Actions	Responsible Agencies	Action Indicators	Start Date
7.1.1 Assess scope for increased local food production and preservation	a) Conduct a survey on the extent of local food production and the consumption of imported foods in Outer Islands b) Consult with key stakeholders on the opportunities to increase the production and consumption of local foods c) Develop program to increase farming productivity and food production for the Outer Islands	IA, Local Govt., R&D, CMI, Demonstration Farm, Chamber of Commerce and DRM NAP Unit	Action strategies for increasing farming productivity and food production	1st Quarter 2011
7.1.2 Identify and implement key practical strategies for increasing and diversifying local food production	a) Implement a demonstration project in each Outer Island (set-up phase) b) Conduct training on composting, collection of seedlings/planting material, pest control, water management for farming etc. c) On-going support and monitoring		Increased variety of fruit trees and food crops grown in the Outer Islands	
7.1.3 Conduct public awareness programs about the link between local food production and disaster vulnerability	a) Conduct awareness raising workshop regarding the link between local food production and vulnerability to disasters in Outer Islands		Workshop evaluation report completed and used to design further awareness programs	

Objective 7.2: Strengthen and diversify income generating activities for Outer Islanders as a means to reduce vulnerability to disasters
Output: Greater resilience due to diversified livelihoods and income sources

Actions	Sub-Actions	Responsible Agencies	Action Indicators	Start Date
7.2.1 Review current income generating activities on Outer Islands and identify alternative financially viable income generating activities suitable for local conditions	(As part of study in 7.1.1(a) – include income generating activities)	IA, Local Govt., R&D, CMI, Chamber of Commerce and DRM NAP Unit	Refer 7.1.1(a)	1st Quarter 2011
7.2.2 Identify key constraints to alternative income generating activities and develop appropriate response strategies, including group savings and micro-credit systems	a) Through the review above, identify key constraints b) Submit report on key constraints to Secretary of R&D, for consideration and action c) Develop appropriate response strategies		Timely completion of the response strategies	
7.2.3 Develop program to promote alternative income generating activities, including developing capacity in small businesses by extending Small Business Development Program to Outer Islands	a) Incorporate the importance of alternative and diverse income generating activities to disaster vulnerability in the Small Business Development Program for Outer Islands b) Conduct appropriate training		Three small Business Development Training completed in the Outer Islands following the completion of 7.2.3(a)	

Objective 7.3: Reduce reliance on off-island energy sources for Outer Islands by developing on-island renewable energy sources
Output: Affordable and more reliable supply of energy

Actions	Sub-Actions	Responsible Agencies	Action Indicators	Start Date
7.3.1 Review current renewable energy production practices in Outer Islands	a) (As part of study in 7.1.1(a) – include renewable energy potential) b) Assess the scope for implementing renewable energy in Outer Islands	IA, Local Govt., R&D, CMI, ROC Demonstration Farm, Chamber of Commerce and DRM NAP Unit	Refer 7.1.1(a)	1st Quarter 2011
7.3.2 Support and strengthen existing initiatives aimed at the local production of biofuel derived from coconut oil in Outer Islands	a) Raise awareness on the importance of the use of biofuels in terms of vulnerability to disasters b) Raise awareness on the importance of the use of solar electrification in terms of vulnerability to disasters		Relevant awareness programs completed before 3rd Quarter 2011	
7.3.3 Support and strengthen existing initiatives aimed at the use of solar electrification in Outer Islands			Relevant awareness programs completed before 3rd Quarter 2011	

Goal 8: Improve understanding of the linkages between zoning, building codes and vulnerability to disasters

Outcome: Decision makers and public more receptive to the need for adequate zoning and building codes in reducing vulnerability

Objective 8.1: Build the knowledge base for decision makers at all levels (national and local Government; landowners etc) regarding the link between land use and settlement planning and vulnerability to disasters

Output: Decision makers more receptive to need for building codes and formalized planning

Actions	Sub-Actions	Responsible Agencies	Action Indicators	Start Date
8.1.1 Review the current situation regarding to land use and settlement planning and vulnerability to disasters	a) Prepare TA TOR to carry out the study on current arrangements for land use and building codes and how best to introduce more formalized approaches b) Commission a study on the current situation concerning land use settlement planning and building codes, in relation to vulnerability to disasters c) Raise awareness through sharing the results of the study with key Government Ministries, Local Government officials, Land owners and Council of Iroji	CSO, Public Works, AGs Office, Private sector (Banks, Chamber of Commerce, Constructors etc), Local Govt., Council of Iroji, IA (incl. HPO), MoH, DRM NAP Unit, EPPSO, NGOs, EPA, WSO	Strategies for introducing land use planning and building codes are established in the first three years of DRM NAP implementation	1st Quarter 2009
8.1.2 Develop a coordinated public awareness program regarding the link between land use and settlement planning and vulnerability to disasters for Marshall Islands	a) Conduct workshops to raise awareness at the Parliamentarian level b) Strengthen existing public outreach programs e.g. through mobile teams, to include the link between unplanned settlement and vulnerability c) Develop training material relating to safe building codes and zoning aimed at the community level d) Provide training to communities on the application of safe building codes, prototype buildings etc. e) Conduct advertising campaigns aimed at urban populations on the importance of adequate zoning, building codes and vulnerability to disasters f) Conduct workshops in urban areas aimed at the urban population on the importance of adequate zoning, building codes and vulnerability to disasters		Level of awareness and receptiveness to land use planning and building codes increases after the awareness campaign programs	

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Objective 8.2: Strengthen the role of the private sector in ensuring the adoption of a safe and risk sensitive building practices and building code for disaster-proof buildings

Output: Public more receptive to need for land use and settlement planning and building codes

Actions	Sub-Actions	Responsible Agencies	Action Indicators	Start Date
8.2.1 Actively encourage lending institutions to include building code requirements in home loan applications	a) Develop a pilot study to demonstrate the benefits of safe building codes b) Raise private sector (lending institutions and construction companies) awareness of the benefits of applying adequate building codes	CSO, Public Works, Chamber of Commerce, Lending Institutions, Ministry of Finance, Banking Commission, Construction companies, media, DRM NAP Unit, Donors	Agreements with private sector and lending institutions established and applied	3rd Quarter 2010

Goal 9: Raise the awareness of DRM amongst the public
Outcome: Public are better informed of national and Outer Island DRM issues

Objective 9.1 Strengthen existing capacity for raising public awareness of DRM
Output: Improved capacity for staging coordinated DRM public awareness campaigns

Actions	Sub-Actions	Responsible Agencies	Action Indicators	Start Date
9.1.1 Review existing capacity for raising public awareness of DRM.	a) Develop TOR for the review and appoint consultant b) Conduct review c) Disseminate results	IA, Local Govt.,, NEMCO, DRM NAP Unit	Review report exists	2nd Quarter 2008
9.1.2 Provide training in communication and media skills for all agencies that engage in public awareness for DRM	a) Identify and appoint appropriate trainers b) Design and develop course and materials c) Deliver training workshop(s)		Training workshops have taken place	

Objective 9.2 Develop a DRM knowledge base as a resource for developing public awareness programming material
Output: Up-to-date and easily accessible DRM knowledge base

Actions	Sub-Actions	Responsible Agencies	Action Indicators	Start Date
9.2.1 Establish a 'one stop' resource center for information on DRM	a) Manage and maintain resource centre	IA, Local Govt., NEMCO, DRM NAP Unit	DRM information centre established and resourced	1st Quarter 2009
9.2.2 Establish and actively maintain a DRM website and other public communication tools	a) Decide on initial concept design and prepare tender document b) Design and develop website c) Actively maintain website		Website established and running	

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Objective 9.3 Develop and implement an ongoing DRM education and awareness program through the formal education system

Output: Greater public awareness of DRM issues

Actions	Sub-Actions	Responsible Agencies	Action Indicators	Start Date
9.3.1 Integrate DRM into the school curriculum	a) Establish Curriculum Development Task Force on-island b) Identify and commission curriculum development specialist with DRM knowledge to design DRM curriculum integration plan c) Consultant to develop resources (teachers manual and students workbook) d) Translation of materials into Marshallese e) Printing of materials f) Teacher training in DRM modules g) Trial in schools with assessment for future program improvement	MoE, NEMCO, DRM NAP Unit	Trial program completed and implementation continues	3rd Quarter 2010

Goal 10: DRM NAP implementation and impact is monitored and reviewed on a regular basis
Outcome: The DRM NAP is effectively implemented and kept up to date

Objective 10.1: Ensure that DRM NAP implementation is effectively managed
Output: Impact of DRM NAP implementation is documented and DRM NAP relevance to emerging and priority challenges is maintained.

Actions	Sub-Actions	Responsible Agencies	Action Indicators	Start Date
10.1.1 Establish and equip a DRM NAP implementation unit	a) Recruit technical expert to support a central implementation coordination unit b) Identify specific objectives for the unit and develop appropriate operating guidelines to facilitate unit operations and the relations of the unit to other key bodies (e.g. NDC, DRM Task Force etc.) c) Identify staff and resource requirements d) Procure necessary equipment and secure office space e) Undertake recruitment for additional unit positions as per job descriptions developed	CSO, EPPSO, AG's Office, Ministry of Finance, NEMCO	Timely establishment of NAP implementation unit with the capacity to start NAP implementation	1st Quarter 2009
10.1.2 Manage and operate the DRM NAP implementation unit	a) Develop TOR and job descriptions for all staff of the DRM NAP implementation unit b) Recruit the Technical Expert/Project Manager c) Recruit Public Affairs/Communications Adviser d) Recruit Administrative Assistant e) Implement communications strategy f) Undertake travel to support NAP awareness as and when required		Timely recruitment of NAP implementation unit personnel NAP unit is operational	

Objective 10.2: Ensure that DRM NAP is effectively monitored and evaluated
Output: DRM NAP relevance to emerging and priority challenges is maintained

Actions	Sub-Actions	Responsible Agencies	Action Indicators	Start Date
10.2.1 Establish an effective monitoring and evaluation mechanism	a) Develop outputs and results based indicators b) Provide regular reporting on progress against indicators to the Nap Task Force, NDC and other relevant stakeholders c) Develop NAP briefs highlighting progress on implementation and emerging issues	DRM NAP Unit	M & E indicators developed and approved Regular reporting provided on progress of NAP implementation	1st Quarter 2009

Table of Marshall Islands DRM NAP Country Engagements

NAP Stage	Objective	Outcome
1. High Level Advocacy Team Visit 5th – 8th December 2006	• To obtain high-level Government/political support for disaster risk management mainstreaming	• HE President Kessai Note formally requested the support of the Pacific DRM Partnership Network to assist Marshall Islands with the development and implementation of a DRM National Action Plan (NAP) • A DRM NAP Reference Group appointed by Cabinet
2. Country Engagement 1 – NAP Pre-Planning with Marshall Islands Government 23rd – 27th April 2007	• To identify key counterparts for the DRM NAP development and implementation process • To develop a forward program to facilitate DRM NAP development	• A DRM NAP Reference Group appointed by the Chief Secretary • DRM NAP development process confirmed with the Task Force
3. Country Engagement 2 – Situation Analysis; Stakeholder Workshops; DRM NAP Matrix Development 23rd May – 8th June 2007	• To develop a Situation Analysis (or profile) of the Marshall Islands highlighting existing cross sectoral developments relevant to DRM and key features of the national planning & budgeting process • To determine stakeholder perspectives on the key DRM issues in Marshall Islands • To develop a matrix of key national DRM priorities to address issues identified in the Situation Analysis and stakeholder workshops	• Situation Analysis developed and used to inform the DRM NAP matrix • Stakeholder views obtained and used to inform the DRM NAP matrix • DRM NAP matrix developed
4. Country Engagement 3 – Development of a Provisional Implementation Program to Support the DMR NAP	• To identify the resource requirements and indicative costs of implementing the DRM NAP matrix • To develop an implementation approach including an implementation structure, financing strategy, communications strategy	• Resource requirements and costs for DRM NAP implementation determined • Implementation arrangements developed

DRM NAP Task Force (TF) Members

NAME	ORGANIZATION
Jorelik Tibon	Task Force Chair, Deputy Chief Secretary, Marshall Islands Government
Reginald White	Majuro Weather Services
Carl Hacker	Economic Planning Policy & Statistics (EPPS)
Steve Wakefield	Majuro Energy Co.
Alington Robert	Water & Sewer Co.
Clement Capelle	National Emergency Management & Coordination Office (NEMCO)
Ted Z. Tarkwon (or Abraham Hicking)	Environmental Protection Agency
Alex Henry	PSC
Julie Affleck	NZAID
Sandy Alfred	Ministry of Health
Yumi Crisostomo	Office of Environmental Policy and Coordination (OEPPC)
Richard A. Bruce	Ministry of Education
Smith Ysawa	Safety and Public Works
Antonio Eliu	Office of the Chief Secretary
George Lanwi	Police Commissioner – responsible for Fire
Justina Langidrik	Ministry of Health – 0Secretary

Stakeholders Consulted in Preparing the Situational Analysis

Mr Casten Nemra, Chief Secretary

Mr Jorelik Tibon, Deputy Chief Secretary

Mr Reginald White, Director, Weather Office

Mr Clement Capelle, Director NEMCO

Mr Antonio Eliu, CEO Office

Mrs Biram Stege, Secretary of Education

Mr Cassiano Jetnil, Ministry of Education

Mr Carl Hacker, Director, EPPSO

Mr Smith Ysawa, Secretary of Public Works

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Mr John Bungitak, General Manager, EPA

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Mr Manono Dawoj, Assistant Secretary, Ministry of Internal Affairs

Mr Wilbur Allen, Secretary for Transportation and Communications

Mr George Lanwi, Commissioner, Public Safety

Mr Dan Fitzpatrick, General Manager, AMI

Mr Ron Cenicola, Assistant General Manager, NTA

Mr Jack Chong Gum, Director, Ports Authority

Mrs Viola Chong Gum, Secretary of Foreign Affairs

Ms Kino Kabua, Undersecretary, Asia/Pacific Affairs

List of Participants at the DRM National Stakeholders Workshop

NAME	ORGANIZATION	NAME	ORGANIZATION
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Imang Chong Gum	Public Works	Brad Lamille	MISSA
Roland Cawin	Mayor, Ebeye	Tommy Jibok	Kili/Bikini/Ejit Local Gov't
Ekcon Note	KBE, Bikini	Laurence Edwards	Churches, Long Is
Wilson Jibbwa	Iyae, Mayor's Office	Raymer De Brum	Likiep Atoll
Reginald White	Weather Service	Roni Bokmej	Farmer, Laura
Clement Capelle	NEMCO	Anko Jekkein	Mayor, Dalap
Heldan Adam	Laura Farmers Association	Jonnel Loeak	Kili Island Local Gov't
Jokla Titus	AALG, Ailinlaplap Atoll		

List of PPN Members that provided Technical Assistance to the Government of the Marshall Islands

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Secretariat of the Pacific Community

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East West Center

Meril Fujiki, Seminars Development Coordinator

Dee Dee Letts, President, Resolutions Hawai'i

Consultant Adviser

Chris Piper, Director, TorqAid

List of Key Documentation

National Development Plans

1st Five-Year National Development Plan (1986-1991)

2nd Five-Year National Devlopment Plan (1991-1996)

3rd Five-Year National Development Plan (1996-2001)

National Biodiversity Strategy and Action Plan – 1999

Strategic Economic Development Plan (SEDP) – 2001

Energy Policy and Plan – 2001

Outer Islands Development Plan

Outer Islands Energy Plan

RMI Government. RMI Strategic Development Plan Framework (2003-2018)

RMI Government. RMI Revised Compact Proposal. 2002

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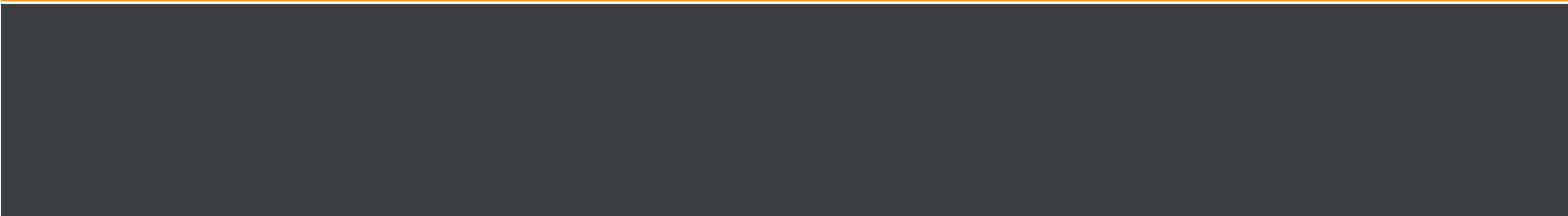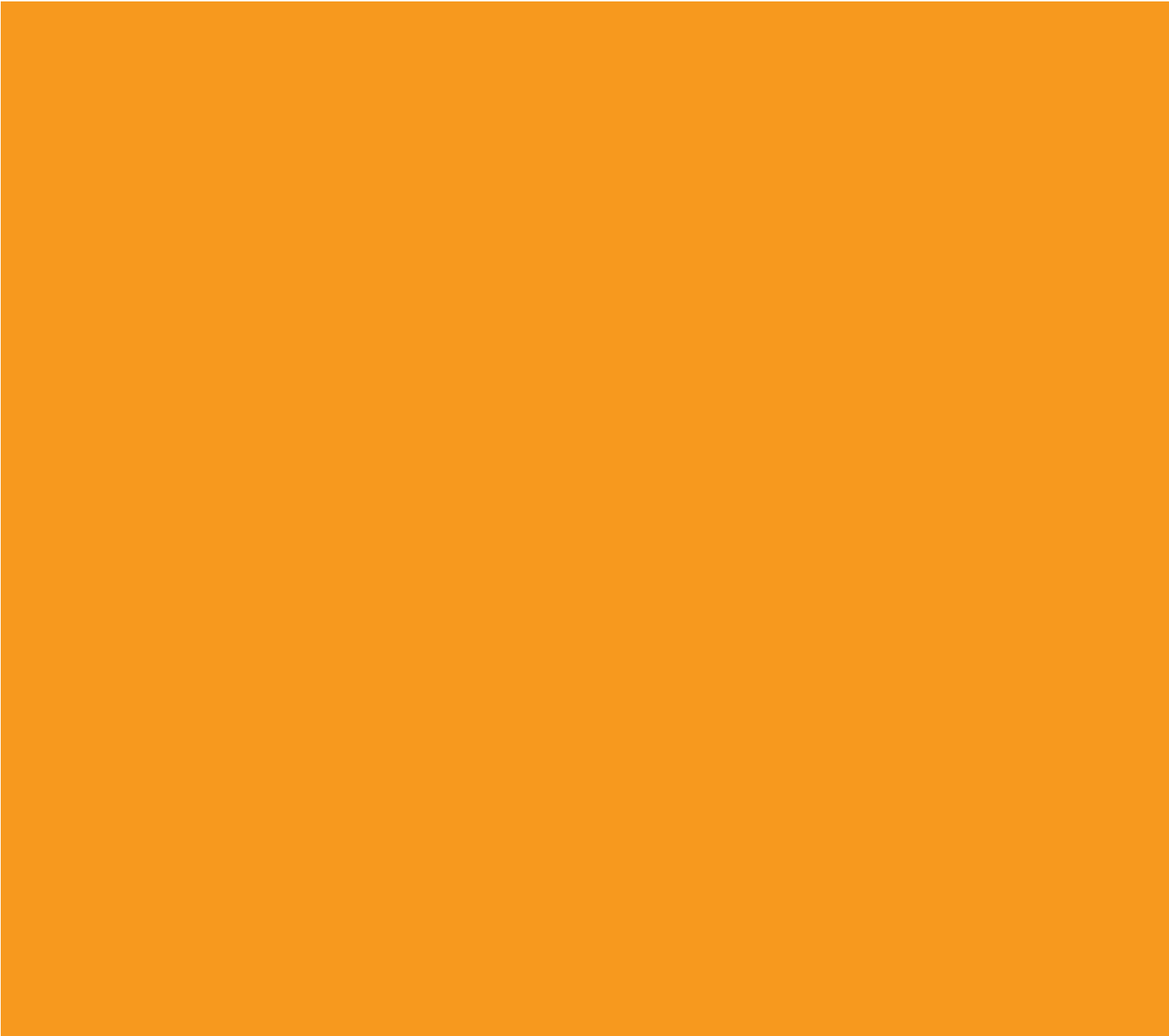ADB 2006. Juumemmej. RMI. Social and Economic Report 2005

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