



Tonga

National progress report on the implementation of the Hyogo Framework for Action (2011-2013) - Interim

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Section 2: Strategic goals

Strategic Goal Area 1

The more effective integration of disaster risk considerations into sustainable development policies, planning and programming at all levels, with a special emphasis on disaster prevention, mitigation, preparedness and vulnerability reduction.

Strategic Goal Statement:

This goal is related to RFA Theme 1 Governance- Organisational, Institutional, Policy and Decision-Making Framework; and RFA Theme 4 Planning for Effective Preparedness, Response and Recovery.

Disaster risk considerations are being integrated into sustainable development planning as per Goal 7 of Tonga's Strategic Development Framework 2011-2014 "Cultural Awareness, environmental sustainability, disaster risk management and climate change adaptation, integrated into all planning and implementation of programs, by establishing and adhering to appropriate procedures and consultation mechanisms."

Strengthening of DRM-CCA policy analysis and implementation capacities at sector level is being monitored by Ministry of Finance and National Planning eg Legislation for Tonga Met being developed.

Sector policies, strategies and work plans are well formulated and achievements reflected across the nation in development of agency disaster risk management plans as now existing with Ministry of Environment and Climate Change, Tonga Water Board, Ministry of Health, Disciplinary Forces in relation to the Civil Defence Policy, Strategy and Contingency Plans, Ministry of Land and Tonga Meteorological Services (Tonga Met).

National goals are reflected in sector work plans

- sustainable use of the environment ensured and incentives created for limiting the use of resources and production of waste
- disaster risk management appropriately adapted to Climate Change
- social and micro-financing safety nets assimilated successfully and value adding to cultural tradition.
- Improved preventive health care programs are efficiently and effectively encouraging healthy lifestyles, including consumption of appropriate foods and increased exercise, so as to decrease the incidence of non-communicable diseases
- DRR considerations strengthened in sub-divisional development planning including regulatory building code compliance with designs of built structures.
- safe provisions and maintenance of lifeline services and infrastructures ensured e.g. water, power and telecommunication.
- Improved good governance for climate change adaptation and disaster risk management (mainstreaming, decision making, organizational and institutional policy frameworks).

Strategic Goal Area 2

The development and strengthening of institutions, mechanisms and capacities at all levels, in particular at the community level, that can systematically contribute to building resilience to hazards.

Strategic Goal Statement:

This goal is reflected in RFA Theme 1 Governance- Organisational, Institutional, Policy and Decision-Making Framework and in RFA Theme 2 Knowledge, Public Education Awareness and Education.

Political commitment to Disaster/Climate and Development reaffirmed in strengthening of NEMO staffing and organisational structure through the “Change Management” that addresses critical staff shortages.

Strengthened DRM capacity nation-wide with better coordination of government and non-government DRM programmes in all-out efforts to raise levels of implementation achievements. Institutional capacities and networks on scientific hazard risk assessment strengthened with improved sharing of information and access to data on disaster losses in databases of key agencies. Methodologies developed on DRR cost benefit analysis and guidelines applied in development planning projects.

National “Change Management” achieves goal and Island Councils successfully empowered on island development issues. JNAP adapting appropriately to the decentralisation of development authority, island focussed awareness of JNAP approach is in place and island level CCADRM capacity appropriately strengthened complete with Island Activity and Work Plan Matrix in place. Gender, poverty and human rights issues routinely considered in CCA DRM work plans. Island focussed CCADRM training capacity strengthened with increased numbers of local instructors. Strengthening of CSO and Private sector partnerships in DRR and CCA activities facilitated with a decentralised DRM-CCA information management systems developed for easier access by the public.

NEMO capacity at island level strengthened through partnerships with Tonga Civil Society Forum.

Strategic Goal Area 3

The systematic incorporation of risk reduction approaches into the design and implementation of emergency preparedness, response and recovery programmes in the reconstruction of affected communities.

Strategic Goal Statement:

This goal is reflected in RFA Theme 3 Analysis and Evaluation of Hazards, Vulnerabilities and Elements at Risk, and RFA Theme 5 Effective, Integrated and People Focussed Early Warning System, as well as RFA Theme 6 Reducing Underlying Risk Factors.

JNAP integrated whole of government approach firmly embedded in work practices across the sectors to sustain multi-sector coordination and harmonised approach and to set priority

areas for resource support and donor funding on DRM-CCA projects. CSOs implementation capacity in multi-hazard risk assessments at the community levels strongly partnered through JNAP arrangements with easier access to technical agencies support.

Sector policies developed that incorporate DRR considerations in post-recovery as per JNAP Strategic Goal 3. Integrated partnership approach advocated achieving increased commitments in incorporating DRR in the design and implementation of emergency preparedness. Strengthened capacities and knowledge at community level to use tools in multi-hazard risk mapping and to identify preparedness measures. Awareness programme on DRM-CCA issues sustained and monitored. TCSF role strengthened through membership in National DRM-CCA Committees. CSOs properly regulated to coordinate with TCSF. Charters developed for work partnerships between CSOs and government. Donors funding assistances harmonised with national and sectoral DRM-CCA strategies. Enhanced technical knowledge base, information, education and understanding of climate change adaptation and effective disaster risk management

Section 3: Priority for action 1

Ensure that disaster risk reduction is a national and a local priority with a strong institutional basis for implementation.

Priority for action 1: Core indicator 1

National policy and legal framework for disaster risk reduction exists with decentralised responsibilities and capacities at all levels.

Level of Progress achieved: 2

Some progress, but without systematic policy and/ or institutional commitment

Key Questions and Means of Verification

Is disaster risk taken into account in public investment and planning decisions?

Yes

National development plan	Yes
Sector strategies and plans	Yes
Climate change policy and strategy	Yes
Poverty reduction strategy papers	Yes
CCA/ UNDAF (Common Country Assessment/ UN Development Assistance Framework)	Yes
Civil defence policy, strategy and contingency planning	Yes

Have legislative and/or regulatory provisions been made for managing disaster risk? Yes

Description:

The 2008 Tonga Emergency Management Act and the 2009 National Emergency Management Plan are focussed on DM whilst acknowledging that DRR engagement is to be via multi-agency, multi-sectoral approach to risk minimisation, using the CHARM process developed by SOPAC.

Quite comprehensive policy directive is provided via the JNAP Goal 1 Improved good

governance for CCADRM.

The onus for undertaking hazard and risk analysis and incorporating risk treatment options in public investment and planning decisions is very much left to individual developers. With the exception of Health, Environment, Tonga Water Board and Tonga Power not many other agencies have in place agency operation plans / sector strategic plans with specific provisions for DRR.

JNAP Secretariat is establishing links amongst sector programmes and activities to capture DRR-CCA considerations in sustainable development planning. JNAP consultation process on CCADRM defined impacts on vulnerable sectors and identified adaptation options. Consultations on the next TSDF begins next year 2013 and JNAP is calling for sector DRR-CCA policy analysis and action-framework development via sector wide consultations.

Tonga uses “hardship” to describe economically disadvantaged as those “having difficulty in meeting basic needs, such as education, health, social security and transport”. 72% of Tonga’s 100,000 population live on Tongatapu where Patangata and Popua are squatter settlements inhabited by many economically disadvantaged households. These are the targets of poverty observatories within Tonga that will inform policy making particularly now that the new Ministry of Internal Affairs is established with mandates on social welfare care. NEMO works in partnership with CSOs and Tonga Red Cross on outreach activities. In particular PCIDRR has a strong community based training programme to improve understanding of DRM and build capacity and leadership at district and village levels.

Context & Constraints:

The “change management” on-going in Tonga strives to review an appropriate placement of NEMO. Low staff level in NEMO is a major constraint progressing a nationally driven coordinated approach to DRM. NEMO primary role is to build capacity in disaster management but it is inheriting also capacity building in DRR yet without the resources and the institutional capacity strengthening. The DRR and DM functions need to be first clearly separated in a functional organisational structure suiting Tonga’s vision of managing DRM in Tonga prior to developing a staff organisational structure. The JNAP arrangement offers a good option to take responsibility of DRR without involving major organisational structural changes whilst separately NEMO may be reviewed together with key first response agencies on the best national structure to strengthen the nation’s response and management of natural disasters.

Even though DRR policy is expressed at the national level, it has not filtered down with just a few agencies having actually developed DRM policies. In practice DRR is mostly progressed on project basis across sectors without institutional commitment.

Other DRR arrangements are sustained by statutes as with the marine protected area and the water board authority. Information on DRR implementation is not centralised and the most used means to share information is annual reports. Deliberate decision by National Planning Office is required to include DRR implementation reflection in the national reporting system. A coordinated approach would allow integration of DRR into existing statutory requirements

CSOs set up village DRR committees and JNAP provides a national level platform for CCADRM. The existing DM arrangement under the Act focuses on prevention, preparation, emergency and recovery. Institutional commitment to DRR exists yet progress in decentralisation of responsibilities and committing resources at the sector level is not substantial, capacities at all levels require strengthening.

Priority for action 1: Core indicator 2

Dedicated and adequate resources are available to implement disaster risk reduction plans and activities at all administrative levels

Level of Progress achieved: 2

Some progress, but without systematic policy and/ or institutional commitment

Key Questions and Means of Verification

What is the ratio of the budget allocation to risk reduction versus disaster relief and reconstruction?

	Risk reduction / prevention (%)	Relief and reconstruction (%)
National budget	0	0
Decentralised / sub-national budget	0	0

USD allocated to hazard proofing sectoral development investments (e.g transport, agriculture, infrastructure)	0
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Description:

There is no allocated budget for risk reduction. NEMO has an annual operational budget of T\$60,000 also used to kick start contingency relief operations.

During a disaster, departments reallocate funds from normal budgets. NGOs independently seek their own sources for disaster management funding. International assistance for response and recovery has been available in the past disasters and predominant in topping up NEMO emergency funds.

DRR consideration is included in the design and construction of adaptation, recovery and rehabilitation activities e.g. coastal sub-division/coastal protection to be above tsunami and storm surge levels; tree planting and mangrove establishment and drainage improvement schemes in Nukualofa and low lying areas as Popua.

Though there is no specific DRR budget allocation, each Ministry does undertake a range of DRR activities under other budget heads. Since approval in July 2010, the JNAP Secretariat has secured a total TOP\$402,177 from SOPAC on DRM-CCA projects spread across Tonga Red Cross, Health, Environment and NEMO. In addition there are a number of relevant regional projects covering DRM-CCA governance; digital elevation modelling; vulnerability assessment and adaptation to sea level rise; improved understanding of climate change through education, training and awareness; enhance resilience of coastal communities to CC; climate proofing of critical infrastructures; and development of database and DRM-CC information management system. To compile a better monetary picture, and as an outcome of this review, NEMO will initiate a request to Ministry of National Planning for each Ministry

to report on DRR perceived activities. This can be incorporated in the quarterly progress reporting on implementation of the TDSF.

At the community level, CSOs proactively incorporate DRM into their programmes. Typical interventions are in water system development, maintaining traditional farming systems and establishment of marine and forestry conservation areas.

Context & Constraints:

Tonga is frequented by natural disastrous events taxing heavily its meagre financial resources. Currently 48% of national budget goes to salary and wages and 52% to operations. The government relies on donor support particularly China for investment in major developments; and from 2014 will have to allocate 13% on debt servicing from the national budget with harsh implications on budget apportioning.

The present Parliament is the first ever elected by the people in a move away from monarchy. A prerequisite on budget provision is to have institutional frameworks in place e.g. enabling legislation, policies and empowerment with arrangements decentralised to island/village level committees; include disaster/disaster risk reduction in school curriculum etc. High level sensitisation is needed to keep government engaged on resourcing implementation of DRM strategies and frameworks.

The private sector and statutory authorities invest in DRR more readily. Tools to show actual nation-wide monetary savings in DRR investments are essential for government to prioritise commitment to DRR. The nation needs to embark on developing Hazard Mitigation Plans that incorporates corporate responsibility and defines the role of the private sector in DRR initiatives, financial assistance and capacity building.

JNAP is moving to establish Trust Fund together with the accompanying legislation. In an extension of this principle, NEMO may consider looking into the allocation of a percentage of development budgets for mitigation funds to support hazard-resistant and vulnerability reduction activities in development projects.

National planners need to fully internalize the importance and need for mainstreaming DRM into development strategies.

Priority for action 1: Core indicator 3

Community Participation and decentralisation is ensured through the delegation of authority and resources to local levels

Level of Progress achieved: 3

Institutional commitment attained, but achievements are neither comprehensive nor substantial

Key Questions and Means of Verification

Do local governments have legal responsibility and regular / systematic budget allocations for DRR? No

Legislation (Is there a specific legislation for local governments with a mandate for DRR?)	Yes
Regular budget allocations for DRR to local government	Yes
Estimated % of local budget allocation assigned to DRR	0

Description:

All programmes in Tonga are driven centrally from Nukualofa. The five island divisions (Tongatapu, Vava'u, Ha'apai, Eua and the Niua divisions) are each further divided into districts. In the 2006 census, Tonga's population counted 101,991 distributed amongst 17,529 households .

The Act and the NEMP provide for District and Village committees but resources are controlled centrally at agency headquarters, both government and non-government, without much delegated to local levels. During disasters, the initial damage assessment is an island responsibility where each department reports directly to HQ which then is responsible for verification and delivery of recovery programmes. Very little coordination happens on the island despite provisions in the NDM Plan.

On new projects Village Committees report to the Governor's Office which then forwards submission to the respective line ministry. Island Councils, District, Village Committees and island based ngos are free to access resources directly e.g. Village Agriculture Committee(s), Vavau Environment Protection Association, Village Water Committee(s). Though regular reporting to the Governor's Office is stipulated, in practice it is not happening. Gender segregated data is not readily available at the Governor's Office. Networking amongst women is strengthened in a new initiative on microfinance promotion by SPDB. Women groups form Women Centres which are then networked - 100% for Tongatapu villages and 50% for Vavau.

PCIDRR national programme empowers communities by establishing village DRM committees and DRM plans. The Tonga Red Cross programmes include being the lead agency for pre-positioning of emergency supplies; and the Civil Society Forum strengthens its corporate service support to CSOs through appointment of secretarial staff at island group level.

Progress is being made but commitment and capacities are limited.

Context & Constraints:

Though the NEMP states that CHARM is the process tool to incorporate DRR into development planning, full community participation is hampered because currently there is insufficient knowledge and awareness at sub-national and island levels with regards to their DRR roles and responsibilities. This will require a well articulated arrangement for DRR. Without a National Plan for DRR, it will not be as simple to delegate authority and allocate resources at island, district and village levels. The technical skills and knowledge of communities in terms of reducing risk varies depending on experiences to the various types of hazards e.g. regular experience in coping with floods and cyclones versus rare exposure to earthquake or other events. Planning institutions and sector ministries need to fully internalise DRR at the national level in order for commitment to feed through to island, district and village levels.

Government proposes to empower the Governor's Office to take the lead administrative role on all island development plans. This will result in better consolidation of project coordination at the island level. It will also facilitate the next phase to expand scope of the DM committees to encompass DRR. Application of DRR needs to be backed up by more training and the development of information management system at island level.

A National Disaster Fund was set up in June, 2008 (TOP\$5million) to facilitate recovery process after impact and the staff of the National Emergency Management Office was strengthened by three senior new posts in its 2007/08 financial year. Nevertheless there are still recognised limitations in capacities and resources to achieve comprehensive progress in improving community preparedness and resilience to natural disasters.

Priority for action 1: Core indicator 4

A national multi sectoral platform for disaster risk reduction is functioning.

Level of Progress achieved: 3

Institutional commitment attained, but achievements are neither comprehensive nor substantial

Key Questions and Means of Verification

Are civil society organizations, national finance and planning institutions, key economic and development sector organizations represented in the national platform? Yes

Civil society members (specify absolute number)

1

National finance and planning institutions (specify absolute number)

0

Sectoral organisations (specify absolute number)

2

Private sector (specify absolute number)	0
Science and academic institutions (specify absolute number)	0
Women's organisations participating in national platform (specify absolute number)	0
Other (please specify)	

Where is the coordinating lead institution for disaster risk reduction located?

In the Prime Minister's/President's Office	No
In a central planning and/or coordinating unit	No
In a civil protection department	No
In an environmental planning ministry	No
In the Ministry of Finance	No
Other (Please specify)	Min of Infrastructure

Description:

The 10-member National Emergency Management Committee, all senior executives of government departments, reports directly to Cabinet. The National Emergency Recovery Committee and the National Emergency Operation Committee each has six and five members respectively, all from government department. The Minister for Works is the Chair of all the Committees. Others can be co-opted. The JNAP Task Force is more multi-sector. Part B of the NEMP purposes a Working Group to formulate a National Risk Reduction Strategy and Program. This platform, formed by NEMO and attached to the NEMC, is government dominated without CSO and private sector participation. Information sharing between sectors, ministries and CSOs is likely to improve under recent programmes. Foremost are the establishment of the national multi-disciplinary teams for CCADRM; the NECC Technical Working Group that is drawn from technical experts (of government agencies), non-government organisations and statutory authorities; and the DRM Task Force that is attached with the NEMC. The NEMP also calls for the establishment of emergency management committees at the island, district and village levels.

The JNAP arrangement is merging logically the two technical teams and is successfully linking NEMC with NECCC. A complete merger of DRR with CCA may require reviewing the NEMP to separate out DM from DRR. It is recognised that special efforts should be made to involve in the national platforms representatives of women's groups and faith based groups due to the special reverence held for them by the community.

Coordination amongst CSOs is also maintained through the Civil Society Forum.

Context & Constraints:

Non-government actors are not on the national DRM Committees. A much better representation of stakeholders at the national level exists within the National Environment and Climate Change Committee (NECCC). The NECCC complements the existing DRM mechanism under the NEMP. The NECCC is a national platform advising on policy and technical issues on environment and climate issues, with multi-disciplinary membership drawn from departmental heads, non-government organisations and statutory authorities. The link between the two platforms is provided through the JNAP arrangement and is successfully functioning in coordinating DRM-CCA activities and programmes

A Joint Meeting NECCC – NEMC occurs every six months and provide policy and high level coordination for JNAP implementation. The Joint Meeting receives the report of the Task Force on the progress of JNAP implementation activities over the previous six months including challenges to be addressed and funded activities planned for the next six months or forthcoming year for endorsement. The Task Force is a subcommittee of Cabinet for the purposes of ensuring the coordinated implementation of JNAP. The management structure is an extension of existing institutional arrangements for environment and climate change and for emergency management.

Section 4: Priority for action 2

Identify, assess and monitor disaster risks and enhance early warning

Priority for action 2: Core indicator 1

National and local risk assessments based on hazard data and vulnerability information are available and include risk assessments for key sectors.

Level of Progress achieved: 2

Some progress, but without systematic policy and/ or institutional commitment

Key Questions and Means of Verification

Is there a national multi-hazard risk assessment with a common methodology available to inform planning and development decisions? Yes

Multi-hazard risk assessment	Yes
% of schools and hospitals assessed	not available
Schools not safe from disasters (specify absolute number)	not available
Gender disaggregated vulnerability and capacity assessments	Yes
Agreed national standards for multi hazard risk assessments	Yes
Risk assessment held by a central repository (lead institution)	Yes
Common format for risk assessment	Yes
Risk assessment format customised by user	Yes
Is future/probable risk assessed?	Yes
Please list the sectors that have already used disaster risk assessment as a precondition for sectoral development planning and programming.	Coastal Areas, Disaster Management, Climate Change, Water and Health, Energy, Fisheries, Agriculture and Forestry, Roads, Infrastructures and Communication, Education,

Tourism, National Planning,
Environment, Insurance,
CSOs, Civil Aviation, Maritime
and

Description:

Risk assessment information exists but is not centralised. Users seek own information from the respective custodian e.g. Red Cross for VCA, Lands for geo-hazards and Tonga Met for hydro meteorological hazards. Risk assessment is separated from damage assessments. NEMO has installed an Information Management System aiming to be the repository for disasters and damage data.

Outside SOPAC-WB PCRAFI, no national multi-hazard risk assessment is undertaken nor is there a standard approach for single hazard assessments. Hazard and risk assessments are mostly carried out for particular developments and project areas or in the aftermath of a major disaster e.g. World Bank funded disaster risk planning for Niuaotupapu. Some CSOs conduct community risk mapping and VCA exercises e.g. Red Cross, PCIDRR.

Gender is a new initiative in DRM and aligns with TSDF Outcome Objective 1 Strategy 2 “Improving gender equality by implementing Government’s gender development policies”. Entry into DRM is through development partners (e.g. UNICEF) and donors but not fully institutionalised yet. However gender issues are acknowledged and some agencies use gender data routinely in their work planning e.g. Health, Police.

JNAP has progressed coordination of CCA-DRM development planning starting with documentation of the existing array of CCA-DRM programmes and projects across all the vulnerable sectors. Measures cover regulatory protection e.g. sand mining licensing, raising understanding of climate sciences and disaster risk, and the construction of physical risk reduction activities e.g. foreshore protection. Good progress is evident in the variety of activities and donor-funded programmes but to sustain this more effort is needed on institutional commitments across all ministries and agencies. Mitigation measures in the key sectors (water, power, infrastructures, health, agriculture and education) are founded on hazard risk assessments e.g. seawall protection and traditional farming systems.

Context & Constraints:

Tonga is prompted through external funded programmes to incorporate risk assessment in major development investments that today avails Tonga with multi-hazard risk assessment information. There is a need to take inventory and upload on DIMS all information available, complementing this with a mapping of community based multi-risk assessment tools in use by CSOs. Multi-hazard risk assessment is happening with more ease at the community level than with sector /ministerial levels. The challenge is to review sector policies to incorporate multi-hazard risk assessment into all CCA DRM & Mitigation proposals.

CSOs that conduct CVA target the most vulnerable, distant and remote communities. CSOs need continued resource and budget support as travel and communication costs are huge and drain budgets. The TCSF coordinates CSOs programmes.

Much of the information on multi-hazard mapping, vulnerability and exposure assessments are kept as technical reports and often in formats difficult for use by non-scientists. Use is primarily by government with little access to non-government stakeholders. This is an anomaly as private sector growth is the driver for economic sustainability in the nation and risk profile is essential to all development planning. From the consultation there is a common

agreement to move urgently in providing an improved national information network and sharing. The challenge is for TCSF and JNAP to advocate amongst lead agencies to strengthen the sharing of information; and commit resources to make access easier and information user friendly. Gender and human rights issues are often overlooked, and training is needed.

A fundamental deficiency is the absence of a common format for risk assessment. In development of CCADRM sector policy to align with the next TSDF, specific articulation is needed of a common format that includes the use of DRR cost benefit analysis.

Priority for action 2: Core indicator 2

Systems are in place to monitor, archive and disseminate data on key hazards and vulnerabilities

Level of Progress achieved: 2

Some progress, but without systematic policy and/ or institutional commitment

Key Questions and Means of Verification

Are disaster losses and hazards systematically reported, monitored and analyzed? Yes

Disaster loss databases exist and are regularly updated	Yes
Reports generated and used in planning by finance, planning and sectoral line ministries (from the disaster databases/ information systems)	Yes
Hazards are consistently monitored across localities and territorial boundaries	Yes

Description:

The NEMP disaster management arrangement provides for the retention of incident management responsibilities with the various emergency services within the community that respond to events which fall within their normal daily activities. The Plan enhances the capacity of Government to more effectively plan for and respond to emergency situations through practising hazard and risk analysis, which provide a solid base upon which to frame operational plans and procedures.

One function of the National Emergency Operations Committees (NEOC) is to carry out initial damage assessment. In practice officers in disaster localities do on site initial damage assessments and submit directly to their own head office in Tongatapu, who informs the NEOC. In the outer island group the Governor is kept informed. Line ministries verify reports and undertake detail damage loss assessment.

Disaster losses and hazards databases exist and regularly up-dated. NEMO is setting up a

Disaster Management Information System with assistance from JICA. This is web based for ease of user access but is still to be fully completed and operational as some data sets maybe restricted access as with Statistics and Planning.

However with DRR, risk assessment data sets are spread across departments and NGOs. There is no policy on access to data generated from projects having datasets outputs on national risk exposures. The Pacific Disaster Net and the JNAP have website that are for use by national stakeholders. Under the Pacific Climate Change Science Programme, AUSAID funding, a climate change database management system is now established with Tonga Meteorological Services.

DRR is addressed in post-disaster recovery, rehabilitation and development activities including EIA processes. Statutory agencies and lead agencies are very proactive, and as well the JNAP management is structured to directly support the mainstreaming of data systems and the practical integration of assessment information.

Context & Constraints:

Policy development on data sharing and access need to consider issues on cost recovery, accessibility and liability. Tonga through JNAP is achieving some progress in the systematic dissemination of information whilst building a network amongst information sources. This will boost cross-sectoral coordination, sharing of information and improving knowledge in common DRM activities. Strengthening national and island level CCADRM information management system requires consideration on setting up CCADRM centralised information management systems / databases on hazards, exposures, vulnerabilities and community resilience /capacity. Current practice is biased on a one way flow of data from all over the nation to line ministry headquarters in Tongatapu. Sharing of information entails accessibility & exchange at national and sub-national level down to island councils. Students need information kiosks on their islands.

Information sharing and monitoring will be greatly enhanced with a robust two way tele-communication system and development of protocols in terms of private sector involvement in DRR. Partnership with USP, which is the leader in distant education, may boost reaching out to outer localities.

Technical Agencies need to be more visible in the use of costs benefit analysis generated from disaster loss databases. EIA provides a process tool to monitor inclusion of DRR in development projects but its application needs to be monitored. Records from past disasters are important in building a dossier on vulnerable elements. In moving forward, reports generated from NEMC need to expand content and details in including economic costs assessment across all sectors.

Priority for action 2: Core indicator 3

Early warning systems are in place for all major hazards, with outreach to communities.

Level of Progress achieved: 3

Institutional commitment attained, but achievements are neither comprehensive nor substantial

Key Questions and Means of Verification

Do risk prone communities receive timely and understandable warnings of impending hazard events? Yes

Early warnings acted on effectively	Yes
Local level preparedness	Yes
Communication systems and protocols used and applied	Yes
Active involvement of media in early warning dissemination	Yes

Description:

The effectiveness of EWS to communities is influenced by the geographical spread of Tonga and the nature of the hazard.

Fiji and Tonga share seismometer network data. Tonga Met Service has mandate to deliver early warning for hydro-meteorological hazards and tsunamis. The International Tsunami Warning Centre in Hawaii is linked 24/7 to the Tonga Met Service.

Cyclone EWS is well established, response plans in place from national to village level; training with drills are undertaken. It is the most tested system; the warnings are received in a timely manner and the public is aware of what action to take. The recent tsunami devastation in the Niuaus has heightened awareness of the different levels of preparedness require to local, regional and international tsunamis. The draft National Tsunami Plan developed last year is to be completed with island, village and locality level SOPs. The World Bank is funding the development of village and island tsunami plan for Niuaotupapu.

Government is seeking donor support to strengthen capacity of Tonga Met Services in multi-hazards early warning communications systems to improve disaster planning, preparedness, response and recovery.

Radio, mobile and SMS are the most popular public communication / dissemination system. In the recent disasters, outside sources were providing warnings and impact reports directly to the media earlier than the nation's Early Warning System. Radio is not normally 24/7 and mobile communication gets congested in disaster times. During emergencies, authority is delegated to District Emergency Management Committees and down to Village Emergency Management Committee. There is a need to improve the communication system and explore

development of dedicated early warning and emergency 2-way telecommunication system reaching out to the most vulnerable localities in the remotest islands.

Context & Constraints:

Tonga is vulnerable to a number of geo-hazards risks as earthquakes, tectonic displacements, volcanoes particularly submarine volcanoes and tsunamis for which more commitment to developing monitoring capacity is needed. Recent studies on the occurrences of submarine volcanoes in Tonga strongly voiced concern on the lack of monitoring submarine volcanism. Tornadoes in 2004 with damaging impacts on houses and gardens and the prolonged precipitation 2012 that cause severe flooding in Nukualofa are new experiences. These are induced with the development of extreme weather systems. More equipment is needed to support instrumentation and reporting on severe weather forecasting and monitoring. The agriculture sector strongly supports traditional farming systems and works with the farmers including noting of traditional monitoring and warning system in the sector.

There is little development of all-hazards early warning communication systems in Tonga, as was demonstrated in the recent 2009 Niuas tsunami where the first messages on the disastrous impacts were relayed through yachts to the radio stations. And in TC Rene 2010 people in Vavau claimed to have received warnings first from outside sources.

In the consultation particularly with the media sector there was general agreement that mobiles provide good two-way communication system generally but intercellular radio system does not have national coverage and during disasters mobiles are known to have been congested. Together with island officials the radio personnel agree that a dedicated early warning two-way telecommunication system is needed to uplift readiness and response.

Priority for action 2: Core indicator 4

National and local risk assessments take account of regional / trans boundary risks, with a view to regional cooperation on risk reduction.

Level of Progress achieved: 2

Some progress, but without systematic policy and/ or institutional commitment

Key Questions and Means of Verification

Does your country participate in regional or sub-regional actions to reduce disaster risk? Yes

Establishing and maintaining regional hazard monitoring	Yes
Regional or sub-regional risk assessment	Yes
Regional or sub-regional early warning	Yes

Establishing and implementing protocols for transboundary information sharing Yes

Establishing and resourcing regional and sub-regional strategies and frameworks

Yes

Description:

Tropical cyclones, ENSO Systems, tsunamis, submarine volcanoes and earthquakes are the common trans-boundary hazards. Tonga maintains high level of cooperation at regional levels to establish regional strategies for addressing climate change science, risk assessment, monitoring and early warning systems.

Cooperation is promoted through regional programmes targeting monitoring systems as for weather, earthquakes, sea level rises and the collection, analysis and dissemination of data for risk assessments that are essential to guide national and regional strategic frameworks in risk reduction measures and EWS.

Tonga cooperates with data verification essential to operating 24/7 the Regional Specialised Meteorological Centre for Cyclone in Nadi. It is also a participant in the regional projects for improving regional capacities in tsunami warning that focuses in strengthening instrumentation around Australia and New Zealand.

For earthquakes Tonga is linked with the Global Seismic Network and separately maintains a Tonga – Fiji Integrated Seismic Monitoring Systems Network. And for tsunami Tonga is linked to the Pacific Tsunami Warning Centre and participates in the regional Tsunami Exercise. Being in the Pacific it shares with island countries a collective concern on Sea Level Rise and Climate Change and collaborates in regional monitoring programmes through SPREP, SPC and WWF supported by WHO, FAO, ADB, donor countries and regional scientific institutions.

Tonga collaborates too in the management of trans-boundary risk impacts through partnerships in a range of international and regional strategic frameworks and information exchange mechanisms, some of which are:

- The Pacific Plan and Kalibobo Road Map
- The Pacific Regional DM and DRR Framework of Action 2005 – 2015
- The Pacific Islands Framework for Action on Climate Change 2005 – 2015
- Pacific Health and Disability Action Plan (2002)
- Pacific Education Development Framework (PEDF) 2009-2015.
- regional Meteorological Service Directors Meeting
- Annual Meetings of Regional Inter-governmental Organisation
- Pacific DRM Partnership Network

Context & Constraints:

National capacity particularly adequate staffing is the critical challenge facing Tonga. Outside of cyclones, much work is required in raising national awareness on trans-boundary risks by spreading intelligence from key focal agencies to agencies across sectors. The bulk of the information is contained in research and technical reports and outside of health, little user-friendly awareness materials are available to raise public knowledge on regional issues of trans-boundary risks.

Of relevance also is to determine the link and define the reduction in the resilience of regional communities with the risks pose on the natural regional eco-systems / physical

structures and impacts (bio-diversity, fish stock migration including whales); the reduction of society resilience with the increase in social risks driven regionally by drug and alcohol abuse; and the advent and social impacts of information infrastructure particularly internet accessibility to children.

Despite that a good level of regional information sharing exists, more is needed to facilitate information dissemination of regional activities with in-country actors. Platforms as the Pacific DRM Partnership Network are good initiatives but the shortage of expertise and high costs on national agencies of servicing and maintaining information, communication and technological services stress the counties fluency of participation on regional platforms.

Increasing understanding of climate change sciences enable communities to have more awareness of Climate Change impacts. Nearly 80% of the population live along the coastal corridor and thus are very vulnerable to coastal impacts of climate change. More resource is needed to undertake multi-hazard mapping on the coastal communities of Tonga.

Submarine volcanoes in the last decade formed temporary islands that after a few days disappeared under the ocean and yet not much monitoring done on volcanic hazards. But a positive achievement is the sharing of seismic information between networks of Fiji and Tonga.

Section 5: Priority for action 3

Use knowledge, innovation and education to build a culture of safety and resilience at all levels

Priority for action 3: Core indicator 1

Relevant information on disasters is available and accessible at all levels, to all stakeholders (through networks, development of information sharing systems etc)

Level of Progress achieved: 2

Some progress, but without systematic policy and/ or institutional commitment

Key Questions and Means of Verification

Is there a national disaster information system publicly available? No

Information is proactively disseminated	Yes
Established mechanisms for access / dissemination (internet, public information broadcasts - radio, TV,)	Yes
Information is provided with proactive guidance to manage disaster risk	Yes

Description:

The school enrolment rate of the compulsory age (6 – 14 years old) is 98.4 per cent with a 98.8 per cent proportion of the population aged 15 – 24 years able to read and write a simple sentence. Most popular means of access is with radio (90%) and next with TV. Pamphlets are periodic and selective and newspaper is limited.

Radio media has the best coverage across the country, with national coverage possible only through the AM station of Tonga Broadcasting Corporation. This station switches to 24/7 during emergencies. FM radio is very popular with stakeholders and reception is quite clear in Tongatapu, Eua and Vavau. Radio station FM89.5 plans to establish nation-wide FM coverage from this year.

Information access is mostly on needs basis and not on share basis, with secondary schoolchildren a big user group. On the islands there is no island established disaster management information system. At the national level NEMO has just established a web-base Disaster Information Management System with support from JICA and it is uncertain on future capacity to maintain this. At sector level a few agencies have set up their own disaster management information system e.g. Health, Water, Power, Environment and Climate Change, PCIDRR.

To reach the public, many agencies are disseminating information on disaster risks using all available media and training means. Awareness campaigns are run by NGOs, government agencies, civil societies, faith based and interest groups. In parts of the nation, traditional communication means is still practised and traditional knowledge is used but not systematically nor is this documented.

Context & Constraints:

Radio stations and TV use the internet targeting overseas clients with 24/7 access. TV produces high quality advertisement but feel they are under used e.g. 1 min Health and Agriculture advertisements. Web-based systems have little exposure now but in the future more will access these as web access spreads nationally. NEMO still needs to build in-house expertise and personnel to operate and manage its Disaster Information Management System.

Whilst FM radio is most popular, catching above 70% of radio listeners, coverage is still limited and it goes 24 hours only during emergencies. As yet pro-active dissemination of information is not widely practised excepting with Education, Agriculture and Health who use radio and TV on regular schedules. All air time is on commercial basis except emergencies and Early Warnings. There is no grant on broadcasts. Private radio stations feel victimised on government policy to use only the government stations.

The current government policy should be reviewed given coverage by private radio stations is very significant. The subject of sponsorship and grants should be considered in the review. Radio and TV stations conduct regular surveys as “talk back monitoring” to gauge market needs and preferences; and this service can be tapped in the conduct of a nation-wide surveys of key users and stakeholders.

NEMO needs to develop protocols on access to databases on DRM issues that are housed in different ministries and agencies, and to facilitate information access by users it should establish an inventory of available information and further to build information kiosks on the islands aimed at assisting the public know where to go for information. The inventory is produced in consultation with technical departments, infrastructural and lifeline services, Tonga Met, Environment, CSOs, Statistics, Health and statutory organisations.

Priority for action 3: Core indicator 2

School curricula , education material and relevant trainings include disaster risk reduction and recovery concepts and practices.

Level of Progress achieved: 3

Institutional commitment attained, but achievements are neither comprehensive nor substantial

Key Questions and Means of Verification

Is DRR included in the national educational curriculum? Yes

Primary school curriculum	Yes
Secondary school curriculum	Yes
University curriculum	Yes
Professional DRR education programmes	Yes

Description:

Primary and secondary school children get introduced to DRR subjects through Projects even though DRR is not a formal curriculum subject. A review of the school curriculum is now due for which the inclusion of DRR will be an item. Materials will need to be developed and produced also in the local language.

At the tertiary level, DRM and CCA courses are on offer at USP. SPC-SOPAC produces DRR training materials and also conducts DRR training to complement training programmes run by NEMO. Other related trainings are provided by SPREP, SPC and CSOs, mostly PCIDRR and Red Cross. Communities are also educated in workshops as for the development of Community Disaster Plans (CDPs) and DRR Programmes. All trainings target multi-sector stakeholders. Cross-cutting issues are slowly introduced and more of these trainings are needed and to be conducted in local languages.

Activities implemented under DRM awareness programmes such as promotion of building code, biodiversity, food security, micro-financing, reducing environmental damages and resource use conservation all contribute to raise community understanding of multi-hazard risks and risk reduction. NEMO runs the Annual National Disaster Awareness Week. Training workshops are done in the islands with CSOs actively involved in training of local officers, Town and District Officers. Occasionally traditional practices are taught through manuals. The USP has community component in DRM training programmes.

Professional DRR trainings overseas mainly involve development partners, the UN agencies and EU. AUSAID funds many regional and bilateral programmes in climate change implemented through CSOs; other technical skilling trainings are targeted through sector specific HYCOS and GIS mapping projects; and Health and Agriculture provide DRR sector training supported by intergovernmental and international organisations.

A coordinated systematic approach is needed to ensure that comprehensive achievements are attained in institutional commitments and capacity building.

Context & Constraints:

The role of NEMO in the secondary school curriculum review by the education sector is not clear but it should be involved at least as the liaison on DRM content with technical agencies. The University of the South Pacific has from this year programmes in climate change offering opportunities for partnerships in climate change training delivery with strong focus on the

community. NEMO has had manpower and resource limitations that have stunted its training deliveries.

Knowledge in traditional practices exists and every effort is to be made to document this and include it as training materials for both informal and formal courses e.g. re-planting to stop erosion. The support of SPC is to be sought to conduct community training on preserving traditional knowledge and practices to support the capture of traditional knowledge in DRM. In schools, natural hazards are explained in terms of origins/characteristics and the physical processes involved and information is shared on how to be prepared for or mitigate potential impacts. Information on national projects as the EU funded school retrofitting project, the JNAP range of mitigation and adaptation measures, governance issues as addressed in legislations and CCADRM arrangements are to be presented in simplified forms as school information packages, including simple illustrations aimed for primary schools.

NEMO is to explore the commitment of more resources by all training-partners including regional and international organisations. A national training strategy should be considered to align with the JNAP strategy as it strongly coordinates programmes of the various actors.

Priority for action 3: Core indicator 3

Research methods and tools for multi-risk assessments and cost benefit analysis are developed and strengthened.

Level of Progress achieved: 3

Institutional commitment attained, but achievements are neither comprehensive nor substantial

Key Questions and Means of Verification

Is DRR included in the national scientific applied-research agenda/budget?
Yes

Research programmes and projects	Yes
Research outputs, products or studies are applied / used by public and private institutions	Yes
Studies on the economic costs and benefits of DRR	Yes

Description:

Pure applied scientific research responsibility for Pacific Island Countries is normally placed with regional organisations and institutions (CROPS) where government contribution is through levies to the institutions. Hence very little appears in the national budgets on technical and scientific researches on DRR. However operational programmes supported by CROP agencies and other external sources contain applied research components and promote the application of research outputs. Applications are executed separately as relevant to each ministry, mainly Meteorological Services, Fisheries, Agriculture and Forests,

Health, Environment, Lands and the Water Authority. Tonga's budget supports to regional and international monitoring programmes are both internally and externally sourced eg the multi-faceted AUSAID basket of programmes ranging from climate change, the inclusion of people with disabilities, to the coping with coastal erosion and the improvement of water supplies. Building national counter-part research capacity is stressed in implementation of externally supported programmes. JNAP now through its drive for a coordinated approach ensures research resources are pooled where there is common cause. Generally researched data is maintained in each ministry.

Community based assessment tools are used by CSOs to conduct community based multi-hazard risk assessments in partnership approach with government. Some social/economic assessments are done, mostly post-disaster but lately increasing efforts are placed on pre-disaster assessments. Socio-economic reports for disasters exist but are not detailed. Impact and damage reports of past disasters are compiled by NEMO and availed through its web-site. The World Bank Study of 2011 is one of the first studies on the economic costs and benefits of DRR.

Context & Constraints:

Internal budget contribution to regional research programmes and output applications is for staff salaries and operational costs. The upsurge in externally driven regional programmes requiring national counter-parting is causing a dilemma for the national capacity has not grown correspondingly due to reaching limits on budget funds. Donor input into budget supports is needed.

Vulnerability assessments are done with marked differences in budget support and in tools used between scientific and community based vulnerability assessment. Government should initiate a mapping of tools in use and the application of multi-risk assessment outcomes to inform policy support of cost-effective approaches. The outcomes from research studies need to be easily accessed by stakeholders.

Cost benefit analysis is not practised generally at the sector levels for lack of awareness, knowledge and tools. A manual exists for the region to apply at the sector level, i.e. "Economic Impact of Natural Disasters on Development in the Pacific: Volume 2 Economic Assessment Tools". SPC-SOPAC has also published a number of socio-economic cost analyses of actual flood events in Samoa and Fiji but little awareness exists on the existence and application of such sector level micro-economic tools and their potential benefits.

A challenge in the development of socio- economic cost benefit analysis is time management on data collection given the shortfalls in information sharing and management. Considerations are needed on gender, demographic profiles and cultural characteristics to better understand the impacts and needs for different groups/persons. The proposals to introduce procedures and protocols to facilitate access to and sharing of assessment reports and the ideas of establishing Information Kiosks would facilitate data collation and sharing. Awareness materials promoting costs and benefits applications are urgently required for sensitisation of leaders at all levels.

Priority for action 3: Core indicator 4

Countrywide public awareness strategy exists to stimulate a culture of disaster resilience, with outreach to urban and rural communities.

Level of Progress achieved: 4

Substantial achievement attained but with recognized limitations in key aspects, such as financial resources and/ or operational capacities

Key Questions and Means of Verification

Do public education campaigns for risk-prone communities and local authorities include disaster risk? Yes

Public education campaigns for enhanced awareness of risk.	Yes
Training of local government	Yes
Disaster management (preparedness and emergency response)	Yes
Preventative risk management (risk and vulnerability)	Yes
Guidance for risk reduction	Yes
Availability of information on DRR practices at the community level	Yes

Description:

Though there is no encompassing national awareness strategy, various sector driven awareness campaigns by practice routinely reach nationwide coverage. These country-wide approaches use TV, radio, dvd, newspaper, booklets, pamphlets, posters, yellow pages, telephones, school tours and trainings.

Tonga has a 95% literacy rate and its community is well informed on DRR through all media means. NEMO runs a National Disaster Awareness Week whilst various other agencies manage a number of initiatives using public education campaigns to enhance public awareness of risks.

NEMO takes responsibility for building awareness in emergency preparedness and works in partnerships with CSOs and sector agencies for output deliveries. Most of the community outreach activity is undertaken by CSOs in liaison with sector specific technical agencies. At sub-national level, training programmes in DRR include District Officers, Town Officers, departmental senior officers and community leaders.

Village Disaster Management Plans are developed in partnership between NEMO and CSOs

as PCIDRR and Red Cross. Training packages include drills in emergency situations to enhance preparedness. At community level multi-hazard risks approach on preparedness is promoted to complement emergency village response plans on each specific disasters. Knowledge and understanding of risks are the latest focus and Health has a major campaign on holistic approaches to health risk prevention, using radio and TV to project good practices. There are other similar DRR guidelines produced by agencies respectively involved with water supplies and sanitation, power supplies, building construction, agriculture, fisheries and environment. Information is available to enhance DRR practice at the community level with support of regional and international organisations.

The JNAP matrix on Key Actions and Sub Actions, Goal 4 Enhanced Community Preparedness and Resilience to Impacts of All Disasters outlines the many activities planned for implementation. JNAP is working on promoting implementation of these activities by key agencies identified.

Context & Constraints:

On current awareness activities under implementation, the high costs on domestic travel to the outer island groups and staffing constraints within agencies limit the frequencies with which awareness activities and preparedness training are delivered. Island communities request more workshops at least quarterly to reinforce and enhance what has been taught. Though guidelines in DRR exist, still risk management is a new knowledge not thoroughly understood as yet. More frequent training is needed to foster a culture in DRR implementation. Additionally though information is available, access by the public should be fostered with translations into Tongan and inclusion of pictorials.

Training at island level is mostly donors supported and donors need to be sensitised to the high inherent costs of training deliveries to the outer island. Communities are requesting to increase awareness materials on preventive risk measures alongside emergency response measures in public campaigns.

The media sector includes market survey as a routine work activity; Health does monthly in-patient reporting as a monitor to inform on situations; Agriculture and Water Board have their own monitoring assessment methods. Tonga needs to develop systematic monitoring methodologies and surveys like “feedbacks” to evaluate the effectiveness of public education awareness programme across the sectors, to confirm that messages are reaching the community on time and they are responding effectively.

The lack of gender-and rights-inclusive awareness programmes is a challenge that has to be addressed. Substantial achievement has been attained yet more can still be done to target remote and vulnerable communities and disadvantaged groups.

Section 6: Priority for action 4

Reduce the underlying risk factors

Priority for action 4: Core indicator 1

Disaster risk reduction is an integral objective of environment related policies and plans, including for land use natural resource management and adaptation to climate change.

Level of Progress achieved: 3

Institutional commitment attained, but achievements are neither comprehensive nor substantial

Key Questions and Means of Verification

Is there a mechanism in place to protect and restore regulatory ecosystem services? (associated with wet lands, mangroves, forests etc) Yes

Protected areas legislation	Yes
Payment for ecosystem services (PES)	Yes
Integrated planning (for example coastal zone management)	Yes
Environmental impacts assessments (EIAs)	Yes
Climate change adaptation projects and programmes	Yes

Description:

Tonga's legislations to protect and restore regulatory eco-system services contain both sector specific and general provisions. Sector specific legislations are as the Tonga Water Act and the Ozone Layer Protection Act 2010. Legislations of general coverage include the Environment Management Act with general provisions for protection of systems from coral reefs to terrestrial land erosion and management. Tonga also has a Special Management Area Act to protect areas marked for special uses.

PES is partial without the payments to resource owners for surrendered usage of a targeted conservation reserve area. However conservation of resource systems is practised under other legislation empowering various ministries as Lands, Fisheries, Health and Infrastructures e.g. land reserve areas; fisheries protected areas; water related work as drilling, water quality protection, pipelines upgrade; etc. Overarching are the EIA and Public Health legislations which are used nationally to regulate activities on protection and restoration of ecosystems and to ensure compliance by developers eg control of sand

mining. These legislations together with the Waste Management Act, the Marine /Sea Offshore Act and the Urban Planning Act enforce and facilitate integrated planning that amongst other objectives provides protection for coastal resources, brings in coastal zone management as in Hihifo, allows designation of protected fishing zones as around in Vavau, demarcates forest protected areas as Mt Talau Reserve in Vavau and enforces maintenance of public health standards.

The JNAP articulates the policies and plans for adaptation to climate change and its Logframe Matrix 2010 -2015 lists these with the required priority actions needed to achieve the goals.

Context & Constraints:

The JNAP has evolved very strongly in just two years. The next requirement is for sectors to develop similar strategic action plans and proactively support harmonised plan development at district and village levels. The consultation process is beginning for developing Tonga's next 4-yr National Strategic Development Framework 2015-18. The challenge is to build capacities and competencies in the various stakeholders to hold sector-wide consultation and build sector, district and village strategic plans and related action frameworks. The opportunity avails to actually initiate a bottoms-up approach to every level of planning to eventually inform the next 4-yr National Strategic Development Framework 2015-18. Tonga will need technical assistance within the sectors to support development and harmonisation of strategic action plans at every levels.

A new trend emerging in agriculture is cash cropping in vegetable farming with intensive inputs of chemicals as opposed to traditional organic inputs. The risk to the environment can be enormous especially to coastal waters and the groundwater as in Tongatapu.

Applied researches on mapping climate change impacts across the sectors should be strengthened. In tandem is the impact of pollution on natural physical structures eg groundwater infiltration by chemicals. EIA compliance requires substantial monitoring activities and forecasting of potential changes to the risk situations. Governments needs to culture a research approach to strengthen development of proactive forward looking DRR strategies related to the environment.

Additionally researches in best practices and tools on socio-economic cost-benefit analysis on natural resource losses vis-a-vis intangible losses, quality degradation and benefits of risk reduction measures e.g. loss of mangrove areas, new developments on coastal flood plains and constructions over the foreshores. A framework on acceptable standards of assessment should be developed consulting widely with resource owners, EIA practitioners, scientists and academia.

Priority for action 4: Core indicator 2

Social development policies and plans are being implemented to reduce the vulnerability of populations most at risk.

Level of Progress achieved: 3

Institutional commitment attained, but achievements are neither comprehensive nor substantial

Key Questions and Means of Verification

Do social safety nets exist to increase the resilience of risk prone households and communities? Yes

Crop and property insurance	Yes
Temporary employment guarantee schemes	Yes
Conditional and unconditional cash transfers	Yes
Micro finance (savings, loans, etc.)	Yes
Micro insurance	Yes

Description:

A trait unique to Tonga is that Government and nobles distribute bush allotment of about 3Ha to males over 16 to farm. People on subsistence farming have heightened social safety nets. Increasing population coupled with a growing number of “off-shore” lot-holders is stressing this system causing the emergence of landless Tongans amid unused arable land .

The high rate of internal migration to Nukualofa has created a squatter settlement on former mangrove swamps in Popua, subject to flooding, health and sanitation issues. The lack of economic opportunity and inequality of distribution give rise to poverty and increase vulnerability to the squatter community. Depopulation in outer islands and rural areas increase their vulnerability. The new Ministry of Internal Affairs is mandated on social welfare care.

About 20% of private property is insured whereas public assets and crops are not insured. Export cash crops particularly squash and vanilla are vulnerable to climate extremes, shipping schedule and export market fluctuations. The farmers require insurance to spread their risks. Micro-insurance is lately introduced by the South Pacific Development Board on after death expenses.

Temporary employment schemes are available through fruit picking program to NZ and Australia. Tonga Development Bank and small money lenders assist farmers with loans. Many more are dependent on inward remittances. The SPDB is introducing micro-finance institutionalised in “women groups” of 4-7 members networked into Centres having 35

members and provided with financial literacy training and capacity building so that group Centres take ownership of the microfinance drive. Coverage in Tongatapu is 100% and Vavau already 50%. Government also provides some financial assistance after natural disaster giving \$30 per person to every family affected.

Context & Constraints:

Housing, Health and Food Security are other key areas noted to improving national security, safety and resilience. Achievements are widespread and driven by both government and CSOs. In the Housing sector the World Bank, Caritas and Faith-based organisations were very active in housing rehabilitation following natural disasters. Adequate housing increases the security of the people and the community’s resilience to disasters. The Building Code manual is aimed for use of village carpenters.

The Housing sector can be assisted with multi-hazard maps on earthquake and volcanic zones, flood levels, storm surge and tsunami prone areas and levels. Now only about 25% of the population or 8000 household live in poverty housing. However all people in Tonga have access to improved water supply whilst less than 2% of the population have less access to improved sanitation .

Health Centres are located in all districts and they fully participate in national preventive health promotion initiatives as the Vector control programme. The culture of prevention is driven by government with nurturing and commitment by key stakeholders at all levels. Agriculture is promoting organic farming as a traditional protection practice and driving food security programmes supported with traditional farming systems eg. Toutu’u, toulalanga, kokoanga. Town officers ensure farming standard is maintained. Poverty reduction programmes are availed from UNDP and training is done at village level and with District Committees. Evacuation centres are provided by churches. These are mechanisms working in acknowledgement of each other at the community level. Today many community based CSOs programmes are donor funded as AUSAID but need more capacity building on gender-sensitive disaster risk assessments. The new Ministry of Internal Affairs has a challenge to coherently to assess social welfare categories and beneficiaries.

Priority for action 4: Core indicator 3

Economic and productive sectorial policies and plans have been implemented to reduce the vulnerability of economic activities

Level of Progress achieved: 3

Institutional commitment attained, but achievements are neither comprehensive nor substantial

Key Questions and Means of Verification

Are the costs and benefits of DRR incorporated into the planning of public investment? Yes

National and sectoral public investment systems incorporating DRR.	Yes
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Please provide specific examples: e.g. public infrastructure, transport and communication, economic and productive assets

public infrastructure, economic and productive assets

Investments in retrofitting infrastructures including schools and hospitals

Yes

Description:

Outcome Objective 3 of the TSDF is for well planned, safe, maintained and reliable transport infrastructure. Planners are required to ensure institutional arrangement are in place to manage resourcing for which cost-benefit analysis is incorporated into planning of public investments. DRR planning features strongly in the construction of new roads, public buildings and wharves but actual investment of DRR is small to moderate and very much on case by case basis. And retrofitting DRR investment in infrastructures exists but not comprehensive.

The Tonga Water Board invests in water system protection during disasters, and is installing pressure boosters to maintain water availability where needed. Such DRR projects of the Tonga Water Board are supported with ADB funding. Tonga Communication Corporation and Digicel represent providers of communication systems who incorporate DRR in their network installation. They also provide community services in their operations where DRR issues feature. Fibre optic cables have been installed at a huge investment of about US\$5million. Donors provide funding assistance to purchase generators to overcome power failures.

Agriculture, Commerce and Tourism are three major economic sectors of the nation. The Chamber of Commerce institution provides guidance and direction on DRR investments and training with links to off-shore partners. The Tourism Sector also has national and regional institutions that collectively act to secure and safeguard investment in tourism and well being of the tourists to the region.

Retrofitting is done in schools, public buildings, hospitals and housing. EU funds supported the retrofitting projects in schools; JICA has funded retrofitting of the hospital in Nukualofa and other donors other Health Centres of Tonga; and the World Bank funded retrofitting in the housing sector.

Context & Constraints:

In agriculture continuous research into crop variety, the feasibility of supplementary irrigation, and identifying and reducing environmentally harmful practices are some typical activities to reduce emerging risks. Tourism is another key economic sector closely linked with civil aviation. Both are sensitive to the adverse impacts of natural disasters and both have strong commitments to support the development of EWS, SOPs, training and drills in DM.

There is some institutional commitment to include DRR in the planning processes of major investments with recognised deficiencies in approaches and transparency in cost benefit analytical coverage, especially of social costs and benefits.

Implementation of key activities identified to attain JNAP Goal 4 Enhanced Community Preparedness and Resilience to Impacts will have as an outcome a secure well prepared community. They then will uplift community economic growth using safe and secure national transport and communication infrastructure built with DRR consideration.

The call for the provision of safe and secure housing is in JNAP Activity 1.2 Goal 1 for a review of the building code to incorporate CCADRM criteria and to identify capacity constraints on enforcement. In support of the retrofitting programme JNAP Activity 4.1 calls for retrofitting of school building and tourists facilities.

Concern on improvement of drainage in rural areas features in JNAP Activity 3.10 for improvement and development of roadside drainage systems in rural areas of Tongatapu, Eua and Vavau.

Drought is occurring with increasing frequencies and government should develop a national drought mitigation and response plan. Droughts, sea level rises, ocean warming and groundwater salination are slow on-set disasters. Applied economic researches are needed to articulate quantities in the comparison for DRR investment now versus future series of damage losses and disaster response expenditures.

Priority for action 4: Core indicator 4

Planning and management of human settlements incorporate disaster risk reduction elements, including enforcement of building codes.

Level of Progress achieved: 3

Institutional commitment attained, but achievements are neither comprehensive nor substantial

Key Questions and Means of Verification

Is there investment to reduce the risk of vulnerable urban settlements? No

Investment in drainage infrastructure in flood prone areas	Yes
Slope stabilisation in landslide prone areas	Yes
Training of masons on safe construction technology	Yes
Provision of safe land and housing for low income households and communities	Yes
Risk sensitive regulation in land zoning and private real estate development	Yes
Regulated provision of land titling	Yes

Description:

Flood occurrences have increased affecting the town and urban areas of Nukualofa prompting formulation of a drainage policy under the Urban Planning Act, Ministry of Land and Survey. Nukualofa is a low elevation city at most no more than 5m above sea level meaning drainage inverts are subject to tide and storm surge levels. Drainage schemes in place are the ADB funded projects in Sopa and the upgrading of urban town roads and drainage infrastructure.

Landslide is minimal but coastal erosion and soil losses especially on the higher elevated islands are more significant. Agricultural practices target reduction of soil losses and CCA projects target management of coastal erosions.

Housing materials are mostly of wood and steel reinforced concrete blocks. Brick construction is not common. Formal training for safe building constructions is provided by institutions as TIST and the Tonga Training Institute. Informal training in safe building constructions is done on project sites by CSOs as Caritas, TRCS.

The Land Act provides for the King and Nobles to distribute land which provides for low income households. The CSOs assist poor and low income households construct their homes to acceptable safe standards, as there is no housing policy for low income earners. Land belongs to the King and Nobles with common people having allotments but not titled.

In coastal construction communities by practice leave a narrow buffer strip but it is not regulated. In Niuatoputapu the villages are being relocated to elevated lands above tsunami heights but again not regulated. In land fill operations regulations exist to protect the environment from hazardous chemical wastes. Squatter settlements spring up as unplanned development. In some instances vulnerable urban settlements are relocated to new settlements.

Context & Constraints:

The development and availability of Hazardous Zones and Vulnerability Maps should precede risk sensitive regulation. JNAP has indicated Tonga's priority is to implement coastal vulnerability mapping in Key Action 3.1.

The growth of squatter settlement in mangrove tidal areas of Nukualofa needs to be a concern for uplifting of living standards. In the UNICEF Report on Resilience Monitoring in Tonga, the urban area of Patangata and Popua are described as "consisting of squatters moving from the outer islands to Nuku'alofa. Majority of these people do not have access to land, nor have the necessary skills to obtain regular income, but depend only on fishing. Patangata is government land which has not been sub-divided for allocation. As a result, some of the houses are too close to each other and it is quite common for some households to share facilities like bathrooms and toilet facilities. These areas around Popua are susceptible to flooding meaning that, during the rainy season from November and January, together with the high tides, all houses in these areas will be covered with water." Such adverse population growth trend around the urban centres will impose pressures in the housing and essential services sectors. The establishment of the new Ministry of Internal Affairs is well timed to develop squatter upgrading policies.

Housing providers need to agree on an outline for minimum housing standards on designs that are appropriate, affordable and safe. Much awareness raising, training of carpenters and community support from government in partnership with NGOs and FBOs is needed to

enable the poor in these communities to build houses that meet minimum standards.

Priority for action 4: Core indicator 5

Disaster risk reduction measures are integrated into post disaster recovery and rehabilitation processes

Level of Progress achieved: 3

Institutional commitment attained, but achievements are neither comprehensive nor substantial

Key Questions and Means of Verification

Do post-disaster programmes explicitly incorporate and budget for DRR for resilient recovery? Yes

% of recovery and reconstruction funds assigned to DRR	Not available
DRR capacities of local authorities for response and recovery strengthened	Yes
Risk assessment undertaken in pre- and post-disaster recovery and reconstruction planning	Yes
Measures taken to address gender based issues in recovery	Yes

Description:

The policy to integrate DRR measures into post disaster recovery and rehabilitation process is inferred in the National Infrastructure Investment Plan Strategy 7 to ensure safe and reliable roads, wharves and airports. In disasters it is normal to vire from operational budgets to then fund post recovery programmes which “interim” budgets include DRR activities. There is no explicit pre-disaster budgetary provision for post-disaster recovery. Donors play the major role in funding of post-recovery projects which all have to meet internationally accepted standards as for civil construction, WHO water standards, and UN risk assessments standards. As the bulk of the relief and recovery funding is sourced internationally, national stakeholders know the requirements of foreign funds. CSOs account directly back to the donors. For major disasters, departments have established procedures and contingency plans; and the National Emergency Management Plans requires the development of District Emergency Plans. The NEMP allows for pooling of staff and resources during the emergency operation phase but detailed recovery assessment is done by individual agencies.

At the community level DRR under NEMO is strongly supported by PCIDRR and the TRCS.

The two organisations coordinate to build community institutions and build DRM capacity through appropriate training. A new entry is SPDB with micro-finance scheme and training of women groups to run micro-finance schemes. Other communities work with WWF to develop Water Standards including monitoring of quality and quantity. Multi-hazard risk assessment is undertaken at the community level eg Hihifo district mangrove shoreline planting program.

Tonga has a Gender Development Policy that highlights the equality of gender and full participation of women is addressed with the Millennium Development Goal. Further rural practice and traditional system recognize gender issues. Gender issues are well addressed.

Context & Constraints:

JNAP is calling for CCADRM arrangement down to district levels with the establishment of an Emergency Office and an Environment & Climate Change Office. The low staff level within NEMO is a constraint that hinders the vision for government to drive DRR implementation. There is a lot of goodwill from amongst partner agencies but budget support is most critical for NEMO to drive DRR. The core function of JNAP to coordinate and harmonise CCADRM programmes with demonstrated success in receiving donor support provides an opportunity redefine NEMO’s core role. The way forward is to separate DM functions to NEMO and delegate DRR functions to individual ministries but through JNAP coordination and management.

Priority for action 4: Core indicator 6

Procedures are in place to assess the disaster risk impacts of major development projects, especially infrastructure.

Level of Progress achieved: 2

Some progress, but without systematic policy and/ or institutional commitment

Key Questions and Means of Verification

Are the impacts of disaster risk that are created by major development projects assessed? Yes

Are cost/benefits of disaster risk taken into account in the design and operation of major development projects? Yes

Impacts of disaster risk taken account in Environment Impact Assessment (EIA)	Yes
By national and sub-national authorities and institutions	Yes
By international development actors	Yes

Description:

Major development projects in Tonga are constructed with considerations on cost/benefit of disaster risks from cyclones, earthquakes, lightning, drought, flood and storm surges eg designs of water tanks and reservoirs; road construction and tourism development. Civil Aviation manages the airport and in its operation incorporates disaster risk reduction by developing SOPs complemented with training and drills.

High risk industries as the oil and fuel sector, and the lifeline and utility services as water, power and communication are a few that undertake risk auditing as a mandatory practice but it is not replicated across all agencies in the nation. To move in that direction would require developing an agreed national guideline on accepted standards of impact assessments. Cost benefit feature routinely in design and operation of major wharves, airports and roads. And cost benefit support is available mostly from external donors. Nationally all development proposals are subject to EIA regulations which provides a means of incorporating DRR into new project proposals. All major development projects are planned, designed and authorised at national headquarters. In the current "Change Management" is planned that Island Governors would be empowered soon for decision making on major island development project.

The myriad of activities indicate that DRR impacts are being considered in major infrastructure development projects and that more effort is needed in improving assessment and in monitoring compliance for substantial progress in DRR implementation.

Context & Constraints:

The opening of Tonga's border to foreign imports and resources in pursuit of development growth brings risks of entry of foreign organisms/viruses/diseases that could thrive in the climate of Tonga with risks to its agriculture, environment and population. Quarantine and Health border control is in place to prevent entry of risk agents.

Though cost benefit analysis is practiced it is not systematically implemented. There is no nationally accepted cost-benefit analysis tool and no assessment done on the many tools in use to gauge how the social and indirect impacts are incorporated. There is also no check on cost benefits scenarios for various return periods.

In 2011 the World Bank in association with ADB and the Global Facility for Disaster Risk and Recovery funded the Pacific Catastrophe Risk Assessment and Financing Initiative, managed through SOPAC that used scientific and statistically based risk assessment methodology to produce Country Risk Profile for Tonga as well as for 14 other Pacific Island Countries. There is massive data amassed in the modelling as impacts of historical events were used to project the various adverse consequences that possible future events may bring.

De-scaling this model to sector and district level would enhance acceptability of application by other users. There is acknowledgement that the impact of disaster risk is taken into account in EIA but the cost benefit of DRR is not yet incorporated into planning of public investment. In practice assessing the impact of disaster risks does vary a lot for the assessments are not guided by an agreed standard though the National Emergency Management Plan stipulates that the CHARM approach should be applied. Training in CHARM and development of CHARM Manuals are needed.

Section 7: Priority for action 5

Strengthen disaster preparedness for effective response at all levels

Priority for action 5: Core indicator 1

Strong policy, technical and institutional capacities and mechanisms for disaster risk management, with a disaster risk reduction perspective are in place.

Level of Progress achieved: 2

Some progress, but without systematic policy and/ or institutional commitment

Key Questions and Means of Verification

Are there national programmes or policies for disaster preparedness, contingency planning and response? Yes

DRR incorporated in these programmes and policies	Yes
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The institutional mechanisms exist for the rapid mobilisation of resources in a disaster, utilising civil society and the private sector; in addition to public sector support.	Yes
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Are there national programmes or policies to make schools and health facilities safe in emergencies? Yes

Policies and programmes for school and hospital safety	Yes
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Training and mock drills in school and hospitals for emergency preparedness	Yes
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Are future disaster risks anticipated through scenario development and aligned preparedness planning? Yes

Potential risk scenarios are developed taking into account climate change projections	Yes
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Preparedness plans are regularly updated based on future risk scenarios	Yes
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Description:

The National Emergency Act and its National Emergency Plan establish the national policies for disaster management on all phases of disaster management. Tonga is regularly affected by natural disasters that today contingency planning and response is well understood and decentralised much across the nation. National programmed preparedness is on awareness and training complemented with exercise and drills; and the emergency phase is controlled and managed nationally at the Emergency Operation Centre. Assessments and mitigating activities are done at sector and community levels. The NEMP stipulates DRR in recovery phases and establishes emergency management committees and recovery committees with powers to co-opt from the civil society and private sector who run their own response activities but keep Control Center and NEMO informed. These provisions allow Committees to tap technical and logistic resources at their level of administration, in all the stages of preparedness, warning, response and recovery. However not every key stakeholder is aware of the Act and the NEMP especially on the outer island groups. Sector and departmental plans exists and are practiced during disasters.

Schools actively promote DRR through drills, student projects and retrofitting of buildings. Health has just established a Disaster Officer post in line with its ministerial plan. Training and drills do include hospitals in addition to drills managed by the hospitals themselves. Future disaster risks scenarios feature in exercises and future risk assessment are profiled in the World Bank risk assessment project. At the community level climate change projections feature in scenario development when developing community disaster and preparedness plans.

DM mechanisms and capacities in ministries and sectors are arranged to suit their operational plans. Some Plans are well developed and exercised regularly with stakeholders, and for some sectors, Plans are awaiting approval. For example Health Plans in place and drills regularly organized.

Context & Constraints:

Monitoring the state of preparedness of the nation requires constant liaison at all levels by NEMO but it is not happening through shortage on staff compliment. The last training by NEMO in Vavau was 10 years ago even though there is a Community Training Officer position in NEMO. The output has not been delivered as the officer is directed to other ministerial activities. The search by the government's Change Management Team for right positioning of NEMO is a way forward to conduct work place assessment of the NEMO as a Department.

A systematic methodology to assess the effectiveness of national awareness campaign is required and will need strengthening of partnerships with civil society and the private sector. At the moment these two partners have no sitting members on the national committees and the omission limits their inputs on improving policies / planning and practice.

In the last decade CSOs have received greater support from donors eg AUSAID's Pacific Community-focused Integrated DRR (PCIDRR), Civil Society WASH Fund. CSOs have great resourced capacities (human, data and financial) for leverage in preparedness & response; e.g. CSOs have extensive community outreach.

Incorporation of cross cutting issues of gender, human rights and protection in emergencies should be reflected in the national DM arrangement. A review of NEMO's role to manage both DM and DRR without having the required institutional strengthening should be undertaken. This is to be preceded by a brainstorming session of the partners to define

where and how to strengthen partnerships and institutional capacities down to district levels.

Priority for action 5: Core indicator 2

Disaster preparedness plans and contingency plans are in place at all administrative levels, and regular training drills and rehearsals are held to test and develop disaster response programmes.

Level of Progress achieved: 3

Institutional commitment attained, but achievements are neither comprehensive nor substantial

Key Questions and Means of Verification

Are the contingency plans, procedures and resources in place to deal with a major disaster? Yes

Plans and programmes are developed with gender sensitivities	Yes
Risk management/contingency plans for continued basic service delivery	Yes
Operations and communications centre	Yes
Search and rescue teams	Yes
Stockpiles of relief supplies	Yes
Shelters	Yes
Secure medical facilities	Yes
Dedicated provision for disabled and elderly in relief, shelter and emergency medical facilities	No
Businesses are a proactive partner in planning and delivery of response	Yes

Description:

The NEMP part C dealing with Emergency Management stipulates the roles of the Committees and Lead Agencies, outlining the emergency management system and defining the national emergency management response procedures. Sub-national level Committees should reflect those at the national level and the agency plans at all levels are to align with the procedures. Agencies should resource themselves as appropriate to their emergency

management roles. SOPs are in place and drills with training are undertaken to ensure basic services are available. A National Emergency Centre is activated during emergencies, and triggers the activation of the emergency management systems with respect to emergency operations and communications, search and rescue, disbursement of relief supplies and provision of medical facilities. All stakeholders including the business sector work in coordination with the Committees. TRCS maintains stockpiles of relief supplies across the nation and NEMO maintains a warehouse for emergency response.

In practice Tonga's culture is sensitive in mass shelters regarding women, children and males and this follows on when operating contingency plans. However considerations on protection and the special provisions for people with disabilities are weak and have to be strengthened. Community training and SOP drills are managed by CSOs as PCIDRR and TRCS, the outputs of which are reviews to ensure basic services as food, shelter, water and sanitation are available.

Context & Constraints:

During disaster events, emergency operations are coordinated from the NEOC using emergency operation plans and procedures that outline pre-determined roles of agencies across the sectors. Cyclones, tsunamis and earthquakes are common hazards for which the respective hazard National Plan is in place. Volcano plans specific to Niuafuou and Eua have been developed. A tsunami plan for Niuaotupou is being developed complete with safe zoning and signage. Damaging floods are being experienced in Nukualofa and next will be to explore the development of flood support plans. Tonga is well known for volcanic eruptions from the ocean floor forming unconsolidated islands only to disappear over a few days. Monitoring of submarine volcanism needs to be implemented and its influence understood as a trigger to other geological hazards like tsunamis as they occur so close to the Pacific plate. Regular reviews of hazard specific support plans are needed using new information as those coming from the World Bank multi-hazard risk assessment and to incorporate climate change perspectives.

SOPs link agencies under the national Emergency Management Act and regular drills are hampered by shortage of staff in NEMO to oversee agency drills and exercises. In Early Warning and Emergency communication, normal radio, telephone and inter-cellular systems are used which is inefficient. This has to be improved with developing a dedicated emergency communication network of key stakeholder inclusive of civil society and private sector.

Priority for action 5: Core indicator 3

Financial reserves and contingency mechanisms are in place to support effective response and recovery when required.

Level of Progress achieved: 3

Institutional commitment attained, but achievements are neither comprehensive nor substantial

Key Questions and Means of Verification

Are financial arrangements in place to deal with major disaster? No

National contingency and calamity funds	Yes
The reduction of future risk is considered in the use of calamity funds	Yes
Insurance and reinsurance facilities	No
Catastrophe bonds and other capital market mechanisms	Yes

Description:

The former Government had established a Trust / Contingency fund but this was removed. Some CSOs and the TRCS can and do establish their individual contingency funds. Government taps existing funds in the budget to fund emergency services and preparedness spread across the operational activities of ministries. Departments have no specific emergency or contingency fund. For major response and recovery needs, government looks for international and regional sources to bolster that which it could vire from existing program budget. The UN humanitarian funding for relief assistance has been regularly accessed via OCHA (emergency cash grants). Some NGOs have access to emergency funds from their networks, e.g. Act for Peace & IFRC&S. Donors, NGOs and International humanitarian partners have contingency funds that are available with stringent processes to ensure transparency and accountability. These require a declaration of a state of emergency in order to be released. International financial institutions as EU, ADB and WB do support recovery and rehabilitation programmes. This support, likewise with other donors, is channelled to government and regional intergovernmental organisations as appropriate.

Context & Constraints:

Tonga has a small insurance base that limits financial risk sharing mechanisms. Tonga is a party with other Pacific island countries to a regional partnership project with the WB to explore Catastrophe Risk Insurance and financial risk sharing modalities for the region. Unless that happens there is not much Tonga can do outside the present support of traditional donors, international NGOs, UN and international financial institutions.

Priority for action 5: Core indicator 4

Procedures are in place to exchange relevant information during hazard events and disasters, and to undertake post-event reviews

Level of Progress achieved: 3

Institutional commitment attained, but achievements are neither comprehensive nor substantial

Key Questions and Means of Verification

Has an agreed method and procedure been adopted to assess damage, loss and needs when disasters occur? Yes

Damage and loss assessment methodologies and capacities available	Yes
Post-disaster need assessment methodologies	Yes
Post-disaster needs assessment methodologies include guidance on gender aspects	Yes
Identified and trained human resources	Yes

Description:

Procedures are in place, as enacted, in practice during disasters the exchange of information through formal procedures is limited being applicable mostly to urban and peri-urban areas. The coconut wireless system thrives in outer island communities as there is no robust and affordable 2-way communication coverage of the whole Kingdom. TRCS has satellite radios in its emergency kit but not government.

District/ Island agents do the first preliminary impact assessment that feed directly to the Prime Minister's Office and to the Operational ministries. Each ministry is responsible for detail impact verification and post-relief sectoral damage assessment. There is no standard methodology for post-disaster needs assessment, with each agency focusing on its core responsibilities. The assessment reports go directly to Nukualofa and not through the island administration.

The NEMO has a limited HF radio network and a number of agencies have in-house radio network, mostly fixed, as Power, Communication, Power, Roman Catholic Church, Health, Fire, Civil Aviation, and Marine. These are well maintained. The discipline forces (Army, Navy and Police) provide another layer of emergency communication from the field units to the EOC. Public radio broadcast services run 24/7 during emergencies and only Tonga AM station has nationwide coverage whilst mobile and email is widely used within the business community. TV has limited coverage.

Whilst there are a number of communication systems in use, and information is managed centrally from NEOC during a disaster, the sharing of information for post-disaster review is

not happening systematically as is generally described in PFA 3. Intra-government information sharing is challenging before, during and after a disaster - knowing who needs to know what. Post -event reviews are routinely conducted following a disaster. At the community level, PCIDRR conducts “lessons learnt” consultations in close linkage with NEMO.

Context & Constraints:

At the national level procedures are in place but at below island level the support gets thinner. The proposed empowerment of the Island Governor to be the Administrative Government Head on the island should result in improvement in the Disaster Information Management System.

Lack of harmonized, standard methodologies for post disaster assessments (teams, tools, forms, sectors) and the different needs of different groups (children, women, men, elderly, disabled etc.) need to be addressed in the assessments which presently largely focus on infrastructures. Assessment Teams should each have women members.

Documentation and dissemination of ‘lessons learnt’ is required, as is ongoing evaluation of procedures and plans that currently exist in order to ensure their alignment with the NEMP.

Section 8: Drivers of Progress

a) Multi-hazard integrated approach to disaster risk reduction and development

Levels of Reliance:

Partial/ some reliance: Full acknowledgement of the issue; strategy/ framework for action developed to address it; application still not fully implemented across policy and practice; complete buy in not achieved from key stakeholders.

Do studies/ reports/ atlases on multi-hazard analyses exist in the country/ for the sub region?: Yes

If yes, are these being applied to development planning/ informing policy?: Yes

Description (Please provide evidence of where, how and who):

Multi-hazard risk approach was identified in the consultation process as the second most significant driver to progressing PFA 2, PFA 3 and PFA 5.

The World Bank Pacific Catastrophe Risk Assessment and Financing Initiative (PCRAFI) is a major science based project on multi-hazard assessment combining impacts from the devastating effects of wind, flood, and storm surge induced by cyclone together with impacts of earthquake ground shaking and tsunamis. The catastrophe model uses state of the art methodology to perform risk analysis. In the implementation it has amassed extensive information on exposures, hazard-risk profile and damage estimation together with casualty and loss calculation.

In the coming years the database should be available to Tonga and the initiative extended to factor in mitigation measures. The model needs to be downscaled and made appropriate for user application in Tonga. There are value added potential in implementing this in Tonga as through data collection improved networking results amongst government, civil society, private sector and the community.

Scientific multi hazard risk analysis requires commitment from individual agencies to share baseline data. As Tonga takes ownership of the process, exchange and sharing of information will be institutionalised which will facilitate national economic growth. Capacity building of nationals is needed and to be supported by SOPAC.

CC adaptation is a big driver on multi-hazard approach and more awareness through JNAP to the application of this approach will help. At the community level much work has been done in multi-risk assessment with different tools. It is popular with communities as knowledge increases their understanding and improves informed decision-making. These tools and outputs ie risk analysis need to be mapped to underpin moving to the next challenge of systematic sustainable development to raise income and correct inequality.

b) Gender perspectives on risk reduction and recovery adopted and institutionalized

Levels of Reliance:

Partial/ some reliance: Full acknowledgement of the issue; strategy/ framework for action developed to address it; application still not fully implemented across policy and practice; complete buy in not achieved from key stakeholders.

Is gender disaggregated data available and being applied to decision-making for risk reduction and recovery activities?: Yes

Do gender concerns inform policy and programme conceptualisation and implementation in a meaningful and appropriate way?: Yes

Description (Please provide evidence of where, how and who):

The national Gender Policy on Development acknowledges gender issues but it is not driven for implementation by government – more engagement of government is needed in development of sector policies and action.

The consultation process revealed that 14% of key stakeholders agree that gender issues support progress on PFA 2 “Identify, assess and monitor disaster risks & enhance Early Warning”.

Acknowledgement of the differing needs of boys and girls, women and men is well entrenched in extended family living and/or in a community setting. The increase rate of rural-urban drift to Nukualofa and consequential de-population in the islands is forcing changes on the traditional gender based family functions. Gender issue is generally not perceived as yet as a strong driver of DRR achievements even though gender and division of labour are practised during disasters. More analytical work on gender issues is needed to demonstrate how gender concerns should inform DRM policy, programme conceptualisation and implementation in a meaningful and appropriate way. Immediate activities would include assessing knowledge in gender issues, proper inventory and accounting of gender perceived good practices, assembling of disaggregated data and inclusion of gender issues into existing plans and activities.

However across the key sectors of Social Welfare, Health, Agriculture and Water there is stronger commitment on gender inclusion in sector policy and programmes which as they focus on sustainable livelihood and employment are unwittingly championing inclusion of gender issues in DRM and developmental activities.

CSOs also demonstrate strong stake in attention to gender issues and with UN partners strongly advocate that more work be done by government/NEMO to guide decision-making on DRM. These agencies should continue with raising awareness and sensitising decision makers.

c) Capacities for risk reduction and recovery identified and strengthened

Levels of Reliance:

Partial/ some reliance: Full acknowledgement of the issue; strategy/ framework for action developed to address it; application still not fully implemented across policy and practice; complete buy in not achieved from key stakeholders.

Do responsible designated agencies, institutions and offices at the local level have capacities for the enforcement of risk reduction regulations?:

No

Are local institutions, village committees, communities, volunteers or urban resident welfare associations properly trained for response?: Yes

Description (Please provide evidence of where, how and who):

Strengthening capacities is the driver most perceived as very significant to progressing PFA 2, PFA 3, PFA 4 and PFA 5. For PFA 1 capacity building in policy development is the priority. On PFA 2 “Identify, assess and monitor disaster risks & enhance Early Warning”, many perceived that capacity building (40%) together with an integrated approach (46%) are the drivers to further progress. The others (14%) see multi-hazard risk approach and addressing of gender issues of contributing importance to driving progress on PFA 2 activities. Progress on PFA 3 “Use knowledge, innovation & education to build a culture of safety resilience at all levels” is itself to be driven by capacity building (58%) and engagement of all concerned sectors whilst the others (17%) see multi-hazard risk assessment and the enhancing of human security and social safety nets as important to further progress activities on PFA 3. Promoting awareness of underlying risks and building capacities for DRR and recovery are visioned by most (60%) as the driver on PFA 4 “Reduce the underlying risk factors”, accompanied with focus on human security and social resilience (20%) through an integrated approach (20%). Progress on PFA 5 “Strengthen disaster preparedness for effective response at all levels” is seen by 56% as having been best driven through capacity building particularly in identification of risks to knowledge on preparedness accompanied by a sustained awareness programme. The other drivers of progress on PFA 5 that are seen each to equally have significant weight are in promoting a multi-hazard integrated approach to DRR & development AND in engaging in an integrated approach.

An integrated approach of building capacity to meet the requirements of local application of the World Bank PCRAFI should be a priority for Tonga.

d) Human security and social equity approaches integrated into disaster risk reduction and recovery activities

Levels of Reliance:

Partial/ some reliance: Full acknowledgement of the issue; strategy/ framework for action developed to address it; application still not fully implemented across policy and practice; complete buy in not achieved from key stakeholders.

Do programmes take account of socio-environmental risks to the most vulnerable and marginalised groups?: Yes

Are appropriate social protection measures / safety nets that safeguard against their specific socioeconomic and political vulnerabilities being adequately implemented?: Yes

Description (Please provide evidence of where, how and who):

As mentioned above enhancing human security and social safety nets were seen as important drivers to further progress activities on PFA 3 “Use knowledge, innovation & education to build a culture of safety resilience at all levels”. The consultation process also signalled that NEMO is driven by Driver of progress 4 - Human security and social equity and to stay focussed on DM.

Tonga still has a high social safety net that a strong drive in food security, livelihood and social welfare would be limited in its reach across remote vulnerable areas and remote islands. There is a need to compile databases and measures to be reflected across all sectors.

Addressing the risks of rural-urban drift is a major national concern that is engaging government, privates sector, NGOs and FBOs in multi-pronged activities to improve the livelihood and resilience of displaced and de-populated communities. Mushrooming squatter communities in the urban areas indicate the scale of migration from rural areas and consequential depletion of rural population with stresses on social structures in the areas of origin. Development of policies to upgrade squatter settlements is most needed now. CSOs have experience in providing affordable housing for the low income owners and poor people.

e) Engagement and partnerships with non-governmental actors; civil society, private sector, amongst others, have been fostered at all levels

Levels of Reliance:

Partial/ some reliance: Full acknowledgement of the issue; strategy/ framework for action developed to address it; application still not fully implemented across policy and practice; complete buy in not achieved from key stakeholders.

Are there identified means and sources to convey local and community experience or traditional knowledge in disaster risk reduction?: Yes

If so, are they being integrated within local, sub-national and national disaster risk reduction plans and activities in a meaningful way?: Yes

Description (Please provide evidence of where, how and who):

On PFA 1 (governance and decentralisation issues) an integrated partnership approach is for Tonga the driver most (70%) see as needed to further progress activities. On PFA 2, many perceived that capacity building (40%) together with an integrated approach (46%) are the drivers to further progress on PFA 2 "Identify, assess and monitor disaster risks & enhance Early Warning". Awareness is best driven through an integrated approach (20%), A secondary driver of Progress on PFA 5 "Strengthen disaster preparedness for effective response at all levels" is a multi-hazard integrated approach to DRR & development AND in engaging in an integrated approach

There is a high level of donor support to an integrated approach which is typified by the JNAP arrangement in bringing together scientific, faith based, non-governmental, regional and international actor- players. Donor, regional organisations and government agencies are increasingly engaging in partnerships with NGO's and FBOs in programme conceptualisation and implementation towards meaningful and appropriate consideration of multi sectoral issues in risk and development initiatives e.g. MORDI. CCA and DRM programmes require multi-agency involvement and good access to base data including traditional knowledge. Databases are poorly developed and traditional practices hardly documented and shared. These are areas that would benefit greatly from external support.

Though much work happens at the grass-root level, much more capital investment is needed on road infrastructures, island wharfs, postal and communication services to really have meaningful rural development innovations. Support to the tourism industry is one of the means how these essential services are being installed in remote areas. Knowledge and application of conservative resource use-exploitation is another key pillar to improve on rural development.

Contextual Drivers of Progress

Levels of Reliance:

Significant and ongoing reliance: significant ongoing efforts to actualize commitments with coherent strategy in place; identified and engaged stakeholders.

Description (Please provide evidence of where, how and who):

Regionalism underpins support to DRM. The regional DRM Framework and the SPC-SOPAC Community Risk Programme are the two pillars underlying the systematic development of DRM capacity and HFA implementation. These are supported by UN agencies and regional intergovernmental organisations (SPREP/SPC), and programmes funded by EU, international financial institutions and traditional development partners in the Pacific. As a region that gestates cyclones and climate variability as ENSO, the Pacific nations are united in their concerns on climate change and sea level rise and are very vocal in international forums on these issues. Interactions at regional forums across all the disciplines and touching all stakeholders are invaluable drivers of CCA-DRM issues. The extended family system provides an informal social safety net to populations affected by disasters. The system is based on kinship ties in collective resource management and a deeply ingrained sense of obligation to provide and care for one's extended family. It is fully accepted by the society and is relied on for delivering assistance but doesn't feature in any formal plans. It is used strategically by community based workers. The risk remains that certain groups or individuals may be overlooked in terms of assistance. Overseas remittances are also important for sustaining families in community living.

Section 9: Future Outlook

Future Outlook Area 1

The more effective integration of disaster risk considerations into sustainable development policies, planning and programming at all levels, with a special emphasis on disaster prevention, mitigation, preparedness and vulnerability reduction.

Overall Challenges:

Translating the national DRM policy into sector policies and plans has been the main challenge as knowledge in DRM is not institutionalised in each sector. The lack of commitment is perhaps also due to other reasons. Firstly, there is little understanding of the costs and benefits of DRM and the related methodologies (used for project approvals but DRM remains poorly reflected). Secondly, the lack of DRM expert capacity is critical and needs to be addressed. This will require commitment, political and personnel, on officers to attain the appropriate qualifications, also through work attachments in Australia and NZ. The ministries that have developed sector DRM plans had relied on external lead support. The TSDF states the application of the CHARM approach in DRR but NDMO has not been able to train others in this as it will need to secure expertise on short-term basis. Community capacity strengthening is happening through vulnerability and capacity analysis as well as resource-use conservation projects driven by CSOs.

Most agencies adhere to design and construction standards for built assets and a few undertake risk auditing on existing structures and services. Elements of risk reduction measures are included in development designs and operational plans.

Other ministries are yet to articulate DRM in ministry operational plans, perhaps placing a lower priority as there is no specific DRM budget but nevertheless disaster risk reduction activities are being undertaken under other programme heads. The NEMO will initiate moves to improve monitoring with a request through the Ministry of Finance and Planning that each Ministry identifies DRM activities undertaken in its quarterly reporting to Ministry of Planning on the TSDF. SPC-SOPAC also has strong tools for developing the socio-economic costs of disasters which is useful for application across the sectors.

Future Outlook Statement:

In general, the operational commitment to developing sector DRM plan is difficult as the capacity of institutions to develop DRR plans is lacking. The link with CCA will benefit DRM as it introduces a needed focussed approach in properly assimilating DRM concepts within project development, improving on the current officer driven approach. All means of strengthening this linkage and devolving networks and partnership arrangements across sectors down to the grass root level should be a priority in the immediate future in the strategy to strengthen on governance, organisational, institutional, policy and decision-making framework for effective preparedness, response and recovery.

There is no shortage of access to technical and financial resources but lack of coordination in work programmes and in development of information systems are major constraints. The new NEMP arrangements have shortcomings in omitting private sector and civil society representatives in national committees. This is a hurdle pending a review of the NEMP. Developing the links between DRM and the MDGs would assist improve awareness in DRM. Capacity support across the sectors is needed to assist focal ministries draw out these linkages and promote DRM approach in support of meeting MDGs.

Future Outlook Area 2

The development and strengthening of institutions, mechanisms and capacities at all levels, in particular at the community level, that can systematically contribute to building resilience to hazards.

Overall Challenges:

Tonga NEMO has constrained capacity in delivering training and is always looking for other options.

In today's expanding range of global issues, much more is demanded and expected of the nation to either meet international obligations or to tap opportunities for sustainable development through bio-security, civil aviation security, MDGs, REDD +, food security or health arrangements and frameworks. The negative economic impacts of rising prices, reduced employment and increases in squatter population create underlying risks that reduce resilience of affected communities. These issues cut across sectors and need an improved approach which encourages multi-sector, integrated work. Despite some progress, stakeholders at all levels are decrying the absence of an effective national coordination structure and platform for sharing information.

Tonga has a small insurance base that limits financial risk mechanism. In common with the needs of its Pacific neighbour countries, it is in a joint regional partnership with the WB exploring Catastrophe Risk Insurance and financial risk sharing modalities for the region. More effort in development of appropriate assessment tools, public education awareness strategies and education on DRM and development need to be undertaken.

Future Outlook Statement:

There is a need to explore opportunities to review the current suite of DRM training and to identify additional training opportunities that contribute to the strengthening of key agencies such as Lands, Meteorology, Agriculture, Health and other stakeholders including NGOs and community groups.

Gender issues and protection in emergencies are emerging concerns that are not yet fully incorporated into goals and DRM plans. Awareness and training strategies would need to include these. There exist other training gaps, including on measures to build more resilient communities.

NGOs and Faith Based Organisations have grown tremendously in capacity and capabilities with resources that could be leveraged in preparedness & response. However in the new NEMO arrangements their roles in the national DRM arrangements are not clear.

JNAP is successfully providing the national coordination structure. In time this will ensure that sharing of information and logistics is happening systematically; also it will facilitate establishment of common database and access to individual data bases. The coordination platform would also strengthen the assessment methodologies including those used in EIA studies.

In the immediate future capacity building and strengthening of an integrate approach have emerge as the key drivers for progressing HFA implementation. Strategies need to be developed to ensure delegation of authority and resources to local level are done to better empower communities.

Future Outlook Area 3

The systematic incorporation of risk reduction approaches into the design and implementation of emergency preparedness, response and recovery programmes in the reconstruction of affected communities.

Overall Challenges:

There are no specific sector level DRM budgetary allocations; budget for response activities are contained with the NEMO. However ministries incorporate risk reduction approaches in designing reconstruction programmes but these are not monitored. As an outcome of this review, NEMO and Ministry of Finance and Planning would jointly seek means to formalise reporting on DRR perceived activities by each ministry in their quarterly reports to Planning. DRM Cost-benefit analysis has to be done competently to showcase benefits of risk reduction approaches. An inventory of existing cost-benefit methodologies in use is needed and users urged to analyse and report to the JNAP Task Force on how DRM measures are incorporated and where methodologies can be improved. Underpinning DRM is the quality of information available on analysis of disaster impact assessments. A uniform approach on post-disaster/recovery assessment needs to be developed. The standard assessment guideline should ensure gender and protection issues are incorporated into the design and implementation of emergency preparedness, response and recovery programmes in the reconstruction of affected communities.

Future Outlook Statement:

The JNAP has to sensitise organisations of its networking and co-ordination role. Information sharing requires capacity in managing IT which is difficult to maintain and sustain requiring specialised technicians and adequate support services both of which are major constraints in Tonga and the region. A strong emerging partner is USP and as a first step to hold consultations on better coordination with them.

High level DRM advocacy and sensitisation strategies are needed as Tonga in the last two years moved to its first elected government. As the Planning Division starts the process of consultation on the next National Strategic Development Framework, sectors should also start seeking technical assistance to assist build sector capacity in policy analysis beginning with consultation amongst its stakeholders.

The Planning Division is a key agency in the drive to strengthen national institutional commitment on importance of DRR in development. There is mixed commitment across the sectors on incorporation of DRM issues in formulation of development projects right through to implementation. The government through JNAP-NEMO is to take inventory of ministerial activities perceived to be DRR. This should include the design and implementation of emergency preparedness, response and recovery programmes in the reconstruction of affected communities. This collection of information would also serve as core information for use in sensitisation and promotion of DRR.

The foundation on which to build DRR is good hazard and risk analysis. Information Systems have to be developed at sector and at national level to allow easier monitoring, archiving, dissemination of data on key hazards and vulnerabilities.

Future Outlook Area 4

The United Nations General Assembly Resolution 66/199, requested the development of a post-2015 framework for disaster risk reduction. A first outline will be developed for the next Global Platform in 2013, and a draft should be finalized towards the end of 2014 to be ready for consideration and adoption at the World Conference on Disaster Reduction in 2015

Please identify what you would consider to be the single most important element of the post-2015 Framework on Disaster Risk Reduction (2015-2025).:

The challenges post 2015 are reflected in a Regional Framework for Climate Change and Disaster Risk Managemnet that is being managed for the Paciifc Region on a regional basis by SOPAC. Tonga's situation will be reflected thereon in line with other Pacific Island Countries and States.

Section 10: Stakeholders

Organizations, departments, and institutions that have contributed to the report

Organization	Type	Focal Point
Geology, MLSNRE	Gov	Ms. 'Amelia Sili,
Governor's Office, Vavau	Gov	Maopa Otuati
Ha'alaufuli, Vavau	Gov	Mapae Hafeka, District Officer
JNAP Secretariat	Gov	Mr. Talo Fulivai, JNAP Finance Officer
Magistrate Court (Justice), Vavau	Gov	Paula Tatafu
Ministry of Agriculture Fisheries and Forestry, Vavau	Gov	Maloni Havea
Ministry of Education	Gov	Mr. Manu 'Akau'ola, CEO Secondary Schools
Ministry of Education Women Affairs & Culture	Gov	Sela T. Tasina,
Ministry of Environment, Vavau	Gov	Setaita Pasa
Ministry of Finance and National Planning	Gov	Mr. Matafonua Soakai, Chief Economist
Ministry of Health,	Gov	Mr. Niu Fakakovikaetau, Snr Public Health Inspector
Ministry of Infrastructure	Gov	Mr. Fotu Veikune,
Ministry of Lands Survey & Natural Resources, Vavau	Gov	Paula Lo'amanu
Ministry of Police, Vavau	Gov	Tu'unagafasi Falakisen
Ministry of Transport, Vavau	Gov	Sunasi Uatahausi

National Emergency Management Office	Gov	Mr. Leveni 'Aho, Director
National Emergency Management Office	Gov	Mr. Mafua-'i-Vai'utukakau Maka, Community Awareness Officer
Tonga Defence Services, Vavau	Gov	Lea'aetoa Tuitupou
Tonga Police	Gov	Mr. Ashley Fua, A/Supt
NEMO Consultant	Private	Mr. Maliu Takai,
Tonga Power Ltd., Risk & Compliance Manage	Private	Mr. Ajith Fernando, Risk & Compliance Manager
Tonga Water Board	Private	Vaha'akolo Palelei, Hydraulic Engineer
University of the South Pacific	Acad & Research	Dr. Masaso Paunga, Research Fellow
PCIDRR	NGO	Ms. Moana Kioa, Field Program Coordinator
PCIDRR	NGO	Mr. Ichikawa Polovili, Field Project Officer
tnldf_secretariat	NGO	Manitasi Leger, Civil Society Project Officer
Tonga Red Cross Society	NGO	Mr. Siu'ivaha Fangupo, DMO
UNDP	UN & Intl	Ms. Milika Tuita, CO
UNISDR, Suva	UN & Intl	Mr. Akapusi Tuifangalele
AusAID, Australian High Commission	Networks & Others	Ms. 'Ana Baker, Program Manager
Holonga, Vavau	Networks & Others	Mausa Lilo
Leimatu'a, Vavau	Networks & Others	Paea Uasike

Neiafu, Vavau	Networks & Others	Tupou
Pangaimotu, Vavau	Networks & Others	Siaosi Te'epaua
Tonga National Council of Churches	Networks & Others	Fr. Siketi Tonga, Secretary
Ministry of Finance and National Planning		Ms. Kilisitina Tuamei'api, Principal Economist
Ministry of Infrastructure		Mr. Paula Finau, Communication Officer
Prime Minister's Office		Ms. Uini Aleamotu'a, Assistant Secretary;
Tonga Chamber of Commerce		Ms. Pesi 'Ilangana, Office Manage
Tonga Defence Services, Vavau		Lea'aetoa Tuitupou