DEBRIS MANAGEMENT CASH FOR WORK - REVIEW REPORT

HA'APAI - TONGA April -June 2014

"A FIRST STEP TOWARDS EARLY RECOVERY"

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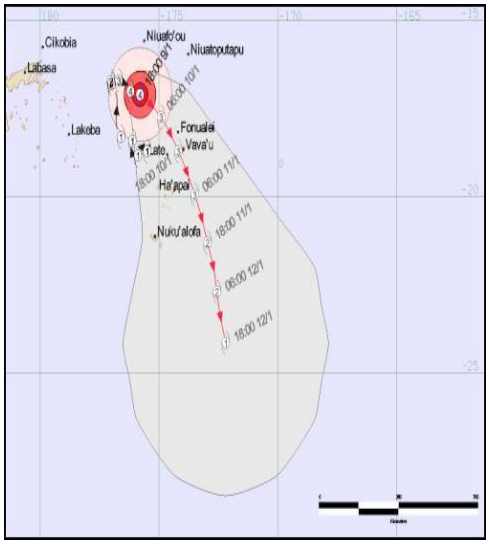
ACRONYMS AND GLOSSSARY

ACRONYMS	
BCPR	Bureau for Crisis Prevention & Recovery
CFW	Cash for Work
DM	Debris Management
E-goods	Electronic Goods
MAFFF	Ministry of Agriculture and Food, Forests and Fisheries (Tonga)
ID	Identity Card
mT	Metric Ton
NEMO	National Emergency Management Office
NEOC	National Emergency Operations Committee
NGO	Non-governmental organization
TC	Tropical Cyclone
UNDP	United Nations Development Programme
WASH	Water, Sanitation and Hygiene
GLOSSARY	
Church – Tonga	Church is a key component of Tongans life and church leaders are influential members of the community. The Tongan Constitution provides for freedom of religion. There is no state religion. According to the last official census in 1996, membership by percentage of population of major religious groups was: Free Wesleyan Church of Tonga, 41%, Roman Catholic Church, 16 %, Church of Jesus Christ of Latter-day Saints (Mormons), 14%, Free Church of Tonga, 12 %, and all other groups, 17 %. However, both Roman Catholics and Mormons state that the number of their adherents is higher than reported, and a 2006 survey conducted by the Free Wesleyan Church revealed its membership comprised only 35 percent of the population. The Tokaikolo Church (a local offshoot of the Methodist Church), Seventh-day Adventists, Assemblies of God, Anglicans, the Baha'i Faith, Islam, and Hinduism have small numbers of adherents. Foreign missionaries are active in the country and operate freely. *(International Religious Freedom Report 2007, Bureau of Democracy, Human Rights, and Labor , U.S. Department of State).*
DIGICEL	Leading global telecommunications provider with operations in the Caribbean, Central America and Asia Pacific regions.
Ha'apai Government	Tonga is divided in three island groups; Ha'apai, Tongatapu, Vava'u. The governors of Ha'apai and Vava'u are appointed to their offices and serve as ex officio members of the cabinet. The form of local government is through town and district officials who have been popularly elected since 1965. The town official represents the central government in the villages and the district officials are the authority over a group of villages.
Red Cross	The International Red Cross and Red Crescent Movement is an international humanitarian movement with approximately 97 million volunteers, members and staff worldwide which was founded to protect human life and health, to ensure respect for all human beings, and to prevent and alleviate human suffering. The movement consists of several distinct organizations that are legally independent from each other, but are united within the movement through common basic principles, objectives, symbols, statutes and governing organizations, such as the International Committee of the Red Cross (ICRC), the International Federation of Red Cross and Red Crescent Societies (IFRC) and National Red Cross and Red Crescent Societies.
World Bank	The World Bank is a United Nations international financial institution that provides financial (loans) and technical assistance to developing countries around the world, acting as a partner to reduce poverty and support development. The World Bank is a component of the World Bank Group, and a member of the United Nations Development Group.

BACKGROUND



2014 Tropical Cyclone Ian track

Tropical Cyclone Ian, a Category 5 system with winds over 200 kilometers per hour and gusts around 300 kilometers, was the most powerful storm ever recorded in Tongan waters which passed directly over the northeast islands of Ha'apai.

The cyclone caused significant damage to homes, infrastructure and vegetation in 18 villages across six islands in Ha'apai: 'Uiha, Uoleva, Lifuka, Foa, Ha'ano and Mo'unga'one. Over 5,000 people were directly affected and more than 3,500 people were left homeless. The main livelihoods in Ha'apai -such as weaving, small-scale tourism, fishing and agriculture- were severely disrupted while huge quantities of debris were spread all over the islands and the reefs.

The Prime Minister declared a state of emergency and the Government of Tonga and humanitarian and development partners provided emergency assistance to affected communities since the beginning of the disaster.

On January, the National Emergency Operations Committee (NEOC) took the decision to develop the Tropical Cyclone Ian Response Plan to address the short and medium terms needs of the effected population. The Deputy Prime Minister and the National Emergency Management Office (NEMO) coordinated the overall response while several line ministries coordinate specific clusters, including Health, Education, WASH, Logistics, Food Security, Safety and Protection, Livelihoods, Public Works, Communications, and Electricity/Power.

The TC Ian Response Plan was conjointly developed by the Government of the Kingdom of Tonga and its humanitarian and development partners with a three month timeframe. The Plan aimed to facilitate coordination of the humanitarian response and early recovery by documenting cluster response plans and identifying gaps/requirements for response. In total, 89 activities were articulated addressing needs in 11 national clusters.

In order to support the Tongan Government, UNDP developed a Country Project Document to assist the local population's financial recovery by providing a temporary source of cash income in exchange for work related to debris clean-up, restoration of livelihoods activities and improving preparedness for future cyclones.

The UNDP was requested by the NEMO to provide technical expertise in the form of a Debris Management Adviser in order to support Ha'apai Government to handle debris concerns.

This report seeks to summarize the Cash for Work (CFW) process held in Tonga related to the debris management component.

DEPART SITUATION

Early April, the debris situation in Foa and Lifuka islands had quite improved from the onset of the emergency. The roads between villages had been cleared of a very large amount of vegetative debris and over the 60-70% of public and private facilities had been cleared, remaining some reusable debris stored, such as fire wood, metal roofs and wooden posts.

In regard to the disposal sites, Ha'apai had no properly sited, designed and operated solid waste disposal facility or solid waste disposal system or plan, in difference to Tongatapu, which has an engineered landfill that operated as a transfer station (including recycling section) and as a landfill for waste collected via the household waste collection scheme or dumped directly by commercial enterprises. In addition Tongatapu has two contractors that desludge septic tanks and take the sludge to the treatment facility collocated with the landfill and they have a recycling contractor that collects metals and used car batteries and exports them. On Vava'u a small semi engineered landfill operates and this allows dumping of rubbish. At the Vava'u landfill site there is a collection point for recyclables. On both Tongatapu and Vava'u aluminium can collection bins are located at various locations. It is understood that approximately monthly a container load of recyclables (mainly metals) is transported to Tongatapu from Vava'u by the recycling firm, where it is sorted and recycled along with other metals collected on Tongatapu.

In order to manage the large amounts of debris, Ha'apai Government identified public lands already used for waste management as temporarily stage for the debris in Lifuka, Foa and Uiha islands, large enough to accommodate debris and far away from residences, schools, and hospitals to avoid impacts from noise, dust, contamination and traffic. As Lifuka dumpsite was extremely narrow, just close to the sea and lacked of required land preparation and perimeter control, it was not recommended for debris disposal; in this respect, coordination activities were held in order to transfer Lifuka's debris to Foa dumspite, as it had a wider area (8 acres) and accessibility was easier. In parallel, coordination was held with the World Bank representatives in Nuku'Alofa and Ha'apai in order to sponsor the evacuation of dangerous waste to Nuku'Alofa waste management site. Debris building materials containing Asbestos were identified by experts from the World Bank and their transfer to Tapuhia Landfill, in Tongatapu, or to New Zealand was being considered to be handled by specialized companies (according to World Bank preliminary findings, about 250-300 tons of ACM and asbestos contaminated debris were identified).

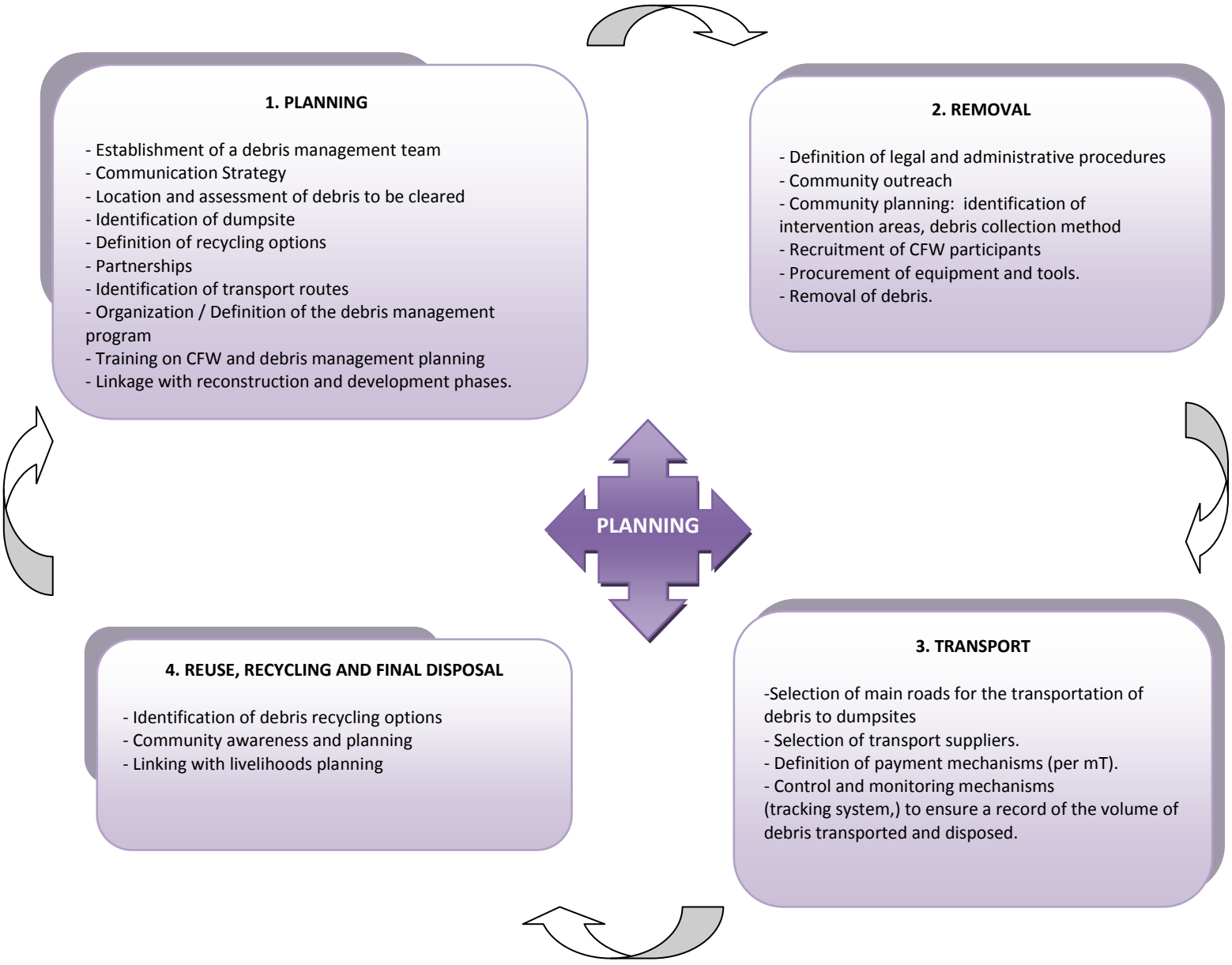
Dumpsites at Lifuka (left) and Foa (right) Islands

UNDP DEBRIS MANAGEMENT APPROACH IN HA'APAI

The programme had a dual purpose:

- To assist the affected communities with their financial recovery by providing a temporary source of cash income in exchange for work, and
- To provide a public service of benefit to the wider community by the removal of remaining debris from private and public areas and by the restoration of livelihoods activities. This second goal distinguished CFW from cash distribution.

MAIN PHASES AND ACTIVITIES CONSIDERED



PROGRAMME PLANNING

HUMAN RESOURCES

In early April, a Debris Management (DM) Expert from the BCPR ExPres Roster was mobilized to Tonga to provide technical support and guidance to Ha'apai authorities for the debris management activities. After a few coordination meetings in Nuku'Alofa, the DM expert, supported by a UNDP local staff, moved immediately to Ha'apai in order to work closely with the Governor's Office staff, district and town officers and general population, promoting a local ownership, and a quicker planning.

On the same way, 3 island coordinators (one per island) were hired from the 28th April in order to support and coordinate the recovery program to be held in Lifuka, Foa and Uiha. According to specific contextual aspects, the 3 islands coordinators were selected among the most reputed people in each island, resulting in one Church Leader (Foa island), one teacher (Uiha island) and one ex-Police Agent (Lifuka island). A project coordinator joined the team mid-June.

Mid-June (14-16), a UNDP monitoring mission from the UNDP Fiji Multi Country Office's Assistant Resident Representative, UNDP representative in Tonga and the recovery program coordinator took place, in order to follow up the activities already held and support the implementation planning.

COMMUNICATION'S STRATEGY

A communication's route for debris management was a preliminary vital step for the programme: to this end, UNDP firstly approached Ha'apai Government and local governance structure (district officers (3), town officers (13), and community leaders) in order to promote their leadership and engagement in the planning, coordination and implementation of the debris management activities; similarly, a strong communication tactic was conjointly held towards the general public in order to share with them the information related to the short-term employment (CFW), the benefits of the UNDP debris removal programme, the registration procedures, among other aspects.

A general presentation meeting was held the 10th April in Ha'apai -by Ha'apai Governor's Secretary and the UNDP team- with a total number of 33 participants, most of them Town and Districts Officers, Church Representatives and Women representatives.

At the presentation's meeting, the **identification and register of participants** was agreed to be done directly by the town officers as they knew their community and counted with the respect and support of their population. The consented criteria were:

- Direct cyclone affected families in Foa, Uiha and Lifuka. As almost all the population had been severely affected by the cyclone, no specific restrictions were considered for the registration of participants in the CFW project;
- Unskilled labor;
- Participants over 20 years old, in order not to disrupt the school attendance;
- Special focus on women, widows and persons with disabilities;
- No ID card registration as many people do not have ID card and the small size of the villages assures the local knowledge of all the inhabitants;

Similarly, the following programme parameters were decided:

- 1 week (5 working days) of project implementation for CFW-debris removal and 3 additional weeks for CFW-livelihoods activities;
- 4 working hours/day, in order not to increase the usual workload of participants;
- Daily rate: $Tongan 30 (to respect national labor rates and ensure an attractive amount for the participants);
- Payment using mobile money services, cash or deposited in bank accounts.

LEGAL ISSUES

The management of debris from private areas was planned and executed according to field technical diagnostics and assessments, and guided by local authorities to ensure compliance with the relevant legal and operational framework.

Legal conditions were ensured before beginning any clearing action, as debris is part of the private property of individuals. To this end, UNDP and Ha'apai Government used the local structure (District Officers, Town Officers and Church Leaders) to ensure the compliance of private owners with the clearance activities.

In the case of abandoned houses for which no owner could be found (some owners use to live abroad), it was decided to arrange the debris and leave it at the private area.

The legal situation of the dumpsites was ensured by Ha'apai Government, being finally decided not to use Lifuka dumpsite as the legal conditions were not properly defined.

GENDER, YOUTH AND ENVIRONMENTAL SENSITIVENESS

Prioritizing the massive participation of individuals through labor-intensive programmes with a focus on hiring women -who represented the 49.5% of the labor force- was a key component of UNDP's approach to debris management activities.

The 49 teams established for debris removal activities were composed of both women and men, with an equal remuneration. For the total of team leaders appointed (49), 10 were women representing the 20.4%. Equally, 28 out of 49 team leaders' assistants were women (57.1%).

On the same vein, a significant percentage (45.5%) of young people (16-35 years old) participated on the cash-for-work programme, 47% of which were women. Specific provisions were considered in order to avoid the participation of young that were attending the school. To this end, the limit of age was established at 20 years old. Some few exceptions were considered in regard to those young that were confirmed not attending the school or that were on holidays break.

As part of sound environmental practices, UNDP programme promoted recovering, reusing and recycling debris when possible. Some successful and feasible examples were explained to the population, mainly in regard to the reuse of wood (firewood, fencing, furnitures, among other options), roofing material (fencing), or tires (tables, plant pots, swings for children), promoting the linking with ulterior livelihoods activities, such as farming or agriculture. In regard to the damaged vehicles, these were shifted to a private vehicle storage place in Foa in order to be scrapped or dismantled for recycled car parts. Ha'apai Governement was accordingly consulted and approved this management option for damaged vehicles.

In addition, significant waste removal and grass cutting activities were held, turning into a relevant part of the programme.

PARTNERSHIPS

DIGICEL

UNDP and Digicel Tonga signed in May 28, 2014 an agreement to partner in the Cash For Work Project in Ha'apai.

The partnership between UNDP and Digicel Tonga offered the Cash For Work participants -especially the most vulnerable such as single mothers, elderly and disabled-, mobile money services with zero withdrawal fees, mobile phones and SIM cards and data enabled handsets.

The partnership would also allowed Cash for Work participants to use Digicel Tonga's agent network which include the Tonga Development Bank and the Digicel Flagship Stores, among others.

Up to the date of this report (30 June 2014), Digicel activities had not been implemented.

WORLD BANK

In the absence of hazardous waste processing and neutralizing facilities in Ha'apai and in order to minimize a wide range of environmental risks associated with hazardous wastes, NEMO and UNDP promoted the coordination with the World Bank to harmonize their debris management activities and ensure that hazardous debris would be properly managed and transferred to safety areas, as a vital mitigation measure. To this end, the UNDP Cash for work programme considered the removal, on-site sorting and classified disposal at the dumpsites, from where the World Bank would later proceed to its transfer to Tapuhia Landfill.

MINISTRY OF INFRASTRUCTURE

Significant support was held from the Ministry of Infrastructure through its heavy machinery for the removal of construction debris, trees and damaged vehicles.

RED CROSS / MoH

The Ha'apai Red Cross provided 14 first aid trained volunteers and life-saving services to participants in case any accident would happen. UNDP programme supported each Red Cross volunteer with a first aid kit. Similarly, the Ministry of Health ensured the attention of any injured person at Ha'apai Hospital.

Red Cross First Aid Volunteers supporting the Debris management Activities

Lifuka Island	Foa Island	Uiha Island
Hihifo: Vea Finau	Fangale'ounga: Lomani Pasikala	Uiha: Pauli 'Alofi
Ha'ato'u: Etivise Toma	Fotua: Talita Takelo	Felemea: Sulieti
Pangai: Heina Pale	Lotofoa: Ofa Tukutau	Lofanga: Town Officer
Holopeka: Sione Fifita	Ha'ateiho Si'i: Sesi Tu'ivailala	
Koulo: Livai Kaivei	Ha'afakahenga: Taufa Havili	
	Faleloa: Vaea Ta'ufo'ou	

CASH FOR WORK AND DEBRIS MANAGEMENT TRAINING

On 30 April, the UNDP Debris Management and Recovery Advisers held a training at the MAFFF Conference Room in Ha'apai, with the objective to inform all the key stakeholders about the general principle of Cash for Work Programme and how to apply this concept in Ha'apai both in Debris Management and Livelihood focused support activities. Similarly, the Debris Management Adviser presented the "Disaster Debris Management Quick Guide for Local Planning" in order to promote the local development of debris management plans in Ha'apai, as one of the most effective strategies to mitigate future disaster impacts. The guidelines were intended as a discussion paper for emergency planners and decision making authorities.

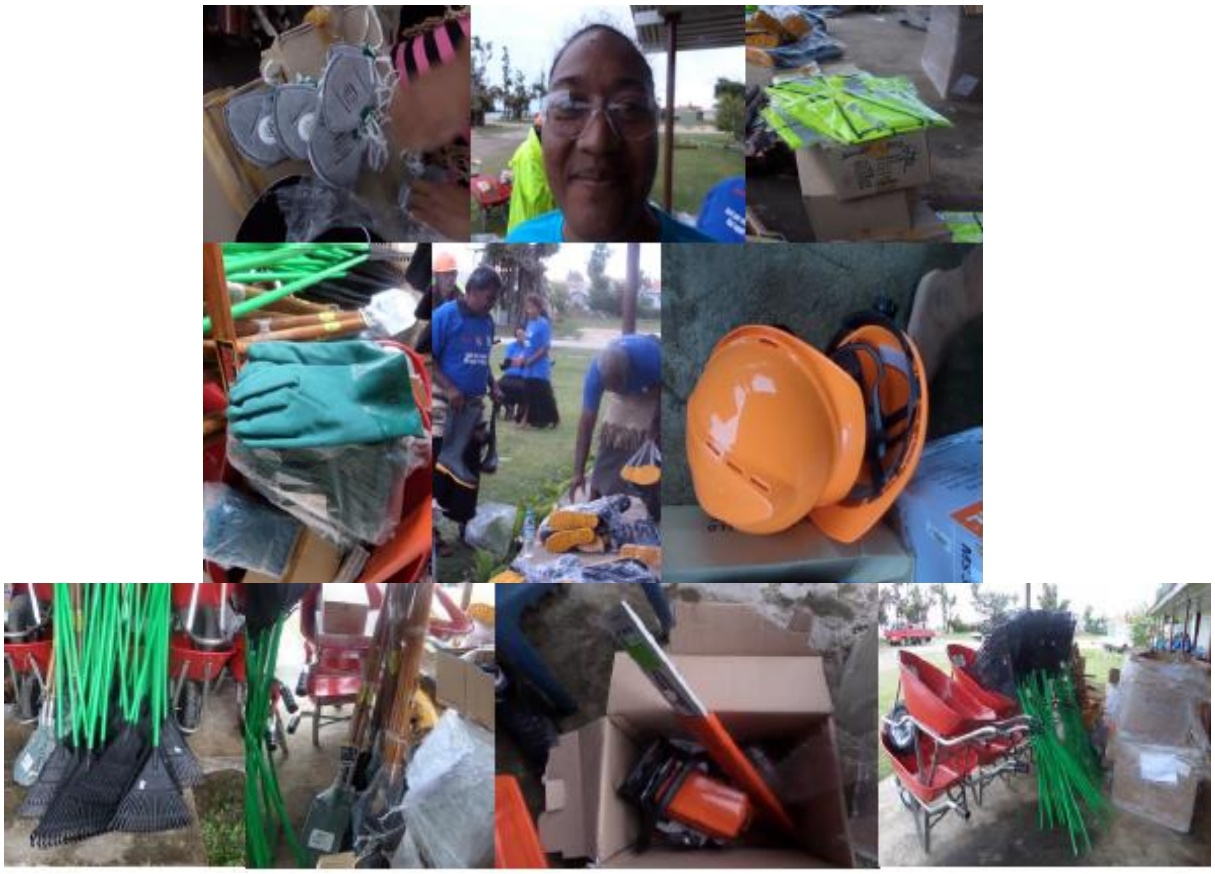
In total, 45 people (37 male and 8 female) -including NEMO Director, Governor's Office staff, MAFF representative, the 3 UNDP Island coordinators, District Officers (3), Town Officers (15) and women groups- attended this training.

This training helped to improve the participant's understanding about the Cash-for-work programme. Similarly, the sharing of the Debris Management guidelines attracted the attention of participants and convinced them about the need of plan before any disaster occurs.

PROCUREMENT OF EQUIPMENT AND TOOLS

The handling and processing of the debris could lead to significant health and safety incidents which had to be mitigated primarily through safe systems of work and secondly through personal protective equipment - PPE. Similarly, specific tools were requested for debris management removal. A detailed list of the required equipment and tools was developed and their procurement done in Fiji and Tonga, as some of the items were not available at the local market. Per the agreement between UNDP and Government of Tonga, all the goods were subject to tariff exemption.

Consequently, UNDP provided workers with adequate protective work gear and tools for the removal of debris. Safety glasses and masks were provided to counter airborne hazards and disease, high protection gloves, overalls and hard boots to prevent spikes entering the sole and minimize the risk of harm from heavy materials dropping onto feet; those in charge of the chainsaws were requested to wear high protective overalls.



WORK PLANS

Work plans were set for each of the 3 islands in order to or plan and organize the debris removal activities, in which were specified the areas to be cleaned at daily basis, the number of workers needed and their team distribution and the number of trucks required for the transport of debris.

LAUNCHING CEREMONY

Governor of Ha'apai office organized a launch for the Cash for Work Ha'apai project on Friday 20th June 2014 before distributing tools and personal protective equipment to commence debris removal activities on Saturday 21st June until Friday 27th June 2014. The launch and dedication ceremony was attended by the Chief Police Magistrate, Mr. Folau Lokotui, guest of honour on behalf of Lord Tu'iha'angana, Governor of Ha'apai. The launch was also attended by the Rev. Feke Mafi, Church of Tonga Minister; Kepu 'Ioane Principal Assistant Secretary; District and Town officers; some of the Cash for work participants and UNDP team, Country Development Manager, Debris Management Adviser and Project manager for Livelihood recovery project.

Following the opening ceremony, all the equipment and tools were distributed into the 3 islands, according to the following distribution list:

	Lifuka	Foa	Uiha	Total
Knife cane	50	50	50	**150**
Working Boots N#8	18	18	14	**50**
Working Boots N#10	18	18	14	**50**
Working Boots N#12	18	18	14	**50**
Working Gloves (M)	35	35	30	**100**
Working Gloves (L)	70	70	60	**200**
Working Gloves (XL)	105	105	90	**300**
Safety Glasses	70	70	60	**200**
Safety Masks	70	70	60	**200**
Helmets	3	3	4	**10**
High Protection Overall (L)	1	1	1	**3**
High Protection Overall (XL)	1	1	2	**4**
High Protection Overall (XXL)	1	1	1	**3**
Reflector Vests (L)	5	5	5	**15**
Reflector Vests (XL)	5	5	5	**15**
Sun caps (M)	35	35	30	**100**
Sun caps (L)	90	90	70	**250**
Sun caps (XL)	90	90	70	**250**
Wheelbarrows	20	20	30	**70**
Shovels	35	35	30	**100**
Rakes	35	35	30	**100**
Chainsaws 18"45cc	2	2	1	**5**
Chainsaws 22"52cc	1	1	3	**5**
T-shirst	335	335	330	**1000**

DEBRIS REMOVAL AND TRANSPORT

After an initial preparatory period focused on securing equipment and establishing recruitment and payment systems, UNDP implemented its debris clearance activities from 21 to 27 June, with the cleaning of communitarian areas such as schools, churches, hospital, governmental facilities, arterial roads, as well as private houses and lands, based on a Cash for Work modality to promote the massive hiring of the population, rapidly inject vital economic resources to restore the livelihoods of beneficiaries and promote psychosocial recovery by converting the population into active participants rather than passive recipients.

Beneficiaries, grouped into 45 teams, worked for 5[1] consecutive days, at a medium rate so as not to alter the supply and demand cycle of the local labor market and to discourage hiring in the private sector.

UNDP implemented that program in collaboration with local government structures, Church representatives and Women representatives to promote ownership by local institutions and guarantee their response to the needs and priorities of their communities.

For its implementation, mixed local teams with an average of 10-15 members, including a team leader, were hired to manually clear houses and lands. These teams received training on safety measures and health at work, and had access to the necessary equipment and tools. Ha'apai Governement and UNDP Ha'apai team guaranteed a continuous technical monitoring. Cash modality was finally implemented for the payment of workers.

Debris clearance involved working with hazardous debris and contact with hazardous materials. In order to ensure that all workers were properly equipped to undertake their job in a safe and efficient manner, UNDP safeguarded the following aspects:

1. Local health and safety codes were being followed (team leaders had the responsibility over their teams)
2. Workers had appropriate safety equipment and training in the tools they were using. Chainsaws were only distributed to persons having previous experience on their use and protection overalls were distributed to avoid risks.
3. First aid services were available on-site or in the immediate proximity thanks to the presence of Red Cross first aid volunteers and Health Ministry personnel from Ha'apai Hospital. Ambulances and health personnel with first aid kits were stand-by to immediate operate, if needed.
4. Hazardous structures (unstable structures and structures containing asbestos) were avoided and not considered for the CFW program.
5. Participants were trained in identifying the different solid waste types, to ensure all wastes were managed and classified properly.

1 Due to the assistance of many habitants from Foa to the funeral of Prince Viliami Tupoulahi Mailefihi Tuipelehake, member of the Tongan Royal Family that took place the weekend of 21-22 June, activities in Foa island were decided to be implemented in 4 working days, from Tuesday to Friday (5 hours/day).

The debris was sorted in origin in order not to mix hazardous with no hazardous debris and facilitate its controlled disposal at the dumpsites. The calculation of the total volume of debris removed per team was based on the capacity of the trucks used for the transport of the debris, as no official estimations were available on the basis of engineering assessments. Participants were also trained in identifying the different solid waste types, to ensure all wastes were managed and classified properly.

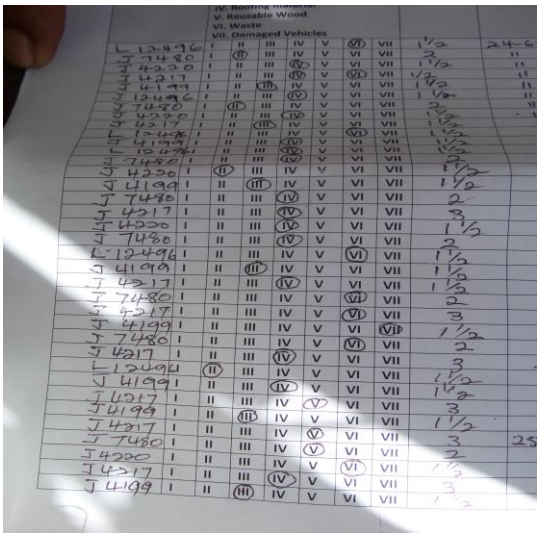
RECORDKEEPING

A tracking system was implemented to ensure regular follow-up of the activities, particularly the volume of debris cleared, number of trucks and number of participants at daily basis. Data was recorded in an Excel spread sheet to provide daily updates.

At the end of the working hours, all participants were required to sign the participants' list in order to ensure a proper follow up of their attendance and ulterior payment.

	Name	Sexe	Age	ID number	Location	Island	Day 1	Day 2	Day 3	Day 4	Day 5	Total Payment (30 TOP/day)	Signature
414	Tonga Seini	F	39		Holopeka	Lifuka							
415	Tapu Talihau	M	24		Holopeka	Lifuka							
416	Manu Pelenaise	F	18		Holopeka	Lifuka							
417	Manu Fane	F	43	101011971068496	Holopeka	Lifuka							
418	Kampeka Fakavae	M	31	10018749	Holopeka	Lifuka							
419	Fulivai Sione	M	67		Holopeka	Lifuka							
420	Tankitoku Fulivai	F	55	107111958019848	Holopeka	Lifuka							
422	Peleketi Po'ulia	F	35	1090919068422	Holopeka	Lifuka							
423	Tapu Naeata	M	24		Holopeka	Lifuka							
424	Fono Uimikeali	F	38		Holopeka	Lifuka							

Likewise, the use of a tracking system to monitor the transport of debris proved to be essential for ensuring effective transportation to the final disposal places and to get realistic figures regarding the volume and types of debris removed.



DEBRIS MANAGEMENT OUTPUTS

The UNDP debris removal cash for Work component was finally implemented in 14 cyclone affected communities in the islands of Uiha, Lifuka and Foa between April and June 2014, with an average of 625 participants and a direct disbursement of 93.750 TOP.

Based on some preliminary discussions held with participants, the money would be mainly spent on repairing some minor damages in the houses, and promoting domestic livelihood recovery through agricultural and handicraft activities (ej: growing of pandanus palms to produce fine woven mats). The payment to the participants was in cash. To this end, the island coordinator was accompanied by a Governor's Office representative and a police member in order to ensure the security of the payment process. No security issued were reported.

Total Number of Participants: 626

Participants	Number	Percentage
Male	316	50.5%
Female	310	49.5%
Widows	26	4.1%
Youth Rate (15-35 years old)	285	45.5%
Elderly (+60 years old)	59	9.4%
Disable	15	2.4%

Island	Type of debris removed	Volume of debris removed (mT)	Number of workers employed	Number of trucks hired for transport to dumpsite
Foa		**299**	**222**	**7**
	I. Vegetative Debris	4		
	II. Construction and demolition debris	18		
	III. E-Goods and White goods	44		
	IV. Roofing material	100		
	V. Reusable Wood	46		
	VI. Waste	76		
Lifuka		**797**	**218**	**6**
	I. Vegetative Debris	-		
	II. Construction and demolition debris	14		
	III. E-Goods and White goods	31		
	IV. Roofing material	162		
	V. Reusable Wood	13		
	VI. Waste	52		
Uiha		**128**	**186**	**4**
	I. Vegetative Debris	20		
	II. Construction and demolition debris	19		
	III. E-Goods and White goods	12		
	IV. Roofing material	31		
	V. Reusable Wood	28		
	VI. Waste	18		

Total number of damages vehicles removed: 23

Consequently, roofing material (293 mT) and general waste (146 mT) made up most of the volume of disaster debris in Ha'apai. Vegetative debris was mainly burned out at the collection sites.

DEBRIS REUSE & RECYCLING - LINKAGE WITH LIVELIHOODS COMPONENT

As part of the debris management programme, a reuse and recycling component was considered in order to recover potential material and reduce the volume of material on dumpsites. Similarly, debris management activities were considered a prerequisite for the accessibility of lands for agricultural and livestock activities within the livelihood component of the UNDP recovery programme.

The debris management plan aimed to operate debris in a cost-effective manner by separating materials at the point of generation. It also considered methods to maintain separation through the collection, transportation, and disposal stages. Therefore, participants were required to classify materials according to the following categories:

I. Vegetative Debris
II. Construction and demolition debris
III. Electronic-Goods (E-goods) and White goods
IV. **Roofing material**
V. **Reusable Wood**
VI. Waste
VII. **Damaged Vehicles / old tires**

Due to the restricted management options available in Ha'apai for the processing and recycling of materials such as concrete and aggregate constituents, metal, electronic and white goods components, among others, the following alternatives were considered feasible within the livelihoods component:

Option 1: Reuse of roofing material

Roofing material can be used for fencing, especially in regard to pigs and other usual farmhouse animals in Ha'apai. Recycled lumber and salvaged metal are very useful materials for creating sustainable fences:

Option 2: Reuse of old tires

Tires become totally unusable once they are torn and damaged. They then end up in taking up the space in the disposal areas, affecting the environment and public health as if they are burn they release toxic chemicals into the atmosphere which directly affect the health of the people. They also become the home ground for mosquitoes and rodents which are responsible for carrying many diseases. One major risk associated with disposal of tires is pollution of underground water. In Ha'apai, there were already many old tires left at the dumpsites.

Some interesting options for their reuse in Ha'a´pai:

a) Outdoor kids play areas in schools or public spaces

b) Plant pots for public spaces decoration

c) Furniture such as tables, chairs…

d) Protection of piers/seawalls

e) Seedbeds

Option 3: Reuse of wooden planks

Wooden debris can be reused for fencing and production of furniture.

Option 4: Recycling of spare parts from damaged vehicles

In order to promote the reuse and recycling of spare parts from damaged vehicles, a private interested person with long experience in recycling of used car parts was contacted in FOA to take care of the recycling of damaged vehicles.

To this end, the Government of Ha'apai requested the support from the Ministry of Infrastructure for the transport all the abandoned vehicles to this person's property. In total 23 vehicles were transported to the private dealer.

LESSONS LEARNED AND BEST PRACTICES

The debris management implementation allowed the identification of specific information about behaviors, attitudes, approaches, forms, resources or procedures that worked to the benefit or detriment of the component. This is a compilation of those topics that were essentially identified in different stages with some Ha'apai team members:

Success factors

- The debris removal CFW component was conceptualized as a short term intervention to provide temporary employment before complementary livelihood opportunities are available. In this respect, CFW was in high demand from local communities who were eager to begin clean up after the cyclone and by individuals who were in need of income, since the majority of productive assets and livelihoods were lost. By mobilizing labor via CFW, decision making remained with participants and households were empowered to make their own choices and spend money accordingly.
  A post project assessment would be highly recommended after a period of 3 months to follow up with the use of the money by the participants and the impact of the CFW programme in the local economy and the recovery process.

- The active involvement of the target communities in the planning and decision making processes using their traditional structures (in the case of Ha'apai, district and town officers, church representatives, women groups) ensured a high level of interest and commitment from the part of the community members and proved to be an effective mitigation measure for potential conflict management. It is important to stress that regular and transparent dialogue with local communities proved as instrumental to the project success.
  Programme activities must be discussed openly with the community while they should be allowed to play an active role in the decision making process. Projects and solutions should come from the community in order to ensure their tenure and sustainability.

- Despite wage level for CFW was carefully decided in relation to the prevailing labor market, it was similarly fixed in order to be stimulating for participants.
  Efforts should be made to coordinate these decisions with participants and local authorities.

- The recruitment of islands coordinators following non stereotyped criteria (CV experience) has been proved to be an important factor for the success of the local management; in this respect, criteria such us social status, social recognition or age, were proven more efficient that the characteristic's CV criteria.
  It is fundamental to respect the contextual conducts and choose the most representative and recognized authorities and community leaders and structures during the conceptualization and implementation of a debris management programme.

- Making daily CFW payments were considered a time-consuming activity.
  Weekly regular payments were more workable from a management perspective as the immediate crisis was over and there was a no longer daily need for cash. Police involvement was considered in order to ensure the security in the payment process (cash).

☺ Despite the limited schedule considered for the component of debris removal (1 week), the high rate of participation and the commitment of the population made possible to remove the practical totality of the remaining debris.
Due to the extremely high motivation, external people joined for free the CFW teams in order to collaborate in the removal activities.

Challenges

☹ Logistics and procurement processes were proved as key issues for the efficient implementation of the debris removal component. The lack of timely delivery of equipment and tools as well as delays in the bank account opening were limiting factors for speedy implementation of the CFW activities in the field.
Adequate attention should be paid well in advance on issues like setting up of administrative requirements, procure and delivery of supplies and equipments and so on in order to ensure timely implementation of CFW programme as planned.

☹ The lack of a project coordinator and availability of UNDP local staff to support the activities had proved as a major bottleneck; similarly, the lack of clear roles among the UNDP team created confusion and misunderstanding on multiple occasions.
A clear managerial structure and definition of roles and responsibilities should be designed and practiced for the effective implementation of programs and projects.

☹ In the absence of specific legal rules for debris management, it was necessary to set some guiding principles from the onset of the intervention with the participation of the population and local authorities, mainly in regard to the removal of debris from private areas and debris final disposal options due to the lack of waste procedures and sanitary landfills in Ha'apai.
A conductive political and legal environment is key to ensure the smooth and proper development of a debris management programme.

☹ The lack of governmental ID and photo identification from the participants was a crucial challenge to ensure the suitable identification and registration of participants.
The use of local structures (town officers) made possible to safeguard quality standards and the accurate identification of participants.

☹ Safety and security of workers was a key concern; partnerships with organizations such as the Red Cross were a good asset to ensure the immediate attention to injured, if required.
The implementation of safety measures must be accompanied of strict monitoring measures to ensure that workers wear the personal safety equipment.

☹ In Ha'apai, there was a limited demand for recycled debris (mainly in regard to damaged vehicles spare parts) and the quality of the potential reusable debris was not optimum as the most part of the reusable/recyclable debris were directly kept by the owners; however, feasible options were identified in order to promote basic reuse within livelihood's component.
In a debris management project, the quality and quantity of debris is an extremely important asset for determining their reuse and recycling options. This has to be considered from the onset and technical assessments (using laboratory test data) have to be implemented in order to certify the feasibility of these alternatives. Similarly, a market assessment in order

to identify marketing options for the economic utilization of recyclable debris should be considered. Usually, NGOs and private sector are strategic actors to this end.

Best Practices

The CFW has been proved to be a very effective way to enhance **ownership** and reinforce **social cohesion** within Ha'apai communities, on the basis of a participatory and inclusive approach that included social mobilization and engaging communities through all the phases of debris management component.

Engaging women in decision making and ensuring their equal participation in the structures of the project at all levels was a direct tactic for **women empowerment**. The consultative processes held stimulated the involvement of women in all aspects of debris removal (planning, execution, monitoring, reporting), many of them being designated as team leaders. Similarly, the managerial team count with two islands coordinators out of three. In order to reduce barriers for female participation, works schedules were flexible and feasible (4 hours/day) in order to facilitate them to take part and not avoid their daily responsibilities.

Visibility items such as t-shirts or hand caps must be always offered to the participants as they are not only an incentive but also because they made the workers feel and act as a team, with common goals. Specific visibility items should be also considered for the team leaders in order to ensure their distinction over the other members of the team. This was proven to be an effective and simple way to sponsor their leadership.

Similarly, as collateral result, the debris removal activities showed the urgent need to implement a waste management strategy in Ha'apai, given the absence of a municipal solid waste management program. Participants constantly expressed their concern about waste and they were very committed and sensitize to face waste problems. Consequently, common waste become –unexpectedly- one of the most important components of the debris programme and reflected the necessity of connecting debris removal with waste management programmes.

ANNEX: DEBRIS MANAGEMENT ORGANIZATIONAL CHART – HA'APAI