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# STRENGTHENING THE AGRICULTURAL LIVELIHOODS RECOVERY OF EARTHQUAKE IMPACTED HOUSEHOLDS

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### Implementing Partners

National Department of Agriculture and Livestock (NDAL); Emergency Controller's Office, Village Extension Workers (VEW); Hela Provincial Government; Southern Highlands Provincial Government; Western Provincial Government; National Agricultural Research Institute (NARI); Fresh Produce Development Agency (FPDA); Papua New Guinea Women in Agricultural Development Foundation (PNGWiADF); United Church Hela Region (UCHR).

### Beneficiaries

Households whose gardens have been destroyed and covered by the landslide during the earthquake in the affected districts of Koroba-Kopiago, Nipa-Kutubu, Mendi-Munihu, and Margarima in the Hela and Southern Highlands Provinces; NDAL, National Disaster Centre, Emergency Controller's Office, FPDA, NARI, Provincial Governments and District Authorities in Southern Highlands and Hela Provinces.

### Country Programming Framework (CPF) Outputs

CPF Priority Area 2: Strengthening resilience for food security and nutrition; Output 2.1.2: Enhanced coordination among stakeholders and partners and improved dissemination of food security information with improved preparedness and response to disasters where an active and effective coordination mechanism/partnership is in place and comprises development and humanitarian partners; and Output 2.3: Greater gender equality and women's empowerment in agriculture to enhance child nutrition and family food security.

## BACKGROUND

In February 2018, a 7.5 magnitude earthquake struck the Highlands of Papua New Guinea, and was followed by aftershocks. This caused loss of lives, damage to homes, infrastructure, social services and food gardens, as well as extreme loss of agricultural livelihoods, especially in Southern Highlands, Hela, Enga and Western Provinces. The household food and nutrition security of an estimated 153 000 people were impacted, in areas that were already affected by a number of recurring natural disasters, including drought and frost. Although short-term humanitarian assistance was provided following the earthquake, communities continued to face hunger and lower food supply than before it had struck. Most of the communities confirmed that the productivity of food gardens, the main food source, remained below pre-earthquake levels, and many had to switch to alternative staple foods. Communities who were facing limited food supply and hunger also reported a shortage of planting materials. In addition to this, both target provinces experienced the prevalence of violence and intertribal conflicts, often disrupting the recovery efforts of families. Finally, the lack of quality seeds immensely increased households' vulnerability to disaster risks, and compromised their ability to overcome food insecurity situations.

Given that the majority of those affected by the earthquake were subsistence farmers, recovery efforts aimed at reducing future risks and strengthening resilience were essential for the restoration of the livelihoods of these vulnerable communities, as they transitioned from disaster response to recovery and rehabilitation. Against this background, the overall objective of the project was to restore food production, improve nutritional status, and strengthen the resilience of earthquake affected farmer families, whose gardens had been destroyed and covered by the landslide, as well as those who had abandoned their gardens following the earthquake, but needed to return. The project also aimed to strengthen the capacity of the Government and stakeholders to effectively prepare for and respond to future disasters. The target areas assisted by the project were Nipa-Kutubu, Mendi-Munihu, Koroba-Kopiago and Margarima districts in Southern Highlands and Hela provinces.

## IMPACT

It is expected that the project will contribute to enhancing food security and nutritional status, and to restoring the livelihoods of earthquake affected households. Specifically, the seeds and planting materials that were distributed, planted and multiplied supported the increased production of food crops in the gardens of the earthquake affected families. In addition, at the community level, the project significantly enhanced the capacities of farming families, especially women and youth, in nutritional gardening.

The partnership arrangements between FAO and United Church Hela Region (UCHR), as well as with the Papua New Guinea Women in Agricultural Development Foundation (PNGWiADF), were well adapted to the administration structures of the two target provinces, and demonstrated how increased sustainable agricultural livelihoods activity contributed to promoting peace and harmony in highly volatile provinces.

## ACHIEVEMENT OF RESULTS

The project restored and enhanced the food productivity of 11 200 earthquake affected households in the target rural communities, comprising approximately 58 000 beneficiaries. This was achieved by rehabilitating family food gardens, through the effective distribution, planting and multiplication of seeds and planting materials.

An agricultural recovery plan 2018-2019 was developed, which was used to guide the implementation of the project, as well as helping the Food Security Cluster to provide better coordination and guidance to entities that were implementing similar livelihoods and agriculture activities in Southern Highlands and Hela provinces.

Fifteen community-based multiplication and distribution sites were established in the two target provinces, strengthening the ability of communities to better prepare for and respond to future disasters. At these sites, over 20 000 sweet potato cuttings of clean varieties and over 400 kg of corn, mung bean, soy bean and local beans seeds were distributed to affected farming families, and planted, propagated and multiplied, using skills and knowledge acquired through the agriculture-resilient training sessions provided. The seeds and planting materials were early-maturing and drought-tolerant, providing good yields; and both commercial and pathogen-tested varieties were supplied to the communities. Fewer disease attacks were identified in the resulting crops, and many local sweet potato varieties flourished. The multiplication site established at Hoiebia in Hela Province was recognized by the provincial administration, and was visited by a high-level delegation to display the good work carried out at that site.

The project substantially contributed to the development of technical capacity and expertise on agriculture production and adaptation measures. Training on new adaptive resilient techniques for garden rehabilitation and resilience was provided to farmers, including women, government officers, faith-based groups and youth groups, and field officers, thereby supporting the earthquake affected farming families to rehabilitate their food gardens and increase crop production. These comprised training-of-trainers (ToT) sessions, and covered the following topics: farm management, pest control, managing a seed multiplication resource centre, and soil management. The training sessions were both theoretical and field-based, and were conducted at the 15 multiplication sites. They were adapted and contextualized, taking into account the altitude and climatic environment of the two provinces. As a result of the training, field teams were able to develop monitoring tools, and provide ongoing field extension and supervision, as well as data on the multiplication sites and beneficiaries reached.

## IMPLEMENTATION OF WORK PLAN

The agriculture recovery plan 2018-2019 was completed at the end of 2018. The plan identified gaps for field implementation, and areas where there were no partners undertaking agricultural recovery activities. These comprised the Nipa-Kutubu, Ialibu-Pangia, Komo-Margarima and Tari-Pori districts. In these districts, the field activities that were implemented included farmer training activities, field-monitoring visits, farmer-exchange visits, the multiplication of clean seeds and planting materials, and their distribution from the multiplication sites to the beneficiaries. These were delivered within the time frame of the project, which was from November 2018 to December 2019, and field activities concluded in December 2019.



The work plan was the key instrument that the partners developed to drive locally the implementation of the project to enhance the food production of earthquake affected families, through the distribution and planting of seeds and planting material multiplication. Inputs from national technical experts who understood the agronomy of sweet potato, corn and bean and their characteristics contributed positively to the workflow at the field level.

Most of the security risks encountered during the project were anticipated in the risk management matrix in the Project Document; thus, the mitigation plans in place were followed and impact was from none to less during the project. With regard to the law and order issues, precautionary measures were taken in consultation with the local government, stakeholders and faith-based groups, in consultation with the United Nations Department of Safety and Security (UNDSS). Concerning the risks related to the local level government presidential elections, field teams ensured that there was greater consultation with the district and provincial administrations, to avoid delays and the disruption of field activities. Through the local connections, relationships and network established by the field team, security and social impediments were effectively handled, adapting to alternate and viable solutions.

### FOLLOW-UP FOR GOVERNMENT ATTENTION

It is recommended that the Government continue advocacy for the replication of the model initiated by the project at the national level, and that it actively seek funds to assist follow-up to the project, as well as to scale up and extend the programme to other disaster-affected communities in Southern Highlands and Hela provinces. In addition, training should be provided to all farmers involved in the seeds multiplication and distribution programme, as a prerequisite to the successful delivery of a future programme of this type.

It is strongly advised that the monitoring of the distribution of planting materials from the multiplication sites to households be continued; and that the beneficiary communities be revisited and mobilized. Pre-planting activities should also be conducted, to ensure that all project sites are prepared for the delivery of seeds. Finally, it is recommended that the UCHR group work closely with the provinces for increased coverage of the interventions that were implemented during the project.

## SUSTAINABILITY

### 1. Capacity development

The relevant policy that supports the sustainability of this project is the National Food Security Policy. The project was embedded in the organizational structure of the United Church Hela Region (UCHR), and will therefore continue beyond project closure. In addition, FAO is undergoing the planning stages of the Papua New Guinea United Nations (UN) Highlands Joint Programme, in both Southern Highlands and Hela provinces. This project is therefore likely to continue and produce further results through this Programme.

The project strengthened relationships and partnerships at different levels of the Government. At the national level, a new partnership was enhanced with the faith-based groups of UCHR and Catholic alliances, as well with women's groups associated with the Papua New Guinea Women in Agricultural Development Foundation (PNGWiADF). The NDAL was able to prove that the partnerships discussed at the national level were practical, and produce results by bringing together different groups coordinating and working together. The partnership successfully delivered gender-sensitive and participatory results. It also included further actions that would enhance intersectoral collaboration and coordination, which would be necessary for successful implementation in a new upcoming project, preliminarily titled "Propagation and the multiplication of drought food crops".

The project also identified clear follow-up actions. In Hela province, the UCHR successfully mobilized funds and continued the project after its closure, as part of the exit strategy. The exit strategy was basically implemented through the publication of the positive results on social media and print media, and gauged the interest of the public to fund the project. This enabled a third party to continue funding the project after it had ended.

## 2. Gender equality

The needs of both men and women beneficiaries were identified and met through the project. Field reports observed that it helped reduce time spent by women on laborious tasks, such as pounding sago, enabling them to undertake more sustainable agriculture activities in both the Pimaga and Margarima areas. The project also helped vulnerable groups, such as widows, realise their potential; and empowered and strengthened them to work together to meet the immediate needs of their individual households. The project strategically engaged the women’s group, the PNGWiADF, and the faith-based organization, the UCHR (implementing partners), which were already connected to local women and youth groups in the target provinces and sites. Women’s groups were provided with technical training sessions and agricultural inputs, as were men and young men, directly benefiting from the project.

## 3. Environmental sustainability

In the multiplication of the seeds and planting materials, the project did not use synthetic agricultural inputs. The project was designed to use locally pest-derived pesticides, and locally derived organic fertilizers, such as chicken manure and NPK from plant sources.

## 4. Human Rights-based Approach (HRBA) – in particular Right to Food and Decent Work

As mentioned above, both target provinces experienced the prevalence of violence and intertribal conflicts. Through the engagement of the UCHR and the PNGWiADF, enabling environments were created, helping with the successful implementation of field activities, despite the social impediments encountered.

## 5. Technological sustainability

The use of smartphones with WhatsApp was a useful tool. Field teams provided real-time field updates through reports, data and videos. Information was easily shared and coordinated effectively; and social media and print media were used to boost the visibility of the project. The results were positive, as the project gained recognition from stakeholders.

In addition, through the local implementing partners, the partners used local knowledge, built the local capacity of farmers and government officials, and encouraged good practices in the promotion of project activities.

The project was locally designed and took into consideration the continuity of the project beyond its closure; thus, stakeholders and beneficiaries know where to source more clean seeds and planting materials, as well as technical training activities.

## 6. Economic sustainability

Through the Food Security Cluster, the results and best practices from this project were used to mobilize additional funding. The NDAL used this project to mobilize Australia’s Department of Foreign Affairs and Trade (DFAT) funds for the proposed project titled “Propagation and the multiplication of drought food crops”. In addition, the relationship created with stakeholders in Hela Province will be used in the country’s UN Highlands Joint Programme.

The clean seeds that were brought in were multiplied at the doorstep of the communities, so that the affected and targeted households could access these seeds.

The beneficiary organization, the UCHR, used the success stories of the project to mobilize extra funds. They successfully mobilized PGK 50 000, and expanded the project to four new sites in Hela Province.



## DOCUMENTS AND OUTREACH PRODUCTS

- ❑ Final Technical Report. PNGWiADF. 29 November 2019. 16 pp.
- ❑ Final Technical Report. UCHR. 11 December 2019. 19 pp.
- ❑ Final Technical Report. H. Sikas-Iha (National Technical Adviser). 12 December 2019. 9 pp.



## ACHIEVEMENT OF RESULTS - LOGICAL FRAMEWORK

<b>Expected Impact</b>	<b>Improved food and nutritional status of earthquake affected households and their resilience to future disasters</b>		
<b>Outcome</b>	Agriculture production and livelihoods of the earthquake impacted farming families restored		
	<b>Indicator</b>	Increase in the number of households engaged in agricultural recovery activities.	
	<b>Baseline</b>	0	
	<b>End Target</b>	12 000 households.	
	<b>Comments and follow-up action to be taken</b>	The project restored and enhanced food productivity, by rebuilding family food gardens through the effective multiplication and distribution of seeds, and planting of materials throughout rural communities severely impacted by the earthquake. Areas within the earthquake affected provinces reached through FAO assistance were Nipa-Kutubu, Ialibu-Pangia, Komo-Margarima and Tari-Pori districts in Southern Highlands and Hela Provinces.	
<b>Output 1</b>	Enhanced food production of earthquake affected farming families through the rehabilitation of gardens		
<b>Output 1</b>	<b>Indicators</b>	<b>Target</b>	<b>Achieved</b>
	Number of households restore their agriculture production and livelihoods	12 000	Yes
<b>Baseline</b>	0		
<b>Comments</b>	<ul style="list-style-type: none"> <li>- Partnership strengthened with the PNGWiADF and UCHR.</li> <li>- 15 multiplication and distribution sites established in Hela and Southern Highlands provinces.</li> <li>- 11 200 households supported, comprising approximately 58 000 beneficiaries.</li> </ul> <p>It is recommended that the monitoring of the distribution of planting materials from the multiplication sites to households be continued; and that the Government actively seek donor funding to scale up and extend the programme to other disaster-affected communities in Southern Highlands and Hela provinces.</p>		
<b>Activity 1.1</b>	<b>Agricultural recovery plan</b>		
	<b>Achieved</b>	Yes	
<b>Activity 1.1</b>	<b>Comments</b>	The agricultural recovery plan was developed. It was used to guide the implementation of this project, as well as helping the Food Security Cluster (FAO is the lead agency in the country) to provide better coordination and guidance to entities implementing similar livelihoods and agriculture activities in Southern Highlands and Hela provinces.	
	<b>Activity 1.2</b>	<b>Provision of agricultural inputs</b>	
<b>Activity 1.2</b>	<b>Achieved</b>	Yes	
	<b>Comments</b>	<ul style="list-style-type: none"> <li>- 15 community-based multiplication sites were established, supplying seeds and planting materials to beneficiary communities.</li> <li>- 20 000 sweet potato cuttings were distributed, including varieties with the following traits: early maturing, drought-tolerant and commercial.</li> <li>- 400 kg seeds of open-pollinated corn, mung bean, soy bean and local beans were supplied.</li> <li>- Gardening tools were distributed.</li> </ul>	
<b>Activity 1.3</b>	<b>Training on agricultural livelihoods resilience</b>		
	<b>Achieved</b>	Yes	
<b>Activity 1.3</b>	<b>Comments</b>	Training-of-trainers (ToT) sessions were provided for 95 farmers (62 female, 33 male), covering the following topics: farm management, pest control, managing a seed multiplication resource centre, and soil management. The training sessions were both theoretical and field-based, and were conducted at the 15 multiplication sites. Consecutive monitoring visits were also conducted at these sites.	
	<b>Activity 1.4</b>	<b>Rehabilitation of gardens affected by the earthquake with emphasis on participation of women</b>	
<b>Activity 1.4</b>	<b>Achieved</b>	Yes	
	<b>Comments</b>	A total of around 58 000 beneficiaries received clean seeds and planting materials from the 15 multiplication sites. They were also provided with training on new adaptive resilient techniques for garden rehabilitation, together with quality seeds.	

<b>Output 2</b>	Capacities of the agriculture sector strengthened for vulnerability and risk analysis, disaster preparedness and damage, loss and needs assessment		
	Indicators	Target	Achieved
	Number of households restore their agriculture production and livelihoods.	12 000	Yes
<b>Baseline</b>	0		
<b>Comments</b>			
<b>Activity 2.1</b>	Training on Vulnerability and Risk Analysis		
	Achieved	Yes	
	Comments	The training workshops conducted for the 95 people strengthened the capacities of agriculture officers, lead farmers and community leaders to analyse the ability of household members to respond to disasters. The ToT group supported the household members to increase food production through the establishment of the multiplication sites. It also ensured that the distribution of seeds and planting materials from each of the multiplication sites reached the vulnerable households within the area.	
<b>Activity 2.2</b>	Preparedness Plan		
	Achieved	Yes	
	Comments	The establishment of the 15 multiplication sites strengthened the ability of communities to better prepare for and respond to future disasters. They have demonstrated that they have the bulk of the seeds and clean planting materials needed to increase food crop production, to enhance the capacity of communities to respond better to future disasters.	
<b>Activity 2.3</b>	Damage, loss and need assessments		
	Achieved	Yes	
	Comments	Monitoring visits were conducted by field teams to the multiplication sites in both Hela and Southern Highlands provinces. These visits were based on needs identified from the ToT sessions, and ensured that these needs were met. For example, the community at Pimaga Village in Nipa-Kutubu District went through an additional practical training session related to pests and management.	
<b>Activity 2.4</b>	Strengthen coordination and information management		
	Achieved	Yes	
	Comments	Activities were continuously monitored and data were collected on the details of the training, the type and number of seeds distributed per site, and where the multiplication sites were established. Field Officers maintained communication with all stakeholders at the provincial level, and provided progressive updates to the provincial governments in Hela and Southern Highlands respectively, as well as the FAO Country Office. As a result, the multiplication site at Hoiebia in Hela Province was recognized by the provincial administration, and was visited by a high-level delegation comprising the United Nations (UN) Resident Coordinator, the UN Deputy Director General, the Prime Minister and the Governor of Hela Province, to display the good work done at that site.	

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