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FAO Southwest Pacific Ministers for Agriculture**

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*Theme: Climate Smart Agriculture*

**Emergency Preparedness and  
Disaster Risk Reduction in the Pacific**



**Food and Agriculture Organization  
of the United Nations**

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## Introduction

1. FAO is currently conducting a study<sup>1</sup> focusing on the impact of natural hazards and disasters on agriculture<sup>2</sup> and food security and nutrition in developing countries which are recurrently exposed to hazards, over the period 2003-2013. The core preliminary findings of the study are:

1. The agriculture sector absorbs approximately 22 percent of the economic impact caused by medium and large scale natural hazards and disasters in developing countries;
2. The high impact of natural hazards and disasters on agriculture calls for enhanced mainstreaming of disaster risk reduction (DRR) and resilience building within the agricultural sectors;
3. There are major data gaps on the impact of natural hazards and disasters on the agriculture sectors in developing countries. This sector-specific data must be systematically collected and included in national and international disaster loss databases to better inform appropriate risk reduction policies and investments for and within the sector;
4. Humanitarian aid and official development assistance to the agriculture sector is small when compared with the economic impact and needs in the sector. More investment is needed in DRR to build resilient livelihoods and food production systems;
5. The agriculture sectors need to be mobilized as proactive implementation partners for the delivery of the post-2015 framework on DRR so as to enhance local action and build resilience of the most vulnerable, which are often also the most food insecure.

2. Natural hazards have an enormous economic impact on Small Island Developing States, particularly on infrastructure and the tourist industry. The agriculture sector often suffers 10 percent of the total damage and losses in natural disasters by value; the comparatively low values of agricultural products compared with infrastructure means that the level of damage within agriculture can be very high and yet not show as significant in terms of the economy as a whole. In the Pacific island countries, agriculture is under 14% of GDP and in small Caribbean states it is less than 4%. This economic reality is counterbalanced by the proportionally larger number of people whose livelihoods are affected by damage to agriculture.

3. The 2014 UN World Risk Report, which ranks countries by taking into account their vulnerability and exposure to natural hazards, ranks four of the Pacific island countries (PICs) in the top ten worldwide for 'most exposed', with Vanuatu at number one.

4. Climate change-related risks represent a significant challenge for PICs. According to the 5<sup>th</sup> Assessment Report of the Intergovernmental Panel on Climate Change, climate change will exacerbate disaster risk in the Pacific region through changes in weather and climate patterns such as:

1. Increased frequency and intensity of tropical cyclones;
2. Increased variability of rainfall patterns: *Increased rainfall* causes flooding and prolonged ponding of water, resulting in the outbreak of water borne and vector diseases. *Decreased rainfall*: drought linked to El Niño, affects livelihoods, food security and the economy.

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<sup>1</sup> Preliminary findings of the study can be found at <http://www.fao.org/3/a-i4434e.pdf>. The complete report will be issued around July/August 2015.

<sup>2</sup> In this study, the agriculture sector is understood to include crops, livestock, fisheries and forestry.

3. Increased temperature causing heat stress, reduced soil moisture and fertility, and coral bleaching;
  4. Sea level rise resulting in coastal erosion
5. This paper will provide an explanation of how FAO approaches the task of strengthening the resilience of food and agricultural systems and the livelihoods of households engaged in the sector. The work done by FAO in the Pacific since the Tenth Meeting of FAO Southwest Pacific Ministers of Agriculture is described and the actions taken before and after Tropical Cyclone Pam are recounted.

### Increasing the resilience of the agriculture sectors

6. FAO defines resilience as “The ability to prevent disasters and crises as well as to anticipate, absorb, accommodate or recover from them in a timely, efficient and sustainable manner. This includes protecting, restoring and improving food and agricultural systems under threats that impact food and nutrition security, agriculture, and food safety/public health.”

7. To increase the resilience of agriculture to threats and crises in the Pacific requires multi-actor partnerships, proper allocation of sector-specific responsibilities, adequate funding for DRR, and strengthened technical capacities to facilitate the planning and implementation of DRR processes – from national to local levels. This approach was further emphasized at the 3rd World Conference on Disaster Risk Reduction, held in Sendai, Japan this year (annex 1).

8. As noted in the introduction, PICs are particularly exposed to climate change related risks since the majority of their population, agricultural land and infrastructure are concentrated in the coastal zones. They are also unique since their dense and rapidly growing population and low-lying spatial locations make the region highly susceptible to only a small degree of change in climate conditions. In conjunction with storm surges and flooding, this creates a threat of temporary and eventually permanent displacement from low-lying coastal areas in PICs.

9. It is thus important to integrate climate change considerations within disaster risk reduction and management (DRR/M) tools and approaches. DRR/M provides the solution to manage the impacts of extreme climatic events while also reducing vulnerability to long-term gradual changes. In this sense, Disaster Risk Management (DRM) is the entry point to address climate change adaptation and represents the first line of adaptive action.

10. For FAO, risk-sensitive development in the agriculture-food-nutrition sector is an essential building block for enhancing resilience to disasters. The FAO “Resilient Livelihoods” framework programme on disaster risk reduction for food and nutrition security, is a fundamental component of the Organization’s Strategic Objective 5: Increase the Resilience of Livelihoods to Threats and Crises, and consists of four mutually supportive thematic pillars:

1. **Govern risks and crises:** FAO provides policy advice, analysis, and technical assistance to member countries to develop appropriate legislation, policies, strategies, standards and institutional frameworks for disaster risk reduction in agriculture and related sectors, and to strengthen capacity of institutions to implement these initiatives.
2. **Watch to safeguard:** Establishment and maintenance of regular early warning and threat-monitoring systems at national and regional levels to trigger timely actions against potential, known and emerging threats. This outcome also refers to the assessment and analysis of risk, resilience and vulnerability to inform decision-making and farm management practices.

3. **Apply risk and vulnerability reduction measures:** FAO provides technical assistance for the identification, testing, evaluation and replication of good practices, processes and technologies for risk prevention, mitigation and livelihood diversification across the fisheries/aquaculture, livestock, forestry and agriculture sectors. Addressing underlying risk factors supports the effective management of land, water systems, forests, wetlands, soils and other resources. “Climate-smart practices” can generate synergies with practices that address the underlying risk.
4. **Prepare for and respond to crises:** FAO strengthens capacities at all levels for preparedness to improve response to, and recovery from, future threats to food and nutrition security, and to reduce their potential negative impact on livelihood. It is an unfortunate reality that Pacific Island Countries (PICs) will be subjected to regular events that place agriculture at risk and threatens livelihoods, food security and nutrition. The extent of the damage and the time to recover from the event is partly determined by the level of preparedness of a country and how any response is managed.

11. In post disaster situations, the focus is on recovery and rehabilitation, including, as noted above, the concept of “building back better”. This implies carrying-out DRR activities also during response, recovery and rehabilitation interventions. The paradigm shift to understand DRR as a continuum reflects the reality that the transition between pre, during and post- disaster is fluid, in particularly in countries which are regularly exposed to hazards.

12. Building on lessons and experiences learned over decades of work in natural hazards and disasters and human-induced crises specifically for the agriculture, food and nutrition-related sectors, FAO has provided multi-disciplinary technical and operational expertise to member countries in the Pacific before and after disasters. The work undertaken by FAO since the Tenth Meeting of FAO Southwest Pacific Ministers of Agriculture is described below using the four outcomes set out above.

### Govern risks and crises

13. In Fiji, FAO has commenced working with the Ministry of Agriculture to provide guidance on the development of sector-specific policies for Disaster Risk Management (DRM) in agriculture as well as on the integration of DRM into existing policies and plans of the agriculture sector.

14. In Tonga, under an ongoing Technical Cooperation Programme (TCP) to strengthen disaster risk management capacities, FAO has conducted a training targeting policy makers and planners as well as field practitioners involved in DRM on “Enhancing DRM in the agriculture”. The workshop highlighted the key responsibility of the agriculture sectors in guiding the transfer from reactive emergency response to proactive disaster risk management and in promoting long-term disaster risk reduction strategies and measures, as part of an integrated approach to DRM.

### Watch to safeguard

15. FAO is working at the regional level with the New Zealand Institute of Water and Atmospherics (NIWA); the Secretariat of the Pacific Community (SPC); and the Secretariat of the Pacific Region to improve the linkage between climate services (national meteorological services as well as regional platforms) and line ministries for agriculture and food security. Within the scope of this partnership, in February 2015, the first ‘Expert Roundtable on Climate Services for Improved Food and Nutrition Security’ was held in Apia, Samoa, with participants from across the Pacific. The

work of the roundtable will continue through the development of a plan of action to ensure activities to support this work at both national and regional level continues.

16. Linked to the above, in Fiji, under a recently-approved project from Directorate-General for Humanitarian Aid and Civil Protection's disaster preparedness programme (DIPECHO), FAO will support the linkages between the met services and the Ministry of Agriculture to ensure that effective agro-meteorological bulletins are produced that can be understood and acted upon by farmers;

17. Also under the DIPECHO project, in Vanuatu, FAO will be working to strengthen communities' capacities to identify and mitigate risks affecting their food security; a component of this project will involve developing tools for community-based food security monitoring, early warning and early action.

### Reduce risk and vulnerability

18. An emergency TCP project was implemented in Fiji following Tropical Cyclone Evan, which had directly affected an estimated 54 000 full-time farmers reliant on agriculture for their livelihood. FAO assisted the recovery efforts of approximately 8 200 farmers by providing agricultural inputs (seeds, fertilizers and chemicals) to boost crop production, increase income and improve nutrition. Care was taken to ensure cropping cycles were outside of the cyclone season thereby reducing vulnerability to adverse weather effects and resulting in good harvests.

19. Following Tropical Cyclone Ian, FAO formulated an emergency TCP targeting affected fishing communities; the primary focus of this intervention was to ensure that rehabilitation efforts were founded in improved practices (boat repair and maintenance; net mending) and awareness of risks and mitigating measures.

20. Under the DIPECHO project, FAO will work with extension services and local partners to identify, document and promoted good practices – both innovative and traditional – that farmers can use to reduce their risk to the repeated cycle of hazards as well as the ongoing threat of climate change.

### Prepare for and respond to crises

21. FAO leads the Food Security Cluster of the Pacific Humanitarian Team<sup>3</sup>. The regional Food Security Cluster is a network of UN agencies, international and national NGOs, technical institutions and donors which serve as a forum to share information amongst stakeholders active in food security in the Pacific. The services provided by the Cluster are a common good for the stakeholders and enable them to better serve the needs of member countries before and after a disaster. The level of activity of the cluster is directly proportional to the needs of members. FAO employs an International Emergency Specialist who acts as the coordinator of the Cluster.

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<sup>3</sup> The Pacific Humanitarian Team (PHT) was established in 2008 to ensure that UN agencies, regional and bilateral organizations, national and international non-government organizations, faith-based and community based organizations and donors work together to deliver timely and appropriate humanitarian assistance to disaster-affected people across the Pacific. The PHT was formally endorsed by the Inter-Agency Standing Committee in February 2012, thereby linking the team with the global humanitarian system.

22. In the preparedness phase, FAO – under the banner of the Food Security Cluster – has provided support to Tonga, Vanuatu and Fiji’s national-level food security coordination fora (often referred to as ‘clusters’) with a particular focus on development and training of tailored agriculture post-disaster needs assessment processes (objectives, forms, procedures, analysis, reporting); and the development of institutional mechanisms and procedures for crisis preparedness and response. Support in this area can be expanded to contingency planning for known hazards, development of standard operating procedures (SOPs) for emergency preparedness, alert and response.

23. FAO has responded to post-crisis requests for support for Fiji and Samoa (Tropical Cyclone Evan); Tonga (Tropical Cyclone Ian); Solomon Islands (2014 Guadalcanal flooding); and, most recently, Vanuatu in the wake of Tropical Cyclone Pam. This support focuses both on assisting line ministries with coordination functions; needs assessment; response plan formulation; donor/resource mobilization; linkage to regional and global humanitarian and donor mechanisms. In developing FAO interventions, the support ensures that principles of disaster risk reduction are incorporated in response programming to rapidly transition to rehabilitation of the affected sectors.

### Response to Tropical Cyclone Pam

24. The devastating cyclone which hit Kiribati, Tuvalu, the Solomon Islands and Vanuatu in mid-March of this year has been variously described as the worst cyclone to strike the Pacific in recent years. At the time of writing, FAO was providing support in a range of ways, including the deployment of technical and operational personnel to support the national-level Food Security and Agriculture Cluster in Vanuatu; support to national authorities to conduct in-depth needs assessments of the agriculture sector; work to support immediate relief efforts (where appropriate) through funds mobilization (external and FAO own funds); and development of medium-to longer-term rehabilitation strategies.

## Annex 1: Implications from the Sendai Framework for Disaster Risk Reduction 2015-2030

Under the Hyogo Framework for Action (2005-2015), the international community has made considerable progress in understanding DRR and its vital contribution to sustainable development. However, concrete action for investing in resilience was lagging behind. The Sendai Framework for Disaster Risk Reduction 2015-2030 represents a crucial step forward. It makes a strong call for engagement by all sectors in the delivery of DRR. It stresses the need for focused action within and across sectors at local, national, regional and global levels in the four priority areas. It refers to agriculture, food security and nutrition in strengthening disaster risk governance to manage disaster risk. It further declares disaster risk reduction as an essential component to achieve sustainable development and calls for more coherence in development policies including agriculture, food security and nutrition. The priority area for investing in disaster risk reduction for resilience recognizes to protect “livelihoods and productive assets including livestock, working animals, tools and seeds”. Other key elements in the context of DRR in agriculture have been given a high recognition such as to enhance technology transfer, apply a multi-hazard approach and more people-centred preventive approach as well as integrating disaster risk reduction in post disaster rehabilitation interventions through a building back better approach.

The new framework<sup>4</sup> makes clear reference to SIDS. It states that disasters can disproportionately affect SIDS, due to their unique and particular vulnerabilities. The effects of disasters, some of which have increased in intensity and have been exacerbated by climate change, impede their progress towards sustainable development. Given the special case of small island developing states, there is a critical need to build resilience and to provide particular support through the implementation of the outcome of the SIDS Accelerated Modalities of Action (SAMOA) Pathway in the area of disaster risk reduction.

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<sup>4</sup> [http://www.wcdrr.org/uploads/Sendai\\_Framework\\_for\\_Disaster\\_Risk\\_Reduction\\_2015-2030.pdf](http://www.wcdrr.org/uploads/Sendai_Framework_for_Disaster_Risk_Reduction_2015-2030.pdf)