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Community

Five Year Strategic Plan for Mainstreaming Climate Change in The Livestock Sector in the Pacific 2012 – 2016

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Land Resources Division, Secretariat of the Pacific Community

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Abbreviations

AHP	Animal Health and Production (SPC)
FAO	Food and Agriculture Organization (United Nations)
GIS	geographic information systems
GIZ	German Agency for International Cooperation
LRD	Land Resources Division (SPC)
PDS	participatory disease surveillance
PICTs	Pacific Island countries and territories
SOPAC	Applied Geoscience and Technology Division (SPC)
SPC	Secretariat of the Pacific Community

Introduction

This AHP five-year strategic plan for mainstreaming climate change into the work of the Animal Health and Production team of the Land Resources Division was developed as an outcome of the Livestock and Climate Change in the Pacific Islands workshop sponsored by SPC and the German Agency for International Cooperation (GIZ) on 22–25 October 2011 at SPC Nabua. The workshop took advantage of the participants' knowledge and experience to put together a plan consisting of concepts, ideas, notes and resolutions from a range of sources, including resource people, stakeholder organisations, and regional meetings and conferences.

Background

The Animal Health and Production team is one of the thematic teams under the Land Resources Division (LRD) of the Secretariat of the Pacific Community. The team supports the following overall objectives of LRD:

- improved food and nutritional security in the Pacific region;
- integrated and sustainable agricultural and forestry resource management and development;
- improved biosecurity and increased trade in agriculture and forestry products.

Relationship between LRD objectives and SPC's climate change strategy

The *Internal climate change engagement strategy for the Secretariat of the Pacific Community* (CCES) was endorsed by SPC's Committee of Representatives of Governments and Administrations in November 2011. The CCES provides a 'whole of organisation' framework, setting out how SPC will contribute to the Pacific region's efforts to manage the risks related to climate change and help strengthen the resilience of PICTs to its impacts for the period 2011-2015.[1]

SPC's CCES vision

A secure, resilient and prosperous Pacific Community whose people are educated and healthy and manage their resources in an economically, environmentally and socially sustainable way.

SPC's CCES goal

Pacific Island countries and territories are able to effectively manage the risks presented by climate change.

In the context of the work of AHP, this translates to Pacific Island people managing integrated agricultural systems that are resilient to climate change and sustainable – the foundation of diverse, food-secure communities in Pacific Island countries and territories. To do this, AHP will provide evidence-based technical and institutional support to PICT governments and livestock producers as they adapt livestock systems to climate change.[2]

SPC's CCES three strategic outcomes

Strategic outcome 1: *Strengthened capacity of Pacific Island communities to respond effectively to climate change*. LRD objectives 1, 2 and 3 describe how Pacific Island communities' capacity will be strengthened in the context of the work of the AHP team.

Strategic outcome 2: *Climate change integrated into SPC programmes and operations*. In the context of the work of the AHP team, this will be achieved by improving the capacity of the team members to understand the impacts of climate change on the livestock sector to be able to advise member countries on best-practice adaptation options.

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1 It can be accessed at http://www.spc.int/en/our-work/climate-change.html

2 This is the original AHP mission and vision statement in the first draft of this strategy that pre-dated the SPC CCES endorsement. It is now incorporated under the SPC CC Goal following SPC's one organisational approach to climate change.

Strategic outcome 3: *Strengthened partnerships at the regional and international level.* In the context of the work of the AHP team, this will be achieved by working with traditional and new donors; and international, regional, national and research partners identified in the project proposals described below.

Proposed AHP Activities 2012-2016

This AHP five-year plan for mainstreaming climate change into the work of SPC AHP proposes activities that will allow the team to support adaptation of the livestock industry of Pacific Island countries and territories (PICTs) to climate change. The activities were identified through a process of expert consultation during the 2011 Livestock and Climate Change in the Pacific Islands workshop and at individual meetings with AHP team members and stakeholders.

Pacific Island countries and territories (PICTs) have the best foundation for achieving climate adapted livestock systems over the next 50 to 100 years. The AHP team requests donors to support these activities, and seek technical and research partners for implementing certain activities. A summary of the concept notes for livestock adaptation activities are outlined on page 11. The proposed climate change adaptation activities of AHP for the next five years, by LRD strategic objectives, are:

1. **Improved food and nutritional security in the Pacific region**
   - 1.1 Support the development of national climate change policies and legislation for the livestock sector.
   - 1.2 In collaboration with the Applied Geoscience and Technology (SOPAC) and the Statistics for Development Divisions of SPC, develop a geographic information systems (GIS)-based system for climate change risk assessment and resilience planning for the livestock sector.
   - 1.3 Support the process of livestock climate disaster planning and seasonal weather forecasting at village, national and regional levels.
   - 1.4 Create climate adaptation awareness in PICTs by developing and disseminating technical information for climate-proofing the livestock sector.
   - 1.5 Create a virtual library for reports on livestock-related research done by actors in the region. This library will provide a single, publically accessible knowledge base on livestock production in the region, allowing for rapid access to information critical for planning climate change adaptation.
2. **Integrated and sustainable agricultural and forestry resource management and development.**
   - 2.1 Support the conservation of local animal genetic resources that may play a critical role in adapting PICT livestock to climate change. This activity is a continuation of a Food and Agriculture Organization-supported project for the genetic characterisation of pigs and chickens conducted in Fiji, Niue, Samoa, Solomon Islands, Tonga and Vanuatu. The AHP seeks to collaborate with international research partners to use the results of this study to develop a population model that predicts geographic areas in the Pacific likely to host indigenous populations of pigs and chickens adapted to our future climate. This model will then be used to develop targeted sampling frameworks for Micronesia, Melanesia and Polynesia.
   - 2.2 Support the conservation of climate-adapted indigenous pigs and chickens identified in activity 2.1, by in situ conservation of animals in villages where they are indigenous, and by working with one or more national partners to establish an in situ breed conservation centre for the Pacific.
   - 2.3 Develop and disseminate climate-adapted breeds and lines of chickens and pigs.
   - 2.4 In collaboration with SPC Fisheries, Aquaculture and Marine Ecosystems Division, develop and disseminate adapted local feeds and feeding technologies. Develop local feeds for smallholder poultry, pigs, prawns and tilapia.

2.5 In partnership with one or more national agricultural research services, develop and disseminate climate-appropriate livestock housing technologies for backyard chickens, semi-commercial broilers, backyard pigs, semi-commercial pigs, backyard sheep and goats, and backyard dual-purpose cattle.

2.6 Develop village-level waste recycling technologies adapted to projected climate hazards for the region. Technologies for climate adapted waste management will be linked to climate-appropriate livestock housing technologies.

3. Improved biosecurity and increased trade in agriculture and forestry products.

3.1 Improve disease surveillance and control for climate-related diseases of animal and public health concern. This activity will build on the disease surveillance programme for paraveterinarians that was implemented as part of the Pacific Regional Influenza Pandemic Preparedness Project. Paraveterinarians and community health workers will be co-trained in participatory disease surveillance (PDS) for climate-related disease problems in animal and public health.

3.2 Build capacity for risk assessment for climate-related livestock diseases in countries with high rates of trade with or proximity to Asia, in order to target active surveillance such as PDS to areas at highest risk for disease outbreaks due to climate change.

3.3 Improve the capacity of the AHP team to support rapid animal and public health disease outbreak investigation. Currently, a verbal agreement between member countries and SPC exists, established at a Pacific Heads of Veterinary and Animal Production Services meeting, so that when a suspected outbreak occurs a country can contact SPC for coordination of assistance in outbreak investigation. This agreement will be strengthened with a regional memorandum of understanding between member countries and SPC. Protocols and standard operating procedures for SPC coordinated outbreak investigations will be established.

3.4 Build skills in AHP for animal and public health disease outbreak investigation and response, using low-cost, targeted methodologies such as participatory epidemiology.

4. Improve the capacity of the AHP team to understand the impacts of climate change on the livestock sector, and advise member countries on best-practice adaptation options.

4.1 Establish a programme to support member countries in integrating livestock advice into seasonal forecast information production and dissemination.

4.2 Identify best-practice farmers in member countries to serve as learning examples for trans-disciplinary training on climate change adaptation in livestock for meteorological, agricultural and livestock sector stakeholders.

4.3 Implement a programme of annual climate change training for AHP and stakeholders on key technical topics.

4.4 Establish a programme of AHP visits, information sharing and networking with livestock units in other regional organisations, to facilitate transfer of knowledge and experiences related to adapting livestock to climate change.

Proposed AHP activities in the context of SPC's CCES

The AHP team will work to meet the LRD objectives. At the same time, by carrying out these activities, AHP will also be meeting the strategic outputs, key result areas and outputs of SPC's CCES, consistent with the 'whole of organisation' approach to climate change for SPC endorsed by CRGA.

For ease of reporting, the table below shows the link between the AHP activities (left column) and the CCES strategic outputs, key results areas, and outputs (right column).

AHP activities	SPC CCES strategic outputs
1. LRD Strategic Objective 1: Improved food and nutritional security in the Pacific region.	**SO1: Strengthened capacity of the Pacific Islands communities to respond effectively to climate change**
1.1 Support the development of national climate change policies and legislation for the livestock sector.	**KRA 1: Strengthened PICT climate change response capabilities at the sectoral and national level:** **O.1:** Improved governance mechanisms and strengthened national capacity to manage climate change challenges
1.2 In collaboration with the Applied Geoscience and Technology (SOPAC) and the Statistics for Development Divisions of the SPC, develop a system based on geographic information systems (GIS) for climate change risk assessment and resilience planning for the livestock sector.	**O.3:** Increased two-way flow of relevant climate change information, technical and analytical outputs and services among SPC, member PICTs, CROP agencies and other relevant stakeholders **KRA 2: Strengthened SPC climate change delivery networks in member PICTs** **O.2:** SPC climate change technical assistance linked to national climate change action plans/ NAPAs and JCS priorities
1.3 Support the process of livestock climate disaster planning and seasonal weather forecasting at village, national and regional levels 1.4 Create climate adaptation awareness in PICTs by developing and disseminating technical information for climate-proofing the livestock sector..	**KRA 1: Strengthened PICT climate change response capabilities at the sectoral and national level:** **O.1:** Improved governance mechanisms and strengthened national capacity to manage climate change challenges **O.2:** Improved capacity of PICTs to identify and address adaptation and mitigation needs
1.5 Create a virtual library for reports on livestock-related research done by actors in the region. This library will provide a single, publically accessible knowledge base on livestock production in the region, allowing for rapid access to information critical for planning climate change adaptation.	**O.3:** Increased two-way flow of relevant climate change information, technical and analytical outputs and services among SPC, member PICTs, CROP agencies and other relevant stakeholders **KRA 2: Strengthened SPC climate change delivery networks in member PICTs** **O.2:** SPC climate change technical assistance linked to national climate change action plans/ and JCS priorities

AHP activities		CCES strategic outputs
		SO1: Strengthened capacity of Pacific Islands communities to respond effectively to climate change
2	**LRD Strategic Objective 2: Integrated and sustainable agricultural and forestry resource management and development.**	**KRA 1: Strengthened PICT climate change response capabilities at the sectoral and national level:** **O.2:** Improved capacity of PICTs to identify and address adaptation and mitigation needs **SO 3:** Enhanced partnerships at the regional and international level **KRA 6 Strengthened regional climate change coordination and partnerships** **O.3:** Enhanced sharing of expertise among all relevant agencies **KRA 7: Strengthened international partnerships** **O.2:** Stronger climate change related technical and information exchange links established with organisations and professional networks outside the Pacific region
2.1	Support the conservation of local animal genetic resources that may play a critical role in adapting PICT livestock to climate change. This activity is a continuation of a Food and Agriculture Organization -supported project for the genetic characterisation of pigs and chickens conducted in Fiji, Niue, Samoa, Solomon Islands, Tonga and Vanuatu. The AHP seeks to collaborate with international research partners to use the results of this study to develop a population model that predicts geographic areas in the Pacific likely to host indigenous populations of pigs and chickens adapted to our future climate. This model will then be used to develop targeted sampling frameworks for Micronesia, Melanesia and Polynesia.	
2.2	Support the conservation of climate adapted indigenous pigs and chickens identified in activity 2.1, by in situ conservation of animals in villages where they are indigenous and by working with one or more national partners to establish an in situ breed conservation centre for the Pacific.	**KRA 1: Strengthened PICT climate change response capabilities at the sectoral and national level:** **O.2:** Improved capacity of PICTs to identify and address adaptation and mitigation needs
2.3	Develop and disseminate climate-adapted breeds and lines of chickens and pigs.	**KRA 1: Strengthened PICT climate change response capabilities at the sectoral and national level:** **O.2:** Improved capacity of PICTs to identify and address adaptation and mitigation needs
2.4	In collaboration with SPC Fisheries Aquaculture and Marine Ecosystems Division, develop and disseminate adapted local feeds and feeding technologies. Develop local feeds for smallholder poultry, pigs, prawns and tilapia.	**KRA 1: Strengthened PICT climate change response capabilities at the sectoral and national level:** **O.2:** Improved capacity of PICTs to identify and address adaptation and mitigation needs
2.5	In partnership with one or more national agricultural research services, develop and disseminate climate appropriate livestock housing technologies for backyard chickens, semi-commercial broilers, backyard pigs, semi-commercial pigs, backyard sheep and goats, and backyard dual-purpose cattle.	**KRA 1: Strengthened PICT climate change response capabilities at the sectoral and national level:** **O.2:** Improved capacity of PICTs to identify and address adaptation and mitigation needs

AHP activities	CCES strategic outputs
2.6 Develop village-level waste recycling technologies adapted to projected climate hazards for the region. Technologies for climate-adapted waste management will be linked to climate-appropriate livestock housing technologies.	
3. LRD Strategic Objective 3: Improved biosecurity and increased trade in agriculture and forestry products.	
3.1 Improve disease surveillance and control for climate-related diseases of animal and public health concern. This activity will build on the disease surveillance programme for PICT paraveterinarians that was implemented as part of the Pacific Regional Influenza Pandemic Preparedness Project. Paraveterinarians and community health workers will be co-trained in participatory disease surveillance (PDS) for climate-related disease problems in animal and public health.	
3.2 Build capacity for risk assessment for climate related livestock diseases in countries with high rates of trade with or proximity to Asia, so as to target active surveillance such as PDS to areas at highest risk for disease outbreaks due to climate change.	
3.3 Improve the capacity of the AHP team to support rapid animal and public health disease outbreak investigation. Currently, a verbal agreement between member countries and SPC exists, established at a Pacific Heads of Veterinary and Animal Production Services meeting, so that when a suspected outbreak occurs, a country can contact SPC for coordination of assistance in outbreak investigation. This agreement will be strengthened with a regional memorandum of understanding between member countries and SPC. Protocols and standard operating procedures for SPC-coordinated outbreak investigations will be established.	**SPC CCES Strategic Objective 2: Climate change integrated into SPC programmes and operations.** **O.1:** Climate change considerations are fully integrated into the planning of SPC programmes to ensure targeted technical assistance is provided to meet identified PICT needs
3.4 Build skills in the AHP for animal and public health disease outbreak investigation and response, using low-cost, targeted methodologies such as participatory epidemiology.	**SPC CCES Strategic Objective 2: Climate change integrated into SPC programmes and operations.** **O.1:** Climate change considerations are fully integrated into the planning of SPC programmes to ensure targeted technical assistance is provided to meet identified PICT needs

AHP activities	CCES strategic outputs
4. Objective 4: Improve the capacity of the AHP team to understand the impacts of climate change on the livestock sector, and to advise member countries on best-practice adaptation options.	
4.1 Establish a programme to support member countries in integrating livestock advice into seasonal forecast information production and dissemination.	**SPC CCES Strategic Objective 2: Climate change integrated into SPC programmes and operations.** **KRA 3: Climate change integrated into all SPC programmes and operations** **O.1:** Climate change considerations are fully integrated into the planning of SPC programmes to ensure targeted technical assistance is provided to meet identified PICT needs **O.2:** Enhanced capacity of SPC programme staff to understand how climate change impacts on natural ecosystems and animal welfare
4.2 Identify best-practice farmers in member countries to serve as learning examples for trans-disciplinary training on climate change adaptation in livestock for meteorological, agricultural and livestock sector stakeholders.	
4.3 Implement a programme of annual climate change training for AHP and stakeholders on key technical topics.	
4.4 Establish a programme of AHP visits, information sharing and networking with livestock units in other regional organisations, to facilitate transfer of knowledge and experiences related to adapting livestock to climate change.	**SO 3:** Enhanced partnerships at the regional and international level **KRA 7: Strengthened international partnerships** **O.2:** Stronger climate change related technical and information exchange links established with organisations and professional networks outside the Pacific region

Time frame

Funding and human resources will not be available to commence implementation of all 19 activities in the same year. Activities will be implemented as funding and human resources become available.

Summary of concept notes

Ten concept notes have been developed by the AHP team in consultation with stakeholders. Full versions of the concept notes, with associated budgetary components, can be accessed through the SPC Animal Health and Production team and LRD Helpdesk.

1. GIS for assessing climate change risk and livestock resiliency planning

The objective of this project is to assist PICTs and development partners to understand the social and economic risks faced by the livestock sector due to climate change, and identify areas that are at greatest risk. Outputs from this project will support long-term food security in the Pacific region in the face of climate change by providing readily available options for targeting adaption technologies, thereby increasing the climate resilience of livestock systems. The project aims to develop livestock and climate change risk maps, and produce related fact sheets and technical briefs to assist decision-makers. This project provides an important opportunity to collaborate with experienced partners in risk mapping and a PhD opportunity for one or more PICT students. The proposed four-year project will benefit livestock producers, consumers and livestock value chain actors (transporters, exporters, retailers, etc.) in the Pacific.

2. Livestock and climate disaster planning at village, national and regional levels

The process of disaster planning allows stakeholders to identify threats, and put in place a series of concrete steps to minimise risk and respond appropriately should disaster strike. In the livestock sector, disaster planning will identify necessary changes to production systems that will allow adequate response when disaster strikes. Such change is a progressive process that evolves over time. This makes climate disaster planning in the Pacific a critical process for identifying and developing appropriate adaptations, and implementing those adaptations in a timely fashion. The project aims to help ten communities in five PICTs to develop livestock and climate disaster plans. The project will develop livestock and climate disaster planning manuals for PICT communities. In coordination with the Pacific Heads of Veterinary and Animal Production Services, this three-year project will also facilitate the development of a livestock and climate disaster plan for the Pacific region.

3. Climate adapted breeds and lines of chickens and pigs for PICTs

The objective of this five-year project is to conserve adapted breeds of chickens and pigs by selection and cross breeding for better adaptation and production traits. From the recent animal genetic resources project funded by the Food and Agriculture Organization and implemented by SPC, it was documented that the genetics of local pigs and poultry were unique in Niue and Samoa. These unique characteristics need to be conserved and multiplied in the face of climate change to enhance resilience in the informal livestock sector. Kiribati will be included as a pilot site through the 'Agriculture Centre for Excellence' as the centre for atoll agriculture.

4. Developing local feeds for poultry, pigs, prawns and tilapia smallholdings

It was recognised that most of small-holders in the region produce most of the climate change resilient breeds of pig and poultry. The FAO animal genetic resources project identified two clusters of chicken genetic entities for conservation and utilisation. One population cluster can be found in Fiji, Samoa and Tonga and another in Niue, Solomon Islands and Vanuatu. These locally adapted breeds are vulnerable to poor nutrition due to the high cost of commercial feeds in the market. There is huge potential to improve local free-range and smallholder farm nutrition by introducing locally-produced feeds which will utilise low-cost, climate change resilient, local crops and feedstuffs as animal feed ingredients. Production of feeds for pigs, poultry, tilapia and prawns involves the generic processes of developing feed formulation, actual feed production and feeding trials. Fiji, Papua New Guinea, Solomon Islands and Vanuatu have experience in operating small scale feed mill facilities and have agricultural workers with adequate training in livestock farming and fish breeding. These countries are potential pilot sites to trial locally produced animal feeds. Project implementation will run for three years.

5. Climate appropriate livestock housing in PICTs

Participants in the 2011 Livestock and Climate Change in the Pacific Islands workshop identified a suite of options that will help the PICT livestock sector adapt to climate change. Development of climate-appropriate housing technologies for backyard and smallholder livestock producers was identified as a top priority. This project will develop climate-adapted housing for farmers involved in rearing chickens, pigs, sheep, goats and cattle. The aim is to develop and test climate-adapted housing designs for small-scale livestock producers. The project will include research to assess each design in terms of climate performance and animal stress.

Outputs from this four-year project will be targeted to geographic areas identified as high risk in the climate change and livestock risk mapping activity. This will be coordinated with village climate disaster planning activities, providing housing technologies proven to be effective for local and newly developed crossed-breeds, and implemented with other adaptation research such as the development of village-level waste management technologies.

6. Village level animal waste management technologies for pigs

Animal waste or manure has been linked directly to the emissions of methane and nitrous oxide`. The issue of improper disposal and management of animal waste is expected to be exacerbated by the climate change hazards of increased temperature, increased rainfall events, floods, cyclones, storm surges and droughts. This proposal aims to establish appropriate and applicable waste management technologies that could be adopted by villagers to reduce or control greenhouse gas emission, water contamination, environmental contamination and other risks posed by animal waste. The introduction of new technologies is expected to increase villagers' knowledge and the integration of traditional and new technologies in waste management. The implementation period of the project will be three years.

7. Integrating livestock advice into seasonal climate forecast production and dissemination

Farmers around the globe have always relied on a rich repertoire of traditional climate indicators to make agricultural decisions. At a recent participatory workshop on Pele Island, Vanuatu, livestock farmers reported that their traditional climate indicators include the flowering and new leaf growth of trees, insect appearance and behaviour, wind direction and intensity, and sea surface temperatures. However, the Pele farmers also reported that their traditional climate indicators are becoming less reliable as the climate becomes more variable. Seasonal climate forecasting is a tool that has been developed to reduce climate uncertainty for farmers by providing them with medium-term rainfall forecasts, usually for a period of three months. These forecasts are the output of a variety of modeling procedures that consider climate indicators. The objective of this project is to increase the agricultural success of small-scale farmers using use participatory methods. Farming communities will be provided with a monthly seasonal climate forecast fact sheet and advice on how to use the information to manage crop and livestock resources. The project will be implemented in four identified PICTs for three years.

8. AHP climate change training

With support from the GIZ Coping with Climate Change in the Pacific Island Region project, the AHP team has begun to mainstream climate change activities into their work. The aim is to improve the knowledge of the team and its stakeholders on climate change and adaptation in the livestock sector. The training will strengthen the capacity to facilitate adaptation planning and implementation in member countries through continuous education workshops to be held annually for the next five years. The proposed training topics will include:

- livestock and climate change risk mapping and disaster planning
- climate adapted characteristics of local pigs and poultry
- climate adapted breeds and lines of chickens and pigs potential for introduction in PICTs
- in situ conservation of traditional breeds of pigs and chickens
- climate adapted local livestock feeds and feeding technologies
- climate appropriate livestock housing
- climate adapted livestock waste management
- PDS for climate related livestock and public health diseases
- risk assessment and rapid investigation for climate related livestock diseases
- seasonal forecasting and livestock production.

9. Networking with other regional organisations for AHP

As an isolated global region composed primarily of small island countries, the Pacific has enjoyed a long history of unique cultural and economic development. It also faces unique challenges when it comes to climate change and adaptation of the livestock sector. This project will proactively link AHP to the global network of regional and international organisations working on issues related to livestock and climate change. The project aims to support a series of regional visits by members of the AHP team. Over the next four years, one or more AHP team members will visit other regional and international organisations experienced with issues related to livestock and climate change. The five organisations to be visited will be the livestock bureaus of the FAO, the Association of Southeast Asian Nations, the African Union Inter-African Bureau for Animal Resources, the Pan American Health Organization, the Pan-Commonwealth Veterinary Association Conference and other global climate change conferences. In the fifth year, AHP will organise an international conference on livestock and climate change, targeting employees of regional and international organisations as well as related stakeholders. The proposed implementation period is five years.

10. Temperature increase impact on reproduction and milk production in dairy cattle in Fiji (A case study for the Pacific region)

The perception that dairy farming is generally suited to a cooler climate has restricted its development in the tropical environment of Pacific Island countries, with the exception of Fiji. There is no documented research conducted in Fiji to determine the impact of increased temperature on milk production or the potential for dairy production in the warmer and drier environment of the western and northern regions of Fiji. This project proposal is designed to address the sustainability of future dairy production system under potentially warmer environmental conditions in Fiji and elsewhere in the Pacific region. The objective is to determine milk yields through reproductive performance of locally available dairy breeds under increased mean temperature environment, using the western and northern regions of Fiji as a case study for other Pacific Island countries. The research study will benefit the government dairy extension system and the dairy industry, including small-holders and dairy processing companies. This is a three- year research project.

Conclusion

The demand for livestock and livestock products has put extra pressure on the livestock sector in the region to improve production for better food security and livelihoods. The increase in demand is a result of many factors, including a rapidly growing Pacific population, increasing tourism in the region, a growing sector with surplus income, and the impacts of climate change on our food production and food security. The challenges brought about by climate change demand a coordinated response from the livestock sector to come up with new approaches to the sustainable production and use of our livestock resources.

Achieving the goal of improved food security and livelihoods will depend on our ability to recognise and respond to the negative impacts of climate change. Thus, the ten concept notes developed by the SPC Animal Health and Production team, with valuable contributions from stakeholders, covers various climate change adaptation options that could be implemented in the region.

Acknowledgement

The Animal Health and Production team of SPC acknowledges the contributions of GIZ in the development of this strategic plan for the Pacific livestock sector. The SPC AHP team also expresses its sincere appreciation to Mr Peter Manueli and to Dr Christine Jost for their technical inputs in the field of livestock and climate change in the development of this plan.