

SUB-REGIONAL OFFICE FOR THE PACIFIC ISLANDS

Mission Report

REGION-WIDE CONSULTATION ON PACIFIC REGIONAL CROP IMPROVEMENT PROGRAM (PARCIP)

Prepared by:

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**FOOD AND AGRICULTURE ORGANIZATION OF THE
UNITED NATIONS**

**MISSION REPORT
OF
REGION-WIDE CONSULTATION ON PACIFIC REGIONAL CROP
IMPROVEMENT PROGRAM (PARCIP)**

MARCH – APRIL 2008

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For the

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Nations (FAO)

**PACIFIC REGIONAL CROP IMPROVEMENT PROGRAM (PARCIP) –
CONSULTATION ON PROJECT DEVELOPMENT.**

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List of Acronyms

ACIAR	Australian Centre for International Agricultural Research
CePaCT	Centre for Pacific Crops and Trees
COM	College of Micronesia
CRE	Cooperative Research and Extension
DAFF	Department of Agriculture Forest and Fisheries
DSAP	Development of Sustainable Agriculture in the Pacific
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
FSM	Federated State of Micronesia
GREA	Graduate Research & Extension Assistant
HOAFS	Ministers and Heads of Agriculture and Forest Systems
IARCs	International Agricultural Research Centers
IPGR	International Plant Genetic Resource
ITPGRFA	International Treaty on Plant Genetic Resources for Food
LRD	Land Resources Division
NARI	National Agricultural Research Institute
NGOs	Non Government Organizations
NPC	National Project Coordinator
OEA	Office of Energy and Agriculture
OIC	Officer in Charge
PAPGREN	Pacific Plant Genetic Resource Network
PARCIP	Pacific Regional Crop Improvement Program
PGR	Plant Genetic Resources
PGRFA	Plant Genetic Resource for Food and Agriculture
PICs	Pacific Island Countries
PNG	Papua New Guinea
R&D	Research and Development
RDIS	Research and Development Institute of Samoa
RGC	Regional Germplasm Centre
RMI	Republic of Marshall Islands
SAP	FAO Sub-Regional Office for the Pacific Islands
SPC	Secretariat of the Pacific Community
SPYN	South Pacific Yam Network
TAROGEN	Taro Genetic Resource Conservation and Utilization
TCP	Technical Cooperation Project
TOR	Terms of Reference
TWC	Technical Working Committee
USP	University of the South Pacific
VRS	Vaini Research Station

1. INTRODUCTION.

1.1 Introduction to PARCIP and Its Formation:

It has been noted throughout the region that food and nutrition security are increasingly important issues in the Pacific Island countries (PICs) as population grow, climate changes, eating habits alter, and the effects of all kinds of disasters: natural disasters, agricultural pests and diseases etc. In response, governments are seeking to improve both agricultural productivity and nutrition by working on both national and regional levels. This commitment by the region has been an attempt to achieve sustainable food security within the framework set by the 1996 World Food Summit.

Throughout the region, there is limited agricultural research and development, especially on the major staple food crops, and where it occurs it is not readily shared among countries. The challenges faced by most PICs are how to carry out the Research and Development (R&D) needed when capabilities to undertake any research is so limited.

Thus, there is an urgent need for collaboration between PICs to undertake research in food crop improvement, because costs of research is extremely high and are constantly increasing, making it impossible for most countries to achieve any success alone. These can only be achieved through collaborative sharing of costs, genetic resources, expertise and the fruits of research.

This was how the Pacific Regional Crop Improvement Program (PARCIP) concept first came into existence, and the idea has been around for some years. It was first proposed by the National Agricultural Research Institute (NARI) of Papua New Guinea (PNG), realizing the importance of the problems mentioned. NARI is one of the most developed Research Institutes in the region, and with their current facilities, resources and researches, they can contribute significantly to alleviate this problem. NARI put forward a proposal for regional collaboration on the genetic improvement of food crops. The aim is for countries of the region and regional organizations to work together to exploit the food crop genetic resources that exist for the benefit of all.

The PARCIP is about mobilizing and utilizing resources and ensuring that the outcomes of such efforts are shared amongst the region. It is believed that there is considerable potential within the genetic resources that exist for the Pacific region to meet the challenges mentioned.

PARCIP has been presented and discussed in a number of regional forums and meetings, and some revisions of the original concept have been made. As a result, in addition to the recommendations from Ministers/Heads of Agriculture and Forestry Systems (HOAFS) meeting in 2004, several countries have pledged individual interests and request support to Food and Agricultural Organization (FAO), Sub-regional office for the Pacific (SAP) for PARCIP to be funded and activated. Other countries have also expressed their interest on PARCIP to the Secretariat for the Pacific Community (SPC). Again at the HOAFS

meeting in 2006, it acknowledged the importance of PARCIP to long-term food security through sharing of existing food crop genetic materials in the region and again gave their support.

As a result, the meeting recommended that Land Resource Division (LRD), SPC facilitate the development and eventual implementation of a Technical Cooperation Project (TCP) proposal for FAO on PARCIP. Also, at a recent Pacific Regional Workshop on Plant Genetic Resources for Food and Agriculture (PGRFA) represented by the 14 SPC member countries, they supported the concept of PARCIP and requested SPC to continue to take the initiative forward. SPC in its current set up, facilities, resources and roles are in a position to provide plant genetic resource conservation, multiplication and distribution to PICs after virus indexing.

PARCIP was proposed with three basic principles:

- a. Build on past regional collaboration, and strengthen present PGR crop network
- b. Ensure equitable access and sharing of food crop genetic resources
- c. Utilize participatory and consultative approaches

Much discussion has been made on how PARCIP would work and what roles different partners would play, and what would be the basic framework of the program. In response, reference has been made to two successful regional projects based on genetic diversity of specific food crops for the benefit of the region – namely Taro Genetic Resources Conservation & Utilization (TaroGen), 1998-2003 and South Pacific Yam Network (SPYN), 1998-2002. TaroGen assisted countries to collect, describe, conserve and distribute taro varieties among countries, as well as breeding new varieties resistant to Taro Leaf Blight (TLB). The project closed in 2003, but breeding has continued in Samoa with SPC support, and at NARI, PNG. TaroGen worked in complementary with the Australian Centre for International Agricultural Research (ACIAR) projects on virus indexing - Queensland University of Technology (QUT) and DNA fingerprinting, University of Queensland. The South Pacific Yam Network (SPYN), a four year project was completed with similar supports and collaborations, although this project was funded by European Union (EU) with different collaborative partners.

The pattern from these projects show clearly how national, regional and international institutes work together to achieve a common objective. In both cases, the work has continued because of the involvement of a regional organization and the level of collaboration that was established during the project.

During the recent meeting of the Pacific Plant Genetic Resources Network (PAPGREN), there was full consensus for wide consultation on the development of the project, so that the differing needs of the sub-regions and individual countries stakeholders can be addressed in the project. Thus FAOSAP was prepared to undertake this region wide consultation to get the feed back from different stakeholders and countries on PARCIP.

1.2 Background to the Region Consultation:

This region wide consultation was conducted under the supervision of FAO Sub-Region for the Pacific Islands (SAP), in consultation with SPC-LRD Genetic Resource Team, and PAPGREN country focal points. The consultation was carried out under a set of Terms of Reference (TOR), set by SAP. One of the requirements of this consultation was that it should utilize a participatory approach, ensuring that there is feedback/information from different stakeholders including rural communities. This meant that the consultation was to be conducted in the form of country visits, with discussions held with all relevant stakeholders; public and private sectors, research institutes, farmers and associations, Non-Government Organizations (NGOs), women groups etc.

Aim of the Consultation:

The main aim of this consultation was: FAO wanted to make sure that the PICs and all stakeholders are fully aware of the project, and understand its details and the benefits that they can get from it. FAO did hope to get out of this consultation any feedbacks from these countries and stakeholders, their views and ideas on PARCIP. Are they in support of the project? How would they like to see PARCIP operate in such a way that they can get maximum benefits from it? Thus this consultation was carried out under a set of TOR addressing the following issues.

- Framework for coordinating PARCIP
- A monitoring and evaluation system
- Crop priorities and activities
- Resources required – human and financial in each country
- Capacity building – what is required to support the countries in the priority areas
- How can the project build on past regional collaboration
- How can it ensure equitable access and sharing of genetic materials
- To ensure its operation to be participatory and consultative
- A regional agricultural information system to be used

These were the focus and centre of discussions during the country consultation.

2. MATERIALS AND METHODS:

The consultation was done with the assistance and organization by SPC-LRD Genetic Resource Team and the PAPGREN focal points in countries. It was organized to visit representative countries only from the region due to resource and time constraint. The countries visited were:

- Melanesia: Fiji, Solomon Is. and PNG
- Micronesia: Pohnpei and Republic of Marshall Is. (RMI)
- Polynesia: Cook Is., Kingdom of Tonga and Samoa

A questionnaire was also sent to countries in the region not visited, to capture their feedback and comments on the same issues. Some of the countries responded, and their views and ideas are included in the report.

2.1 Travel Itinerary:

1. FJ270	Y	25 Feb.	TBU/SUV	1235	1330
2. FJ6	Y	04 Mar.	SUV/NAN	0705	0735
3. FJ261	Y	04 Mar.	NAN/HON	0830	1210
4. PX 85	Y	08 Mar.	HON/POM	0940	1100
5. PX184	Y	08 Mar.	POM/LAE	1510	1555
6. PX101	Y	12 Mar.	LAE/POM	0715	0800
7. PX90	Y	15 Mar.	POM/CNS	0925	1050
8. CO903	Y	17 Mar.	CNS/Guam	0010	0435
9. CO956	Y	17 Mar.	Guam/Pohn	0820	1258
10CO956	Y	19 Mar.	Pohn/Maj	1345	1908
11CO957	Y	22 Mar.	Maj/Guam	1055	1720
12 CO902	Y	23 Mar.	Guam/CNS	1835	2305
13 QF5929	Y	24 Mar.	CNS/BNE	0600	0800
14. NZ738	Y	24 Mar.	BNE/AKL	1715	2325
15. NZ848	Y	25 Mar.	AKL/RAR	2145	0240
16. NZ19	Y	28 Mar.	RAR/AKL	0545	0905
17. NZ66	Y	29 Mar.	AKL/TBU	1430	1730
18. NZ26	Y	01 Apr/31 Mar.	TBU/APW	2140	2310
19. NZ27	Y	09.Apr./10 Apr.	APW/TBU	0645	0815

In each country visited, depending on the time limits and travel itinerary, meetings were organized with different stakeholders: Institutes, organizations, government bodies, NGOs, farming groups etc. either as individual interviews or as group meetings/or workshops. They were first briefed about the project – what the project is, its principles, the objectives and why it was proposed; and what the expected benefits of the project to each country will be. Next, the reason for the consultancy was clearly explained and then they were given the time to respond by commenting and giving their views on the project and on the number of issues listed.

3. RESULTS:

As expected with a consultation of this nature the result showed some commonalities in certain areas while some of the feedbacks differed from country to country. It was the purpose of this consultation to hear views from the different countries and stakeholders, and to see that they will be addressed in this project. Some of the differences in countries feedbacks were mainly to do with their own respective needs and priorities to be addressed in this project. These will be given in more details in the presentation of each country's consultation, giving a summary of the results of meetings held per country.

The important part of this report is to give the findings of the consultation, highlighting some of the areas and issues where countries share common views.

In general there was full support of the project by all countries visited and stakeholders in each country. The concept of sharing of plant genetic materials and sharing of research resources in the region was also well supported. However, some countries raised a few concerns in these areas.

- Some countries were concerned that the project was quite restricted to food crops and especially to crops prioritized in the proposal and also to priority activities. They feel that although food crops are important for food security in the region, farming system is gradually changing from subsistence to semi-subsistence and moving on to commercial farming. Many of the farmers of today are so market oriented that they like to put money value to every crop they grow. **They would therefore like to see this project give consideration to other crops of importance to farmers for other reasons other than food crops e.g. fruit trees especially indigenous species which are becoming extinct, some traditional vegetable species, medicinal plants, orchids, vegetables and cash crops.**
- There was also a concern raised by countries with one of the requirements for projects proposed under PARCIP for funding that it has to be regional, meaning that it has to be beneficial to a number of other countries. They feel that some of the islands' problems are unique, and should be treated as such. This means that while problems more regional are priority to PARCIP, consideration should be given to specific problems most pressing to some countries e.g. atolls.
- Many of the small countries understand that much of the researches especially breeding, in this project will be done in countries with available research resources e.g. NARI in PNG. However they think that part of the research final fine tuning should be done in countries to be able to adjust the result to their own conditions. This means that research institutes after breeding and evaluation, will recommend varieties for particular traits and environments, and then give the results to SPC. The countries will have access then to these materials, virus indexed from SPC, which they can make a final evaluation for their own use. However, countries think that **any research conducted under PARCIP should be done based on the needs and requests of the beneficiary countries.**
- Some countries mentioned that it should be remembered that there are also research institutes in the region beside NARI who are also capable of doing researches e.g. Koronivia in Fiji, Nuu and Research Development Institute Samoa (RDIS) in Samoa, Vaini Research Station (VRS) in Tonga and others, and they should be used wherever necessary. They will need some capacity strengthening in their resources and facilities to be able to cater for the project needs. Research should be spread throughout the region rather than concentrating in a few central institutes.

- Some of the small countries, who need to obtain genetic materials via Centre for Pacific Crops and Trees (CePaCT) - SPC, will need some facilities for receiving and preparing Tissue Culture (TC) materials and hardening ready for field transplanting. These should be provided for. Some countries are lucky to have access to facilities from other organizations to handle and to further multiply these materials. Their requirement from this project is some improvements to these facilities to cater for the project need e.g. Federated State of Micronesia (FSM) and Republic of Marshall Island (RMI).
- As for a framework for the project, the proposal of a Monitoring Committee as a governing body is important, but this can be done by the HOAFS. Some concern raised in this area is the number and members of this committee. Their question is whether it will be affordable and effective when considering the large number of representatives. The idea of a Technical Working Committee (TWC) with fewer members may be more effective. They will be working on technical issues, then give advice to the HOAFS.
- There was a strong view from countries that there needs to be a Project Coordinator to be responsible for the project operations, and housed in SPC-CePaCT. He/She is to be fully engaged with PARCIP activities with the role of coordinating, collaborating and linking all collaborators, linkages and relevant stakeholders making sure that the project runs smoothly. The NPC shall work very closely with the CePaCT advisor and will be responsible to the Director of LRD who will then be responsible to HOAFS.
- It was clear from most countries and stakeholders that a sound and active committee, both at regional and national level, is essential to ensure that full benefits of the project reach the end beneficiaries. They were therefore committed to ensure having a national project committee capable of working with the local stakeholders to ensure successful project operations. Some countries have indicated that they will be using the same committees of existing projects e.g. DSAP, with some improvements on the committee members.
- Most countries also agreed that the project should make use of the existing agricultural information system used by SPC, for sharing of all information with PARCIP. This project should provide for any extra needs or requirements by SPC information system to be able to service this project as a regional agricultural information system. At the same time, it is one of the roles of the project coordinator, to provide this information to the respective countries.
- The countries also strongly supported the principles of making use of any existing regional collaborations in place for this project. Where ever these collaborations do exist, they should be fully supported and made use of.

4. CONCLUSION:

At this stage of the consultation it was obvious from the findings that most of the countries and different stakeholders in the region were very supportive of the project with its objectives, principles and general benefits. However, many of the countries and stakeholders were concerned with some of the specific proposals where much of the activities seem to be pre-determined e.g. crop priorities and activities, research activities and requirements to be eligible to project funding etc.

The general view of the countries and stakeholders seem to indicate that they need to have more direct access to the project funding. They feel that the further down the fund is injected into the countries and stakeholders, the more benefits will go to the end beneficiaries and thus more success will be achieved. They say that many of the previous projects have failed because many of the end beneficiaries, meaning the farming communities, were not aware of such projects and what benefits they bring. Some of the stakeholders have put the blame on the local project implementing agents, e.g. the National Project Coordinators (NPCs), for lack of awareness programs in such projects.

Most if not all of the countries visited were very supportive of this project because of the benefits it will bring, and they were also in full agreement with this consultation exercise because they feel that they are a part of the project even before it starts. After all, this is all about participatory and consultative process as part of PARCIP's principles.

5. PROPOSALS FOR PARCIP BASED ON THE RESULTS OF REGION WIDE CONSULTATION.

It was part of the retired expert's TOR to develop a draft PARCIP Project document based on the result of the country consultation. **Thus this part of the report will make an effort to incorporate the issues raised by the consultation into the original project proposal. This will be done by going through the list of issues in the TOR, and try to make proposals to either support or improve on the original project proposal.** This means that the introduction on the importance and needs for the project is still the same, as well as the idea of giving and sharing of materials and information. The three principles of PARCIP remain as important and necessary i.e.

- Build on past regional collaboration, and strengthen present PGR crop networks
- Ensure equitable access and sharing of crop genetic resources
- Utilize participatory and consultative approaches

5.1 CROPS:

As for the Crop priorities and activities given in the original proposal, there are some suggestions made based on the strong feedbacks from different stakeholders and countries. The grouping of crops to be based on the original proposal, with some minor additions to cater for the countries and stakeholders needs.

Group 1 – major staple food crops: bananas, sweet potato, taro and all yam species
Also included in this group are crops of importance to the specific needs of atoll islands, since it is becoming important for food security as well as health issues on these islands. These crops include: fruit trees, breadfruit, coconuts and vegetables.

Group 2 – crops grown widely, but are only locally important: breadfruit, cassava, giant taro, Xanthosoma and giant swamp taro.

Group 3 – crops classified as outside of the scope of PARCIP, but according to the feedback from the consultation, some crops are considered as important, not necessarily as food crops but for other uses e.g. fruit tree crops, medicinal plants, ornamentals, cash crops etc.

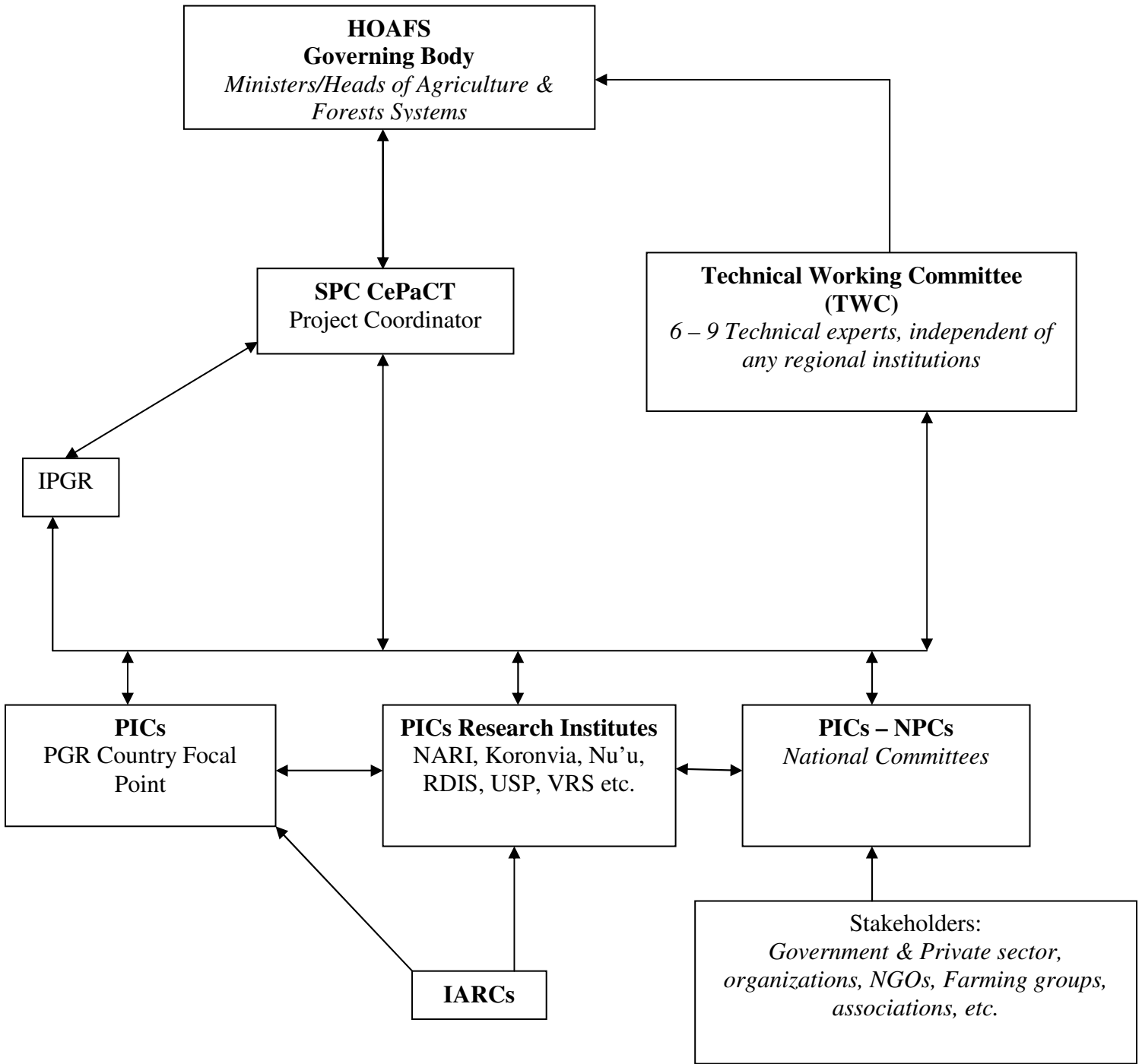
During the consultation, many of the countries raised their concern about the restrictions of the project to certain crops, and for the predetermined activities set in the initial proposal. **It is therefore suggested that while the prioritization of crop grouping is maintained, consideration and respect should be given to the individual country needs as far as their crop priority is concerned.** It is also important to mention that any research conducted under PARCIP, should be based on needs and requests of individual countries. This will ensure that any research conducted, will be need-based and thus ensure the project's success. Where project proposals for problems from countries and stakeholders include all the three crop groups, then the crop priority grouping will apply (Refer to Crop Group 1, 2 and 3 above). **However, if countries are able to prioritize their crop needs in their project proposals, then the Technical Working Committee should consider according to the severity of the problems to be addressed.**

5.2 Framework for Coordinating PARCIP.

This was one of the major areas of discussion during the consultation. The initial idea of a monitoring committee with the suggested members was good but seemed too many and the question of affordability and effectiveness was raised. The governing role of HOAFS meeting is enough to make decisions for PARCIP.

The need for a Project Coordinator (PC) had an apparent strong support, with the important role of coordinating the project. This is an important person in making things happen by acting as a centre point of contact. The PC will be housed in SPC, the regional organization appointed to implement PARCIP. He/She will work closely with the CePaCT Advisor and the genetic resource team. A proposed framework for coordinating PARCIP is thus:

PROPOSED FRAMEWORK FOR PARCIP



5.2.1 Heads of Agriculture and Forest Systems (HOAFS).

This is the meeting of the Ministers/Heads of Agriculture and Forestry in the region, and it is the governing body for PARCIP. It is the decision making body for the project, and they give the final approval for fund allocation, and project proposals for funding under PARCIP. However, as HOAFS meeting is biennial, responsibility for approval is given to the TWC, chaired by the LRD Director, who will meet annually or as needed and approved by the chairman. The TWC chairman will then inform HOAFS meeting on the status and development of PARCIP.

5.2.2 Project Coordinator (PC).

This person is to be housed in SPC/CePaCT, the regional organization appointed to implement PARCIP. However, this person is to be working full time with PARCIP and he/she will be working very closely with the CePaCT Advisor on matters regarding PARCIP and the center's resources and facilities. The PC is a person with good management skills and has experience on crops research and Plant Genetic Resources (PGR). He/she will report to the Director of LRD on the followings:

- progress and developments of the project
- project proposals passed from the Technical Working Committee to be approved for funding under PARCIP
- Any major issues from PICs and institutions which needs to go to HOAFS meeting for further approval.

This person also has the following roles:

- Coordinates all the project components and facilitates their operations
- Attends the Technical Working Committee (TWC) meeting, to submit project proposals from different stakeholders, institutes and PICs etc.
- Contact point for PICs, Institutions, organizations and groups to submit project proposals to TWC for screening, and problems to HOAFS meetings if needed be.
- Distribution of genetic materials to countries as requested, using SPC/RGC facilities.
- Distribution of agricultural information to all stakeholders.
- Link to International Plant Genetic Resources (IPGR), through the current CePaCT – IPGR collaborations.

5.2.3 Technical Working Committee (TWC).

This committee is to be **chaired by the Director of LRD-SPC**. The members will consist of 6-9 people, independent of any of the regional institutions but having good knowledge and long experience with PGR and food crops in the region. They are technical people, who will be dealing with the technical aspects of the project. Some

members from independent organizations can be invited to become members of the committee at their own costs e.g. FAO. They should be approached. The PC who is a part of the CePaCT team should be able to represent the centre when dealing with practical issues like virus indexing etc.

TWC will meet once a year or when needed and authorized by the chairman. The committee has the following roles:

1. Continuing monitoring and evaluation of project activities and developments
2. Assessment of project proposals and submissions from different institutions, organizations, NGOs and groups throughout the region. They screen these proposals based on their experience and the problems addressed. They are given the responsibility for project approval, and to be reported to HOAFS meetings.
3. To draw up a set of work plans and activities based on the projects approved for funding, setting the direction for PARCIP to focus on.
4. To assess any requests from research institutions for any capacity building/strengthening or resources required to conduct any research under PARCIP.
5. To bring together Research Institutions in the region, with the aid of the Project coordinator and a CePaCT representative, and work out research activities required by the PICs in their proposals and issues raised

5.2.4 PICs Research Institutes.

1. While NARI is well recognized in the region, with available resources and facilities to conduct research, there are other research institutes who are capable of doing research given various support. They should be used whenever possible, but they may need some capacity strengthening and support.

2. Research Institutes will form a regional network, with the help of the PC and CePaCT staff. They will discuss any research required by projects as advised by the TWC, and then determine which institute should conduct what researches, then the PC will recommend to TWC for approval.

3. The idea of specializing research to certain institutes could be introduced if agreed on e.g. - all researches on post harvest/value added aspects of crops could be handled at RDIS, who has facilities and resources to do so. Similarly NARI or other institutes can be identified to do research in other specific areas like breeding, variety evaluation etc. This is considered a gradual development of the project that some research institutes will start to perform specialized functions, and hopefully will continue to do so after the project period is over.

4. Any regional research institute selected to do any research for PARCIP should be given the kind of capacity strengthening and support they would need if approved by TWC. However, these institutes must agree that all research results under PARCIP project is a property of the project and must be given to SPC CePaCT for distribution.

5. Other research results from researches not belonging to PARCIP are properties of those specific research institutes and can only be shared by Material Transfer Agreements (MTA), until such time that countries in the region have ratified and signed the Treaty i.e. the International Treaty on Plant Genetic Resources for Food (ITPGRFA).

5.2.5 Resources required – human, financial and Capacity Building - what is required to support priority areas.

1. Bigger countries and research institutes would require some capacity building and strengthening, human and financial supports, to be able to either contribute to or benefit from the project. These will be given in details by each country or institution when submitting their project proposals for funding.

2. Smaller countries however, will need different requirements of improved facilities, staff or farmer trainings, supports in germplasm collections or nurseries etc. in order for them to have access to the genetic materials and other project benefits. The individual countries requirements will be given in details when submitting their individual project proposals. These will then be assessed by the Technical Working Committee and approved for funding, but must be reported to HOAFS biennial meeting.

5.2.6 SPC- CePaCT.

1. This centre currently operates as a regional organization with necessary resources and facilities for servicing the region in plant genetic materials and relevant information. It has been appointed as the implementing organization for PARCIP

2. Where this centre needs capacity strengthening or facility improvements, they should be provided under this project, as has been suggested for the Research Institutes. The Project coordinator is housed in this centre and should be able to see that these needs are brought to the TWC meeting for approval.

3. This centre will continue with its current servicing roles of conservation, multiplication, virus indexing and distribution of PGR as it has done with previous projects of similar nature e.g. PAPGREN.

5.2.7 Regional Agricultural Information System.

There have been previous attempts among countries in the region to build a collaborative agricultural information system e.g. The Pacific Agricultural Information System (PAIS) without much success. There has also been suggestion of looking at the information system used by NARI in PNG with the possibility of making use of it to form the core of a regional agricultural information system.

The Project Coordinator shall work with SPC to look at the different agricultural information systems in place with reference in particular to the system used by NARI, i.e. National Agricultural Information System (NAIS). From these different systems, an appropriate regional agricultural information system should be established to be used.

Whatever agricultural information system is to be used, the NPC must make sure that this system is simple, accessible and able to provide and make this information available to the right target groups.

5.2.8 The Principle of PARCIP Ensured.

1. Regional collaboration is encouraged by making sure that this project supports, builds on and makes use of existing regional collaborations e.g. support and use DSAP national setups which are successful because it is community based.
2. Equitable access and sharing of genetic and other resources is ensured by allowing all stakeholders to be able to have direct benefits from the project funding based on their needs.
3. This wide country consultation exercise is an essential step of ensuring a participatory and consultative approach.

6. RECOMMENDATIONS:

1. That the Pacific Regional Crop Improvement Program (PARCIP), be accepted for implementation with changes suggested as a result of the region wide consultation.
2. That SPC continues with its existing roles on PGR, as the implementing agent for PARCIP.
3. That a Project coordinator be housed in SPC and working very closely with the CePaCT advisor, but to be working full time on PARCIP.
4. That a Technical Working Committee, chaired by the Director of LRD-SPC, with 6-9 members independent of any regional institutes be put in place to take care of technical aspects of the project. They are given the responsibility to make final approvals, on behalf of HOAFS, for any project matters.
5. That results of previous and current researches on PGR which **have been documented**, be used to solve any immediate problems raised by the PICs.
6. Researches to be conducted under PARCIP will be shared among the different research institutions in the region depending on their capabilities and support required. All research results will be a property of PARCIP, and must be shared through CePaCT SPC.
7. PARCIP national committees must ensure with the help of NPCs an active and good working relationship with the agricultural extension agents in country, especially where it does not exist or is very weak.
8. That the process of national consultation is essential before any project is implemented to ensure full participation of all stakeholders. This is the only way of ensuring that the project benefits reach the end beneficiaries.

9. To obtain maximum benefit from PARCIP, each country must form an active national committee, if it does not already have, and a NPC to address the stakeholders' issues and to access the benefits.

7. ACKNOWLEDGEMENTS:

I would like to sincerely acknowledge the following people and organizations for their assistance, contributions and support in their differing capacities during the consultation. Without their willingness to help and contribute, this consultation would not have been successfully achieved.

- . Director of LRD, CePaCT Advisor and staff of the Genetic Resource Team SPC and all PAPGREN focal points in countries visited, as well as the DSAP- national project coordinators. They have been instrumental in arrangements and organizing this consultation.
- .Staff of all research institutes, Universities and national colleges etc. for their contributions and willingness to support PARCIP.
- Chief Executive Officers Agriculture, and other government Departments, organizations, associations, NGOs, groups and individuals met and interviewed during the country visits, for their contributions and comments. They have been very helpful.
- Funding of the whole consultation and travel arrangement was done by FAO SAP. They are acknowledged with great appreciation.

8. LIST OF PEOPLE MET IN THE CONSULTATION.

During the country consultation, the following people and groups were met, consulted and interviewed in the countries visited.

8.1 Fiji:

1. Secretariat of the Pacific Community - SPC, Land Resource Division-LRD, the Director – LRD, CePaCT Advisor and the Genetic Resource staff.
2. Koronivia Research Station - Deputy Officer-in-Charge, Research Coordinator, Principal Research Officer, Horticulture, and an Extension Officer.
3. Dr. Cenon Pedolina – Forestry Plant Genetic Research Officer, Forum Secretariat
4. University of the South Pacific-USP, Faculties of Science, Technology and Bio-geography:
 - Dr. Anand Tyagi – Associate Professor Molecular Genetics and Breeding
 - Professor Randy Thaman- Bio-geography
 - Marika Tuiwawa – Curator- S.P. Regional Herbarium
 - Dr. Richard Winkworth – Bio-Technology
5. Uraia Waibuta – Extension Officer, Nausori area
6. Dr. Padna Lal – Sustainable Development Advisor, Forum Secretariat
7. Andrew McGregor - Koko Siga (Fiji) Ltd.
8. Dr. Dhana Raghiwaiya – National Food and Nutrition Centre.

8.2 Solomon Islands.

1. Mr. Jimi Saelea – Director of Agricultural Research
2. Mr. Henry Pika – Permanent Secretary, Ministry of Agriculture and Livestock
3. Mr. Lottie Yates - Director of Natural Disaster Management
4. Mr. Fred Patterson – Ministry of Environment and Conservation
5. Mr. Connely Sandrakabatu - Head of the School of Natural Resources
6. Mylyn Kuve- Permanent Secretary, Ministry of Education Project and Research Unit
7. Jack Kalisto- Coordinator, Kastom Gaden

8.3 Papua New Guinea.

1. Mr. Alai Simini - Acting director General, NARI- PNG.
2. Dr. Sergie Bang - Director of Research, NARI
3. Staff of NARI HQ, Lae - PNG
4. Rosa Kambuou- Officer-in-Charge, NARI - Laloki
5. John Bailey - OIC, Aiyura Research Station
6. Professor Allan Quartermain - University of Vudal

8.4 Pohnpei State - Federated State of Micronesia (FSM).

1. Adelino Lorens - Head of Agriculture, Office of Energy and Agriculture(OEA)
2. Jim Currie - Vice President, Cooperative Research and Extension (CRE), College of Micronesia (COM) - FSM.
3. Engli Ioanis – CRE, COM, FSM.
4. John Wichep – FSM Resource and Development
5. Marlyter Silbanuz – SPC- DSAP GREA
6. Mrs. Lois Engleberger – Nutritionist, Island Food Community of Pohnpei.
7. Arisako Enicar – SPC-DSAP officer
8. A representative farmer of DSAP project.

8.5 Republic of Marshall Islands.

1. Hon. Fred Muller – Minister of Resource and Development, Agriculture is under.
2. Thomas Kijiner jr. – Secretary of R&D (Agriculture)
3. Rebecca Lorenniji – Deputy Director, R&D
4. Diane Myazoe Debrum – Director of Land Grant Program, College of Marshall Is.
5. Mereseini Senioli – SPC/DSAP Micronesia Coordinator
6. Dr. Nat Tuivavalagi – Researcher, Land Grant Program- College of Marshall Is.
7. DSAP- Steering Committee meeting members.

8.6 Cook Islands.

1. Mr. Nga Mataio – Secretary of Agriculture
2. William Wigmore – PAPGREN national focal point
3. Ruta Pokura – Women Division, Internal Affairs Ministry and National Women Council
4. Robert Wigmore – Large scale commercial farmer
5. Vareara Maeva – President of Cook Island Association of NGOs

6. President and members of NITA Growers Association
7. Field visit.

8.7 Kingdom of Tonga.

Consultation in Tonga was done as a one day workshop of all the stakeholders who are listed below:

<u>Name</u>	<u>Organization.</u>
1. Lupe Matoto	Department of Environment
2. Mafile’o Masi	Department of Environment
3. Vanessa Lolohea	Tonga National Youth
4. Siale ‘Iolahia	Civil Society Forum of Tonga (CSFT)
5. Manu Vakameilalo	Vaituilua Women Dev. Group
6. Siosi Lutu	Fakamalu Sio’ata Dev. Group
7. ‘Ovaleni Manuofetoa	Tupou High School
8. ‘Isileli T. Latu	Tupou High School
9. Tevita Toafa	Friendly Island Marketing Cooperation
10. Mana Latu	South Pacific Produce Ltd. (Farmer).
11. Samiuela Lolohea	Tonga College (Agric. Lecturer)
12. Vao Langi	Tonga Trust
13. Fatui Langilangi	Ministry of Training, Employment Youth & Sports
14. Teresa Pahulu	Curriculum Division Unit (Ministry of Education)
15. Setaita Ha’ungatau	Curriculum Division Unit (Ministry of Education)
16. Tilema Cama	Ma’alahi Youth Project
17. Losaline Ma’asi	Food & Women Division - MAFFF
18. Viniola Finau	Food & Women Division - MAFFF
19. Solomone Vaikeli	Extension Division - MAFFF
20. Losipeli Funaki	Extension Division - MAFFF
21. Lusio Vaka	Extension Division - MAFFF
22. Ma’afu Manisela	Research & Extension – MAFFF
23. Tevita Tapaevalu	Research & Extension - MAFFF
24. Kamilo ‘Ali	SPC/DSAP Project - MAFFF
25. Mr. Mana’ia Halafihi	– The national PAPGREN officer, MAFFF

8.8 Samoa.

1. Staff of the Crop Division, Nu’u Research Station, MAF
2. Adimalaga Tafuni – Executive Director, Women in Business Incorporation
3. Karen Mapusua – Assistant Director, Women in Business Incorporation
4. Asuao Kirifi Pouono – Chief Executive Officer, MAF
5. Dr. Faale Tumaali – CEO, Research & Development Institute Samoa
6. Maulolo Tavita – CEO, Internal Affairs, Ministry of Women, Community and Social Development
7. Farmers representatives
8. Hon. Tuiloma Pule Lameko – President of Farmers Association, Chairman of PSA and a long time farmer
9. Laisene S. Tuioti Mariner – Acting CEO, Nu’u Research Station

9. LIST OF ANNEXES.

9.1 Annex 1: Details of Region Wide Consultation on PARCIP

9.1.1. Consultation in Fiji.

i) At SPC: Meeting with the Director of LRD, CePaCT Advisor and the Genetic Resource Team.

Dr. Mary Taylor briefed the meeting about PARCIP, why and how it was first proposed. National Agricultural Research Institute (NARI) of PNG has good research facilities and resources, and they do a lot of research on many of the major food crops. Also, PNG has a great genetic diversity which, in such a program can be shared among the countries in the region. Many of these countries have very poor genetic diversity, and many of the indigenous genetic materials they still have, are labeled “Endangered” or “Threatened” of being extinct.

During the discussions, some of the important points and issues were:
Experience from past regional projects, such as the PRAP Sweet Potato project; excellent research was done at the Research Institutes, but the problem was, these results did not reach the end beneficiaries, namely the farmers. There was a need then for virus indexing of these materials before distribution to farmers. Now both RGC and NARI have facilities to do indexing. **There may need to be some capacity strengthening in these centers to cater for the increasing demands of PARCIP.**

Similarly, with the Taro projects; much research has been done, but has not reached the farmers because of the failure to virus index the materials.

There was mention also in the discussion that other SPC projects which require planting materials e.g. some of the DSAP projects in the atolls requiring multiplication of planting materials will also need virus indexing to enable the materials to reach the farmers.

But this brings in a new dimension in the project, where the existing setup of DSAP, with similar functions can be utilized by PARCIP for transfer of genetic materials to PICTs. It has been said by the DSAP project manager that one of the reasons for the project success is the formation of an informal network which is more community targeted. This is one way of ensuring that the project is based on community real needs.

Also, as DSAP project is in the process of phasing out, it would be ideal for PARCIP to strengthen and make use of these linkages which are well established in many of the Pacific countries. This is one of the project’s principles, to build on past regional collaborations.

Clearly, the bigger countries with better and richer resources of genetic diversity, human resources and facilities will need strengthening in their different capacities to improve and provide for PARCIP. The smaller countries however, will necessitate differently. Not only in their food crops priorities, but also in facilities required to have access to these genetic materials from the germplasm center e.g. facilities for receiving TC materials from RGC.

This discussion at the end made a reminder that in such a project, it is important to realize and to find out what is the perception of the countries for their share from the project; what do they require to be able to have access to the benefits of the program, and how are they willing to contribute and support the project.

ii) Koronivia Research Station:

This is the government's research station under the Department of Agriculture. Meeting was with the Deputy OIC of the station, Research Coordinator, Principal Research Officer- Horticulture, and an Extension Officer.

- This Research station has facilities and some resources to carry out research on crop improvement, including breeding, variety evaluation or germplasm collection etc. However, they need capacity strengthening and support to be able to conduct any research.

Some of the feed back from these officers on PARCIP were:

- **They stressed the importance of this project in supplying clean planting materials (TC), to provide materials free of pests and disease, as internal quarantine measures e.g. the movement of taro planting materials between taro beetles infected areas and free areas within a country, like in Fiji.**

- They also raised the importance of the awareness of farmers about the project. They suggested farmer trainings, posters, leaflets, field days etc. to ensure this. They should realize the importance of the project purpose and how they can have access to the benefits. Support for a good extension system in place is required.

- **They raised the importance of research not only on the normal staple food crops, but on other nutritional important crops like some the traditional vegetables, fruit trees etc. and some cash crops.**

- They stressed the importance of having a good regional agricultural information system, to ensure a free flow of information and sharing of genetic materials.

- They suggested that besides having the Monitoring Committee represent the region, there should also be a National Steering committee, to oversee and monitor national PARCIP operations. They will take care of any share or contribution per country to the project. This means that the role of the Monitoring Committee will be both regional and national.

iii) Dr. Cenon Pedolina – Forestry Plant Genetic Research Officer

- In such a project, the training component is important, requiring some capacity strengthening, especially for handling of TC materials.

- Importance of Agro-forestry practices which may be suitable in some countries.

- It is important, that recipients of TC genetic materials have facilities for receiving and to handle them before field planting, especially with forest species, which is harder to propagate.

- Resources required: mainly staff and nursery materials.

iv) USP Faculty of Science and Technology, Bio-Technology and Bio-geography.

Meeting held with Professors, Lecturers and Scientists in these areas which are all relevant to the research and training component of the project. They all gave full support to the program and willingness to contribute.

- **They stressed the importance of Pacific Island genetic materials (resources) for food security and nutrition, as compared to imported food chunks. But people in the countries must be aware of it, and they should know that TC materials of these genetic materials are available through this program for their use.**
- They can offer specialized trainings on plant breeding, bio-technology areas, DNA and molecular biology, as well as researches in these areas, which are all useful for this project. They are currently working together with SPC-RGC on virus indexing of TC materials before distribution. This will have to be strengthened successfully to provide for the project.
- Raised the importance of conservation and documentation of genetic resources available especially in small countries which are labeled “endangered spp.”
- They offered to have students during the school holidays, carry out surveys of the genetic diversity present in the Pacific islands. Results can be used by RGC for conservation purposes, and documented at the USP herbarium, recording of crops genetic diversity in the Pacific and their use.
- They will continue to strengthen their links and collaboration with SPC, and thus supporting the program and its 3 principles.

v) Agricultural Extension Officer and Farmer at Nausori area

Although the priority crops in the program are food crops aimed primarily at food security and nutrition, majority of farmers are more market driven in their farming. The trend now is, farmers are only interested in crops with cash value. This concept should be accommodated in the project because this is the same in some other countries.

- **The extension officer and farmers hope that this project will work on traditional food crops and vegetables, by providing planting materials mass multiplied in tissue culture.** Concern of consumers is the increasing use of agro-chemicals on imported vegetables like cabbages and its health risk. Alternatively, there are some local leaf vegetables now sold at the local market. Farmers want to mass produce these traditional vegetables. How can this project help?
- The extension officer stressed the importance of establishing a good link between different stakeholders:
RGC and Research <-----> Extension officer <-----> Farmers
- Require capacity strengthening of extension to deliver information and genetic materials to and from farmers and RGC /Research.

vi) Comments by the Sustainable Development Advisor - Forum Secretariat

- In such program, are there mechanisms in place to address the issues and any feed backs? The project needs to be fully participatory.
- Are the responsibilities of each party clear? How are the institutional ties linked to each other?

- Looking at the future, what is the trend of the farmers needs?
- To ensure project continuity, how will sustainable financing be provided?

vii) Koko Siga (Fiji) Ltd.- A private Trading Company.

Apart from the food crops being the priority crops in this project, he suggests other crops not included in the program but are of importance in other areas, especially the rich genetic diversity in Melanesia e.g. Orchids, to be developed in this project. Again the possibility of sharing is there, but should be included in the project on the same principles.

viii) National Food and Nutrition Centre: Dhana Raghwaya.

This organization is operating in the interest and benefit of the community, including schools, primary and vocational. Many of the center's projects are community based aimed primarily at improved nutrition and thus healthier people. Such projects include: backyard gardening, organic farming and school gardening.

This centre has just requested Koronivia research station for some planting materials to be used in their projects, but they were referred to SPC/ PGR. They are a very active link to the community, and could be used to ensure that the project material benefits reach the end beneficiaries. This organization is most willing to support this program, knowing that it will benefit its clients. **But the most important point here is that this organization's primary aim is improved food security and better nutrition, which is in line with this project's ultimate aim.**

Final discussion with the PGR team, LRD revealed that although the operation of the project is within the current roles of the RGC resources, facilities and setup, there will need to be strengthening of its resources. It is suggested that there will be a need for a full time person to manage/overlook and coordinate the project. He will be responsible to the "Steering/Monitoring Committee", consisting of representatives of Pacific Island countries, relevant organizations and institutions, NGOs etc. One of his major roles is to bring all linkages and collaborators together and make sure that they are well coordinated and allowed to function well. Similarly, he should also be able to keep all stakeholders well informed of the project happenings.

9.1.2 Consultation in the Solomon Islands.

i) Meeting with the Director of Agricultural Research, Jimi Saelea:

He is aware of a number of previous and existing regional projects on plant genetic resources, and some of these projects have not been very active. He has suggested a proposed framework for PARCIP, to have in place a coordinating body or a project coordinator with a role of coordinating all collaborators and managing the projects' operation. This is very important in such projects because there needs to be a contact person to coordinate all linking collaborators, and stakeholders and to ensure there is full consultation and participation by all parties. In this way all issues will be addressed, and there will be equal sharing of benefits. Also the island

countries will know exactly who to contact in matters related to the project, especially with their needs.

ii) Visit to the School of Natural Resources. Head of School – Mr. Connelly Sandrakabatu

This Training Institute is under the **Solomon Island College of Higher Education**, providing trainings in the areas of agriculture and forestry. Students are trained in different areas of agriculture and forestry, and at the end of their training, they bring these knowledge to the villages (communities).

The Head of school is supportive of this project because they can benefit by obtaining genetic materials for their training, but can contribute by widening the awareness and use of the program. Currently they are working closely with the Ministry of Agriculture research, obtaining genetic materials as well as technical information on crop production. They are hopeful of strengthening this link with the research and extension when the project is in operation. They need to strengthen their links with agricultural research and extension.

iii) Director of National Disaster Management Office – Lottie Yates.

The National Disaster Management Center has a significant role of developing programs of **preparedness and response** to any kind of disasters including natural disasters. These disasters range from climate change, cyclones, flooding, drought, saltiness, pests etc.

One of the most important areas they are emphasizing is to be prepared for the times of natural disasters with the food crops, making sure that there is enough food for the people. This program is aimed at preparing before the strike of a natural disaster. Also, their program of response which is aimed at the aftermath of natural disasters, also feature food crop production as an important component of crop rehabilitation after times of natural disasters. These will require food crop genetic materials for replanting.

They are working closely with communities, having several community programs which involve planting of the right food crops at the right season, and at the right environments. They are willing to support and work closely with the project and to pool resources in order to achieve a common goal.

As they are working closely with the community, they feel that one of the most important missing links in their programs is the involvement of agricultural extension in providing technical crop production information. If the project operates, there should be a better linkage with the Department of Agriculture extension service.

iv) Ministry of Environment and Conservation Office: - Mr. Fred Patterson.

This Ministry has an interest in this program in its role of caring for the environment and the conservation of existing biodiversity in different environments, including agrobiodiversity. Also they are concerned with the impacts of any programs to the environment e.g. the increasing use of agricultural chemicals through agricultural

development. They are responsible to Land Management and National Action Plans, and are therefore interested in supporting such programs which ensures a safe and friendly environment.

v) Ministry of Education Project and Research Unit: Mylyn Kuve, Permanent Secretary. She commented that the Ministry of Education is in a good position to support this project as many of the boarding schools who have access to land, do grow their own food crops. Also, in the College of Higher Education, agriculture and forestry are the main subjects taught in the School of Natural resources. In addition, they are in a good position to add agriculture in the school curriculum.

The Ministry also has in its Rural Training Centre (RTC), Technical Vocational and Education Training, which also offer agricultural trainings.

vi) Kastom Gaden Association - Coordinator: Jack Kalisto

The founder of this association had one thing in mind, that food production and food security cannot be separated. He started the association with his concept of organic farming as “start where you are, with what you have”. Today the association has expanded immensely, but they still keep to the original concept of food production for food security, and using organic farming practices. Their chief target client is the rural people who include different farming communities consisting of women groups, youths, farmers’ associations etc.

The association has 12 different projects in operation throughout the country, ranging from Root Crop field trials on sweet potato, yams and bananas. They also have vegetable projects, poultry and pigs, and they are looking into the area of local animal feed production.

For their food crops, they have bulking sites throughout the region to supply planting materials to their members. They also have 6 germplasm centers to handle plant genetic materials from SPC, through the Crop Research section of the Ministry of Agriculture.

They have regional coordinators who are responsible for their projects in the villages. These existing linkages can be strengthened and used by PARCIP, to reach out to the different stakeholders.

This association has a very well-established linkage with the village communities, and as they are dealing a lot with plant genetic materials for farmers, it is important to be aware of the operations of such organizations. Their comment on the project is that, they are in full support, and for them to access the benefits they will need support and strengthening in some of their existing links within the association, but also with the Extension Division of the Ministry of Agriculture. They feel that a strong link with the extension is needed to ensure sustainability of their projects, by setting an evaluation and report-back system. Their six germplasm centers will also need improvement in their facilities to handle genetic materials coming in from RGC.

After talking to Kastom Gaden Association, we visited the founder member, who is now a model farmer working on his own. He is practicing all the technologies on which the

association was founded. He is not far from Kastom Gaden, and he has his own casual workers to work for him. On his farm he has a number of crops which he takes to the local market. He is still producing organic food crops, traditional vegetables, and fruits like papaya, jackfruits etc.

Asked what he expects to gain from PARCIP, he hopes to make use of the availability of genetic materials to diversify his crops and to widen his genetic diversity. As a successful model farmer, he is in a good position to distribute the diverse genetic materials to the farmers in his area.

He feels that the most crucial link to strengthen is the link between the extension and farmers.

9.1.3 Consultation in Papua New Guinea.

The focal point of contact in PNG was **National Agricultural Research Institute (NARI)**, at Bubia, Lae. The program organized by NARI was:

Meeting at NARI HQ, with the research staff including the Acting Director General of Nari, Mr. Alai Simini and the Director of Research Dr. Sergie Bang. The Director of research gave an outline of the work at NARI, and then later he made a presentation on PARCIP which was initially proposed by NARI.

NARI was first established in 1996/1997 by an Act of National Parliament, for conducting applied, adaptive and development oriented agricultural research so as to contribute to agricultural and rural development in PNG. The major targets of NARI are the smallholder semi-commercial farmers and it aims to:

- enhance the productivity, efficiency and sustainability of smallholder agriculture,
- &
- improve the farmer's income, food security and the welfare of the people

NARI's head office is situated at Bubia near Lae in the Morobe Province. It has six different research programs situated at different locations throughout the country.

- Wet Lowlands Mainland Program at Bubia, Morobe Province.
- Wet Lowlands Island Program at Keravat, ENB Province
- Dry Lowlands Program at Laloki, Central Province
- High Altitude Highlands Program at Tambul, WHP
- Highlands Program at Aiyura EHP
- Livestock Research Program at Labu, Morobe Province.

There is also a Chemistry Laboratory, and the National Agricultural Insect Collection at Kilakila, National Capital District

NARI, with its research programs in a great diversity of environments has a great potential of providing useful services to PARCIP. It is also the largest research institute in the region, with probably the best and most developed researches in the area of plant

genetics and breeding. Also, as far as the plant genetic materials to be shared amongst the Pacific Island countries are concerned, PNG has the greatest genetic diversity. Therefore, it is most important for NARI to be greatly involved considering that it was them who initiated and proposed PARCIP.

Discussion with NARI staff has indicated their willingness to support the project. However, some of the issues they raised were:

- They are concerned with the dissemination of genetic materials. There should be a clear understanding on how this should be done. It is not that they are unwilling to share their genetic diversity, but these things should be made clear.
- Previous projects have bred and improved certain plant materials which have not been distributed. Perhaps a data base system should be in place to have these readily available and accessible to countries. Participating countries should check with SPC germplasm centre what materials are available there.
- They feel that there must be better cooperation with each other, especially institutes within and between countries, having dialogue amongst them and avoid any duplication of efforts.

As far as sharing of genetic materials, they expect that through the PARCIP, they will be able to have access to genetic materials from other Pacific islands, which are of importance to these islands, e.g. atolls. NARI can then carry out researches for these islands based on their requests and needs. But these needs must be requested from these countries. **This means that any research carried out under PARCIP, must be based on island's needs and requests.**

As for capacity building and strengthening, NARI has different capacity strengthening and supplementation, resources and facility requirements, depending on the Research station e.g. in NARI at Laloki station, one of their most urgent need is to upgrade their Tissue Culture laboratory to enable them to handle and exchange genetic materials. They will also be able to better supply and have materials easily accessible to farmers in the Central Lowland areas. They would also need support in their field germplasm collection, which is quite expensive to maintain. Other needs by Laloki station is strengthening of human resources, in particular a researcher or a breeder to carry out research on different plant genetic aspects.

Lowland Agricultural Research Station at Laloki is a part of NARI. At Laloki Research station, consultation was made with the Officer in Charge, Rosa Kambuou, who was one of the first initiators of PARCIP. She commented that one of the reasons for proposing PARCIP was because collection of plant genetic materials was not supported by many countries and groups because it was not valued. Thus PARCIP was proposed to do more than just selection, i.e. to utilize plant genetic materials in breeding to justify why keeping and maintaining of genetic material is important.

There was very limited wide consultation only in PNG, much of which was with NARI staff in different locations, either by direct communication or by telephone. As NARI is a major contributor to this project, both in genetic materials and resources, it was important to obtain their views and contribution to the project. In addition, the effectiveness and

success of their agricultural information system should also be noted. NAIS (National Agricultural Information System) is well established and successful in the transfer of information to their clients, the farmers.

Talking by telephone from Aiyura, John Bailey the OIC mentioned some of the major programs include germplasm collections and selection of a large sweet potato, banana and cassava collection. They would require:

- Characterization of the sweet potato collection
- Support in maintaining of their collection
- One of their main focus now is to select for drought tolerant sweet potato, and good eating qualities. This is in fact one of the needs of some of the island countries.

- As with the University of Vudal in ENB, Professor Allan Quartermain, by telephone, stated that Vudal's most pressing need is staffing for Research. Their continuing role of training and research can give support to PARCIP.

One of the comments by NARI staff is to use the similar proceedings and strategies used by TAROGEN, which was successful because of its use of genetic diversity to breed for disease resistance, and today research still continues. Other crops should follow the same trend e.g. for sweet potato, breeding should be directed at market needs as farmers are now market oriented. Such things as early varieties, eating qualities, taste etc. should be considered. But again, this should be requested by countries as their needs.

They also commented on the documentation of information, stating that the project should be able to create a data base that is more readily accessible for anybody to use. Hopefully this project should bring participating countries to be aware of the work done at CePaCT, LRD-SPC, and be able to make use of these as well as adding to the materials and missing information.

9.1.4 Consultation in FSM – Pohnpei State

Federated State of Micronesia (FSM), consists of four states, namely: Pohnpei, Kosrae, Yap and Chuuk (Truk). Pohnpei consultation represented FSM, and time allowed was only a day and a half. The following people were met for consultation in Pohnpei:

Mr. Adelino Lorens – The Head of Agriculture, Office of Energy & Agriculture (OEA),
Pohnpei state.

John Wichep - FSM Resource and Development

Jim Currie - V. President Cooperative Research and Extension, College of
Micronesia – FSM

Engli Ioanis - Extension, College of Micronesia

Marlyter Silbanuz - DSAP officer (GREA)

Dr. Lois Engleberger - Island Food Community of Pohnpei

Visited also one of the SPC/DSAP farmers on the island.

Cooperative research and extension (CRE) section under the Land Grant program of the College of Micronesia (COM) plays a very active role in agriculture and in particular

with the utilization of plant genetic materials in FSM. They have Tissue Culture (TC) laboratories in some of the states, and they multiply these materials in tissue culture and are distributed to farmers. This is on top of their important role of trainings for their staff as well as farmers. Under the Land Grant program, each state has access to one researcher, and a few extension officers. They are also working closely with the Agriculture sector and the DSAP project in addressing the farmer's problems.

They have stated their willingness to support PARCIP, as part of their current activities is in line with the project's activities. However, they have also indicated that they will be needing support from the project, in all areas of human resources, facilities, staff and farmer trainings etc. Although each state differs in their own needs on plant genetic material, some of the following areas can be shared among them.

They all need a wider genetic pool for their food crops. This will need maintaining the existing genetic materials in the country as well as importing materials from other countries through SPC germplasm centre.

This means that the existing TC facilities of COM will need to be strengthened to cater for any increasing demands. Some of the areas that the project should be focusing on include: continued and more micro-propagation of major traditional food crops. Requirements in some states will include research for nematode resistance in traditional food crops. In some states, their focus will be on Taro Leaf Blight (TLB) resistance and banana Sigatoka disease resistance. In some of the atoll islands, there is a need for a suitable sweet potato variety, and for salt resistance in Taro.

It should be mentioned at this stage that FSM is blessed with the COM Land Grant facilities and existing resources helping with the multiplication and distribution of plant genetic materials. Each state in FSM should work closely with this program to make good use of them. This will probably require a very active national project committee to coordinate the project activities, to monitor and to evaluate. **Also the Department of Energy & Agriculture should help strengthen if possible the existing extension set up of the college to ensure full benefit of the farmers from the project.**

9.1.5 Consultation in The Republic of Marshall Island (RMI).

The consultation at RMI was only one day, the second day falling in on Good Friday, which was a public holiday. Consultation at Majuro was with the following people:

Mr. Fred Muller - Minister of Resource and Development which Agriculture is under.

Mr. Thomas Kijiner Jr. - Secretary of R&D

Rebecca Lorenniji - Deputy Secretary of R&D

Diane Myazoe Debrum - Director of Land Grant Program, College of Marshall Is.

Billy Edmund - DSAP- GREA -RMI.

Mereseini Senioli - SPC/ DSAP, Micronesia Coordinator

Dr. Nat Tuivavalangi - Researcher Land Grant Program- College of Marshall Is.

DSAP steering committee meeting - Attended.

Eldon Adam - A farmer with the DSAP project.

I got in at the middle of the meeting of the DSAP national steering committee at the R&D office. The committee consists of the Secretary and Deputy Secretary of R&D. The other members were:

- The SPC-DSAP Micronesian coordinator, the DSAP National Project Coordinator (NPC), Director of Land Grant Program - College of Marshall Is., plus other representatives of NGOs and women groups.

This steering committee meeting is held every two weeks to report on the project activities and any developments, and to discuss any issues and matters arising. From observation it was seen that this project is running well and is well supported at the national level. This should be a good example for other countries to follow as ensuring support to such programs as PARCIP. The Secretary of R&D who is a member of the steering committee has assured that the same committee members will be used for PARCIP once the project starts.

Meeting with the Director of Land Grant Program, and the Researcher of the Agriculture Technical Unit, College of Marshall Is. showed that they run very similar programs to those seen in Pohnpei, FSM. They have their own researchers and extension officers, and also facilities for rapid multiplication of plant materials, like TC laboratories. These are all under the College of Marshall Is. funded by US State government. They are most willing to continue working together with other parties to support PARCIP, as they have done in the past. For RMI to make use of these facilities and services for PARCIP, they should come to some agreements and arrangements as how they can best pool their resources and work together to benefit their clients, the farmers. It has been suggested by the Director that they would probably require some assistance from the project as strengthening of their resources and facilities, in order to improve their services.

Consultation with the Minister of R&D Agriculture, who was the Secretary until only recently; he outlined some of the main focus and a country strategy that they are driving towards. This they have drawn up as a RMI – SPC joint country strategy with proposed activities, as a Five Year Strategic Plan for RMI. The first activity to be implemented in 2005 – 2010 is Agricultural Production Services, and on top of the list is “Establish Centre of Excellence for Atoll Agriculture”. The list of activities lined up for the current five year strategic plan includes the followings:

- Capacity building in technical skills for extension agents, farmers, communities, women, youths etc.
- Technical assistance to support regional and national workshops; formal and informal trainings.
- Participatory development of sustainable atoll agricultural technologies.
- Research and development on sustainable atoll agricultural technologies.
- **Investigate, introduce and integrate suitable new genetic materials into the Marshall Is. farming system.**
- **Introduction of appropriate new species and varieties of crops into the Island’s farming system.**

This is as the Minister stated, is the direction Marshall Is. is moving as far as agricultural development is concerned. This is of course in line with the area and objectives of PARCIP.

The most important thing is for every island country and stakeholders in the country to be well aware of such a project and the benefits they can get from it. Then they should pool their resources together to get the best they can from such projects.

9.1.6 Consultation in Cook Islands.

The first meeting was with the Secretary of Agriculture, Mr. Nga Mataio, and the national Pacific Plant Genetic Resources Network (PAPGREN) focal point, Mr. William Wigmore. Cook Is. is very supportive of the project, and would like to do its best to get the benefit from it. They will try their best to form an active national committee to coordinate and take care of this project. One of the ideas is to make use of existing project setups, networks and committees with improvements wherever needed.

Consultation in Cook Islands consisted of meetings with the following people:

1. Mr. Nga Mataio - Secretary of Agriculture
2. Mr. William Wigmore - PAPGREN national focal point
3. Ruta Pokura - Women Division, Internal Affairs Ministry, and National Women's Council.
4. Robert Wigmore - A large scale full time farmer
5. Vereara Maeva - President of Cook Is. Association of NGOs
6. Meeting with the President and members of Nita Growers Association
7. A field Visit to different farming areas on Rarotonga.
8. A final wrap-up meeting with the Secretary of Agriculture, and the PAPGREN national focal point.

Some of the findings from Cook Is. consultation were:

- They fully support PARCIP as they have done to other previous projects, and they will make use of the existing linkages and networks to access the benefits from it.
- They feel that before the project is implemented all the countries should be well informed of the details of the project: the timings, how the funding is rationed, who the collaborators are, and who is responsible to do what activities etc.
- They insist on the importance of having a sound monitoring and evaluation system in place, both at the regional and national levels.
- They agreed in general that a framework for PARCIP to consist of a Monitoring Committee or a governing body. Then a Project coordinator, responsible to the monitoring committee should be in place to coordinate and ensure that the project is implemented as planned. His role is to

coordinate all stakeholders and collaborators making the necessary linkages so that the project is running smoothly.

- In the national level there should also be a strong and active body to govern and somebody to coordinate the project, preferably using existing project committees if it is working well e.g. DSAP steering committee and NPC.
- Cook Is will ensure that this national level project framework will be in place to allow them to get maximum benefit from PARCIP.
- They agree that the Project should allow for major research activities like breeding to be carried out by major research institutes e.g. NARI, Koronivia, Alafua etc. based on the needs of small island countries. Similarly small island countries should also have local setups to be able to make final selections and evaluations under local conditions. They will need some facilities to do this.
- With the proposed project framework, problems and requirements from countries are to channel through the NPC to the Project Coordinator and for any major issues to go to the Monitoring Committee through the country representative.
- Visit to the Women Division of the Internal Affairs Ministry and National Women Council, and also to Cook Is. association of NGOs which consists mainly of women, showed their keen interest and support to the project. They have very active programs in growing of ornamental plants and vegetable backyard gardens, and they look at this project to support their activities.

PARCIP enlightened them with a new dimension on Food Security and Nutrition and the role of women in utilization of local food crops for better nutrition and thus better health. Also, the area of training and awareness programs for their clients. These are important stakeholders for the project and should be made use of. They require funding for their activities.

As for the country's priority crops and activities, they would like to further develop and improve on their food crops. **With Taro – as one of the important food crops as well as a cash crop, they would like to continue with looking for resistant varieties to TLB, and also to improve on nutrition and taste.**

For Xanthosoma a potential food crop, there needs to be some work on pythium and rhizoctonia funguses which may be causing corm rot.

With sweet potato, they require resistance to leaf scab, flesh color and nutrition value.

For bananas – they need to look at varieties with high nutritional values.

As in the area of capacity strengthening and support, and of resource requirements, they need strengthening in their human resources due to staff movement and retirement. There is also a need for staff training in areas of genetic material conservation both in situ and ex situ to prepare for the handling of the shared genetic materials.

9.1.7 Consultation in the Kingdom of Tonga

The consultation in Tonga was done as a one day workshop with representatives from different stakeholders invited to attend. A total of twenty four participants representing sixteen different groups, organization, NGOs, government departments etc. The meeting started by opening statements by the Head of Research Division of the Ministry of Agriculture Forestry & Fisheries, where the meeting was held. He emphasized the importance of a broad genetic base in our traditional food crops. This project is aimed at making sure that in future the problem faced by Tonga with the Sweet potato Leaf scab in the 1980s, and Taro Leaf Blight in Samoa in 1990s will not repeat itself.

Then the meeting was briefed by the consultant on PARCIP, how it was initiated and first proposed, the principles, the aims and importance to ensure food crop improvement in the region and thus bring about food security to the islands. The meeting was well informed of the benefits of PARCIP in sharing of food crop genetic materials, and the idea of small island countries very poor in genetic diversity having access to plant genetic materials in countries with rich genetic diversity.

The consultant explained to the meeting of stakeholders the reason for the consultation. FAO who is to fund this project wants this consultation to bring all stakeholders views and thoughts on such project. Some of the issues they were asked to comment on were:

- framework for coordinating PARCIP
- monitoring and evaluation system
- crops and priority activities
- Resources required, human and financial, capacity building and strengthening required to support countries in priority areas.
- Information system required.

Then the floor was opened for discussions. There was a very detailed discussion on the issues raised and everybody was in full support of the proposed project. All the stakeholders showed their keen interest and wanted to share their views and represent their respective organization. Some of the important discussions which represented the views and needs of the stakeholders were:

- A very detailed discussion was on the framework required for coordinating PARCIP, both at the regional and national levels. They feel that the role of the Monitoring Committee or a governing body is quite important to decide how PARCIP is run, and playing a role in monitoring and evaluation of the project.
- They think that a Project coordinator is vital and to be responsible for running PARCIP and has a very important role of coordinating all the different stakeholders and bringing all linkages together. This person is to be based in SPC- LRD, and to be accessible to the CePaCT set up and in close consultation with the Advisor. He will be in direct contact with all Research Institutions, Universities, Organizations, and also with all National Project Coordinators.

- Then the discussion dwelled a long time on the formation of a national project committee. They felt that it is most vital that this committee be set up and that all the stakeholders should be represented. This committee will determine the project activities and give support to the national project coordinator and should ensure project monitoring and evaluation.

It was then decided at this meeting that this national committee must be formed as soon as possible, to be given a name like “Food Security National Committee” and to be represented by the stakeholders involved. They were very positive of working together to support such projects as this one. They decided that this committee will be used in any future projects related to food security and nutrition.

Then the discussions shifted to crops with priority activities. The meeting agreed on the following crops and activities.

- .Need for a collection of the food crop genetic materials presently in country, especially those labeled “Endangered spp.” This can be done both ex situ and in situ. This is important not only in saving those spp. or varieties from being lost, but from the Education Department’s view, this can be used by students in agriculture as a live specimen reference. Genetic materials in this germplasm collection should be sent to SPC/RGC to be conserved as a back up to the local collection.
- .There was a strong demand from the meeting that there should be a nursery under the project to propagate and multiply planting materials of food crop species including fruit trees like citrus, papaya, bananas etc., and working together with the women groups can promote the planting of these crop species firstly in their backyard gardens to feed the family.
- .The meeting also agreed that the project should be used to widen the genetic diversity of food crops to avoid any future disasters as a result of some disease outbreaks or similar events. This will include such crops as sweet potato, taro, yam, cassava, bananas etc. New varieties can be introduced via SPC/ Suva and either used for breeding or further evaluated as a new variety.
- .There was also an agreement in the meeting that there needs to be a stronger and better extension linkage between stakeholders but especially with the farmers.

As for capacity building and resources required it was discussed that Vaini Research Station has facilities for research which can be utilized. Maybe PARCIP can help by improving some of these facilities and enable them to do some research on plant genetic materials under local conditions. Vaini Research Station is prepared to do this, having some of the research facilities and available land, but would require mainly some financial support to be able to carry out necessary research.

This meeting was very fruitful because there was a very good representation of different stakeholders all participating freely and voicing their respective group's view. A list of the participants and their organizations is given below.

List of Participants to the PARCIP Consultation in Tonga

<u>Name</u>	<u>Organization.</u>
1. Lupe Matoto	Dept. of Environment
2. Mafile'o Masi	Dept. of Environment
3. Vanessa Lolohea	Tonga National Youth
4. Siale 'Iolahia	Civil Society Forum of Tonga (CSFT)
5. Manu Vakameilalo	Vaituilua Women Dev. Group
6. Siosi Lutu	Fakamalu Sio'ata Dev. Group
7. 'Ovaleni Manuofetoa	Tupou High School
8. 'Isileli T. Latu	Tupou High School
9. Tevita Toafa	Friendly Island Marketing Cooperation
10 Mana Latu	South Pacific Produce Ltd (Farmer)
11 Samiuela Lolohea	Tonga College (Agric. Lecturer)
12 Vao Langi	Tonga Trust
13 Fatui Langilangi	Ministry of Training, Empolyment Youth & Sports
14 Teresa Pahulu	Curriculum Dev. Unit (Min. of Education)
15 Setaita Ha'ungatau	Curriculum Dev. Unit (Min. of Education)
16 Tilema Cama	Ma'alahi Youth Project
17 Losaline Ma'asi	Food & Women Div. MAFFF
18 Viniola Finau	Food & Women Div. MAFFF
19 Solomone Vaikeli	Extension Div. MAFFF
20 Losipeli Funaki	Same
21 Lusio Vaka	Same
22 Ma'afu Manisela	Research & Extension – MAFFF
23 Tevita Tapaevalu	Same
24 Kamilo 'Ali	SPC/DSAP Project - MAFFF
25 Mana'ia Halafih	MAFFF – PAPGREN officer.

9.1.8 Consultation in Samoa.

i) Meeting with the staff of the Crop Division of MAF at Nuu Research Station.

There were a good number of staff attendants in this meeting. The meeting was briefed by the consultant on the project (PARCIP), and then they were given time to ask questions and give their views and make comments on the project. Again they were informed to give their free, independent views on the project, how it should be run and how it could benefit their work and their clients – the farmers.

Some of the feed back from the staff was that farmers are still interested in improvements to food crops like taro, bananas etc. and more research should continue. They also

mention that some research can be done in the country, with the existing facilities they have but with some support and strengthening from the project. Some of the local research institutes are capable of conducting some research, and should be used.

- They also stressed the importance of a good extension linkage with the farmers so that they are well aware of the project and are able to get benefits from it.

ii) Meeting with Tolo Iosefa – USP/Alafua, Taro breeder.

Mr. Iosefa is the local Taro breeder who has been with the Tarogen project and has done so well with the fight against Taro Leaf Blight. With the Tarogen project coming towards an end, he is keen to focus research on other root crops, mainly Aroids – Taro to continue breeding for better disease resistance as well as good eating qualities, Cyrtosperma (giant swamp taro) to breed for varieties suitable for atolls, and sweet potato.

- He is keen to make use of the genetic materials in TC as back up stock to SPC to do breeding using the Participatory Plant Breeding method as used for the Taro Improvement Program. There are facilities available, office, land and labor. He is keen to continue with root and tuber crops breeding for two main reasons:

- As a service to farmers in the region
 - For academic purposes, for teaching of students in agriculture
- He is willing to support and work closely with this project.

iii) Visit to the Women in Business Development Inc. Adimamalaga Tafunai – Ex-Director and Karen Mapusua, Ass Director.

This is a very strong and active women group who work very closely with rural areas as well as with the region. They are working extensively on Organic Farming, and they are the official body in the country for Organic Produce Certification. They have 204 farmers in Samoa who have been certified organic, and they have access to organic markets with premium prices.

They have started marketing of traditional crops as organic products, crops like coconuts, and in the near future crops like bananas and cocoa. They are also looking at the practice of agro-forestry with the possibility of growing C. nut from Vanuatu. Another of their important activities is establishing linkages and collaborations with other regional organizations e.g. working together and sharing with Tonga National Youth group who are visiting Samoa to study their operations.

They are very keen to work together with this project knowing that it will benefit their clients, in sharing some of the genetic materials that may be useful to organic farming. Also, their role as women groups in promoting the utilization of traditional food crops, especially in looking at its nutritional value and methods of food preparation.

iv) Visit to the CEO of MAF – Asuao Kirifi Pouono.

He realizes the importance of a wide plant genetic diversity as Samoa has learned from the Taro Leaf Blight problem. His main concern with this project is the concept of plant material exchange, how to ensure a smooth transaction and free exchange of materials.

As with the framework of PARCIP, the formation of a monitoring committee (governing body) is important, but costs must be considered e.g. whether representatives from each country/government is affordable. The idea of a project coordinator is vital to operate in coordinating the project and bringing all linkages and collaborators together and allow them to interact freely. He should be a person to be housed in SPC-LRD in CePaCT, but should be fully devoted to PARCIP.

He thinks that Samoa needs to continue research work on taro, as well as other food crops to look for further improvements. He is agreeable for researches to be done in any of the research institutes in the region.

v) Research and Development Institute of Samoa – Taito Ulaitino, Dr. Faale Tumaali

Institute was set up in mid- 2006 with the objective of conducting all researches on agricultural produce as it passes the farm gate. This will involve researches on value added food crops and for export, post harvest researches, renewable energy, bio-fuel etc. They are keen at carrying out researches on different crops and their chemical compositions, and how they can be extracted e.g. avocado oil. Post harvest research on fruits shelf life can be looked at e.g. papaya.

This is an important institute to the development of crops whether for food or for export, because they will be looking at value added of crops as well as post harvest research. They are most willing to support and work together with this project.

vi) Internal Affairs – Maulolo Tavita CEO.

This is one of the six divisions of the Ministry of Women, Community and Social Development. This Division is the voice of the government to the village communities. They have mayors, who are the government representatives in the villages, and in the villages the council of chiefs holds the power. It was learned from this Division that the success of any community based program will depend very much on how much the council of chiefs are involved.

vii) Representatives of Farmers.

This was a meeting called for farmers to attend but unfortunately only a few farmers turned up. The main concern raised by this few people was the importance of other crops beside food crops, which are equally important to the countries e.g. medicinal plants, indigenous fruit trees, ornamentals with good cash values like orchids and one important crop they mentioned was mushroom. These people feel that values of food crops in the region cannot be denied, but they think that farming today is talking about cash and money. The first thing a farmer asks about a crop is whether there is a market and what is the price. If these questions are not answered then they are not interested. This was a general comment from many farming groups who tended to voice their most important problems when talking about farming, the problem of markets.

viii) Hon. Tuiloma Pule Lameko–President of Farmers Association

He is also a farmer. He was very supportive of the project, for the idea of sharing of plant genetic materials, although his attention was diverted to the problems of farmers with marketing. The only advice given to him was to organize themselves as a strong farmers association and benefit as much from this project with the sharing and use of genetic materials. Then they can look at the problem of marketing and try to seek for some donor assistance.

ix) Laisene S. Tuioti-Mariner. Acting CEO, Nu’u Research Station, MAF.

She has been involved much with the PAPGREN Project, so she knows a lot about PARCIP when it was proposed. The initial project concept was that NARI was looked at as the research institute with resources, facilities and researchers to do most of the research work for the project. However, it is also important to consider research institutes in other countries which are also capable of conducting researches in this area, such as Koronivia in Fiji, Nu’u and Alafua in Samoa, Vaini Research Station in Tonga and others. These institutes may need some support and strengthening to be able to carry out some of the Project researches. By doing this, one is ensured of the continuing service of these institutes once the project is over.

She is very supportive of the project, and as SPC/DSAP project is coming towards the final stages, she is planning to make use of the same DSAP national steering committee for PARCIP, with a few more representatives from research and other relevant stakeholders.

9.2 Annex 2: Feedback to Questions Sent to Countries Not Visited

Although a questionnaire was sent to the countries not visited in the consultation, response came only from a number of countries. These are:

Palau.

- Palau was very supportive of PARCIP with their view that the project will allow for breeding to be done in research institutes in the region, while they can benefit by sharing of genetic materials.
- As for resources required, they wish to be involved in training programs and activities in the areas of characterization, evaluation, monitoring of crop varieties recommended through PARCIP.
- As for a proposed framework for PARCIP, they recommend the similar framework used by PAPGREN.
- Priority of Crops: Taro, Sweet potato and Cassava
- Capacity building and required supports: Trainings on plant genetic resources (PGR), in areas of characterization, evaluation and monitoring

9.2.2 Republic of Kiribati

- Kiribati also supported PARCIP with the following benefits they expect from the project: To improve and sustain food security by broadening the food genetic base in the country.
- As for resources required, they need most of all some Technical officers. They also say that PARCIP should require financial and a well set up and organized office to address the needs of member countries. This may involve SPC capacity strengthening or improvement.
- They propose a framework for PARCIP which will reflect and address the current issues of all PICs, with a specific work plan to implement the activities, a monitoring and evaluation system which is simple and practical
- Priority Crops: Crops of both cultural and nutritional values, food security and income generation for the outer islands. Crops include, *Cyrtosperma chamissonis* (Giant swamp taro), *Pandanus tectorius* (pandanus), coconuts, *Ficus tintctorius* (fig tree), *Morinda citrofolia*, breadfruit, bananas, papaya and pumpkins.
- Capacity building: To improve technical skills on basic crop improvement and development – crop propagation methods and crop management
 - Greenhouse mixtures, plant hardening and field preparation
 - Attachment to regional institutes on above areas
 - Training and workshops

9.2.3. Niue

The response from Niue to the questionnaire has indicated that they are in support of PARCIP. They have given serious thoughts to the questions, involving the Director and Deputy Director of Agriculture in discussing the questions. Some of their responses are:

They consider the following under PARCIP:

- To conduct a national inventory on the major crops (in-situ) such as Taro, bananas, sweet potato, coconuts etc. to see what plant genetic resources are currently available on the island compared to those in other countries and research centers.
- Collection of root crops and tree crops, with emphasis on endangered species
- Evaluation and characterization of crops based on morphology, nutritional value or DNA analysis on selected crops.

They regard the following benefits from PARCIP:

- Access to PGR in the region and to ensure greater diversity in crops and food availability
- Access to crops tolerant to varying climatic conditions such as drought resistant
- Identify crops potential for trade (value added)

Resources Required:

- Information on comparison between what root and tree crops are in Niue and what is available from other PICs
- Evaluation of crops as indicated above
-

Priority of Crops:

- Taro, banana, yams, breadfruit
- Endangered local species; asiu, sweet yam, pulaka
-

Capacity building:

- Short term training of Department of Agriculture Forest and Fisheries (DAFF) staff on breeding practices, plant characterization etc
- Farmer training in crop improvement

9.2.4 Tuvalu

There was not much in Tuvalu's response. The only important points raised from Tuvalu were: They were in support of PARCIP because they know that with this project, they will be able to share and exchange information and plant genetic materials with other countries in the region. The major issue they raised was the country's need for a variety of pulaka which is more tolerant to saltiness.

Their major requirement from the project is mainly information, data and exchange of planting materials, plant diseases etc.

9.2.5 French Polynesia

- The response from French Polynesia was positive in supporting PARCIP, commenting that it could be a good link for the different organizations involved in agriculture. It has a local interest and it is a link to regional problems.
- They hope to benefit through a better understanding of local cultivars, a network on conservation and research programs, sharing experience and information on new cultivars useful to farmers
- They will need technical support, human resources, breeding programs, methodological tools and genetic tools
- Their priority crops are: Xanthosoma, bananas and breadfruit
- They agree that a good agricultural information is important, but it must be easily accessible

9.3 Annex 3: Questionnaire sent to the Countries not visited

Questions:

1. Give your views, thoughts and ideas on the proposed operation of PARCIP
2. What benefits do you expect from such program in sharing PGR?
3. What resources do you require in order to have access to these benefits?
4. How do you like PARCIP to operate to ensure sustainability as well as giving full benefits to all stakeholders i.e. framework for coordinating PARCIP and a monitoring and evaluation system to be used
5. Give a priority of crops/trees you would like to see develop by this project
6. Capacity building – what is required to support your country in your priority areas
7. What are your thoughts on a regional information system to be developed for use in such a program?