Department for Environment Food & Rural Affairs

DARWIN INITIATIVE

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Darwin Initiative Main Project Annual Report

1. Darwin Project Information

Project reference	23-008
Project title	Upgrading and broadening the new South Pacific International Coconut Genebank
Host country/ies	Papua New Guinea, Fiji, Samoa
Contract holder institution	Bioversity International
Partner institution(s)	KIK, Gvt of Fiji, Govt of Samoa, APCC, CIRAD, SPC, The Global Trust
Darwin grant value	£ 317 884
Start/end dates of project	1st June 2016 - 31st March 2019
Reporting period (e.g., Apr 2016 – Mar 2017) and number (e.g., Annual Report 1, 2, 3)	June 2016-March 2017 Annual Report 1
Project Leader name	Alexia Prades
Project website/blog/Twitter	
Report author(s) and date	Alexia Prades, Vincent Johnson, Luc Baudouin, Apaitia Macanawai, James Kaiulo, 30th May 2017

2. Project rationale

Coconut and its genetic diversity provide significant nutrition (vitamins, minerals, fibre, energy) and multi-million dollar income for more than 8 million Asia-Pacific households, (>4 million females), yet there is scant support for conserving its endangered genetic resources. In many Pacific islands, diversity is seriously threatened by climate change, potential sea-level rise and soil salinization, as well as other challenges such as pests and diseases. Not all representative coconut diversity is adequately conserved by COGENT Network in the International Coconut Genebank-South Pacific (ICG-SP) in Papua New Guinea (PNG).

Moreover, the existing PNG genebank is currently threatened by a lethal disease (http://www.cogentnetwork.org/bogia-syndrome-disease). It will be transferred to a safe site in PNG (following a national plan written in June 2015), with a duplication back-up planned in Fiji and Samoa (Figure 1).

The proposed Darwin Initiative will complement this transfer with collecting missions in the three countries and building capacity for the three new Pacific genebanks. For the new ICG-SP sites, international and local experts will help identify those cultivars most threatened by habitat loss during the next 40 years. Most-endangered areas will be explored for collecting and conserving threatened new coconut germplasm. These will be characterised taking in account local uses, resistance to cyclones and diseases along with gender-disaggregated trait preferences.

This project will also help in training young scientists in coconut breeding and GR conservation. All data will be accessible in the Coconut Genetic Resource Database (CGRD). The selected cultivars will then be safely moved to PNG, Fijian or Samoan sites. The new multi-site ICG for the Pacific will be placed under the ITPGRFA to benefit the global community.

COGENT's soon-to-be-published Global Strategy for Conservation and Use of Coconut Genetic Resources highlights the need to conserve Asia-Pacific diversity, following extensive feedback from country-members, and coconut industry stakeholders.

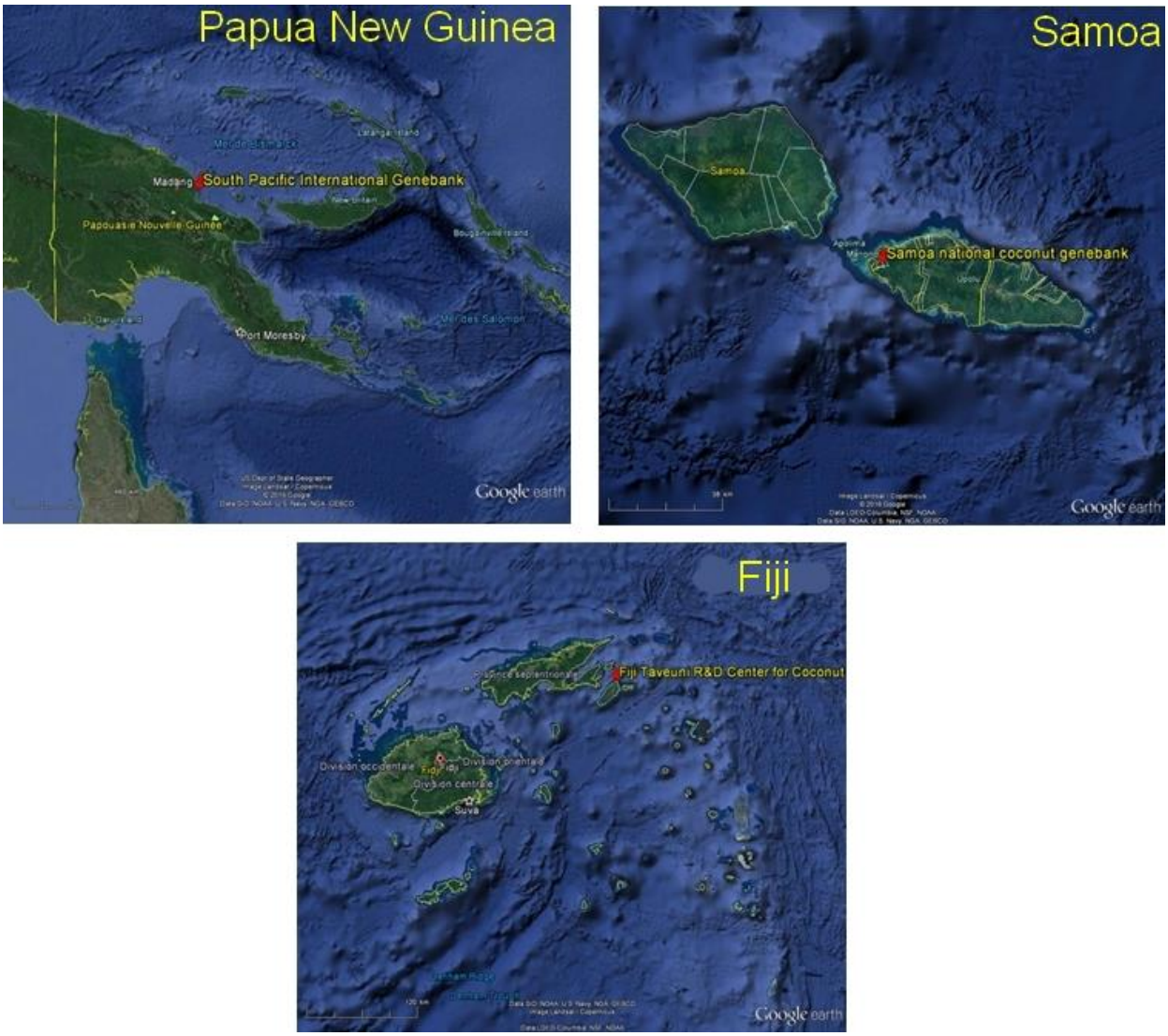

Figure 1: South Pacific International Coconut Genebank in Madang, Papua New Guinea, National coconut genebank in Olemanu, Samoa, and National Coconut R&D Center in Taveuni, Fiji.

3. Project partnerships

There are different types of partnerships in the project:

- The 3 Governments of PNG, Fiji and Samoa are the main partners supposed to implement the project in the field
- Bioversity International, CIRAD, SPC, APCC and The Global Trust are supposed to bring their expertise and knowledge from the global level

This project has a special configuration because the leadership is officially in Bioversity International but the coordinator of the project belongs to CIRAD and is seconded to Bioversity. Alexia PRADES was seconded by CIRAD to Bioversity since 2015 to coordinate COGENT, International Coconut Genetic Resources Network at the time the project was presented to Defra. So, in order to put in place the coordination of the Darwin project, a specific contract, called Letter

of Agreement (LoA) had to be signed between CIRAD and Bioversity International. This type of contract has duration of one year. The coordination contract will be renewed on an annual basis.

Depending on the roles of the partners in the projects, different letters of agreement (LoAs) were prepared for the partners who participated in the activities of year 1.

The project is managed by a Steering Committee composed of one representative of each partner. The Steering Committee members hold meetings and can make decision through a remote consensus process by exchanging Emails.

During the first year, there were two meetings of the SC: one during the inception meeting in Fiji in June 2016 and another one during a Conference in Bangkok in March 2017.

One of the challenges in the partnership is to get everybody involved in the project. The number of partners is rather high and they are from different types of organizations, working in different manners with varied rules. For the first year, we succeeded in signing LoAs with 2 out of the 3 Governments involved. Moreover, one of the scientists in CIRAD who was supposed to work on the first phase of the project was finally not available. APCC, SPC and The Trust are on board.

The period of the campaign and election of the president in PNG (April to June 2017) will certainly be difficult for the project but we know that our partner KIK will continue to be committed to participate to the activities. But the fact is that we already lost one of the main contacts of the project who left KIK to prepare for the election.

The Government of Fiji, despite its interest renewed to the project did not sign the LoA for year 1. However, they participated to all the Steering committee meetings and interactions, and were present and very active at the inception meeting.

4. Project progress

The project was launched in June 2016 in Fiji during an inception meeting where all the partners were invited. Unfortunately, because of a strike of the French airlines, CIRAD was not able to attend. Similarly, our representative of the Government of Samoa did not get the chance to attend the meeting. However, the project coordinator went to visit Samoa just after the inception meeting and met the staff of the Ministry of Agriculture to present the project.

Shortly after this meeting, the LoAs between Bioversity International and the other partners was supposed to be signed in order to send the funds to the partners and launch the first activities.

Unfortunately, for several administrative reasons, the LoAs were prepared and finally signed very late (see table below). This unforeseen situation led to a low level of activities for the phase 1 of the project.

Table 1: Contracts (Letter of Agreements) signed between Bioversity International and the partners

LOA No	Partner	Contact person	Signed on
L16FRANC269	CIRAD	Alexia Prades	24/02/2017
L16FRANC225	CIRAD	Luc Baudouin	28/02/2017
L16FRANC227	SPC	Logotonu Meleisea Waqainabete	07/03/2017
L16HQ229	MAF Samoa	Misa Konelio	27/01/2017
L16FRANC230	KIK	Alfred Kembu	31/01/2017
L16FRANC231	APCC	Deepthi Nair	27/01/2017
L16FRANC228	Gvt Fiji	Apaitia Macanawai	Not signed
L16FRANCXXX	CIRAD	Geo Coppens	Not signed

We will have also to reinforce the link with the Government of Fiji and understand why they did not sign the contract despite the positive exchanges of emails and phone calls. CIRAD's staff Dr Geo Coppens, was open to participate to the project when we prepared the proposal. Unfortunately, in 2016, Dr Coppens was assigned a very important task by CIRAD and had to finally downsize its proposed activities for the project. This is the reason why we were obliged to report the activities of mapping the coconut endangered areas on the first part of 2017.

The weakness of project partnerships was highlighted as a risk for the project during proposal development and this has proved to be the case. The high turnover of the Government staff in the Pacific region is also a reality that we have to deal with. Mr Alan Aku, our contact from KIK, PNG left KIK to prepare for the presidential election in his country (April to July 2017). Mrs Valerie Tuia, our contact for SPC, resigned in January 2017. Now we just learnt that Mr Misa Konelio, our contact for the Government of Samoa resigned in April 2017. Valerie and Misa are not yet fully replaced. Interim for Valerie is done by Mrs Logotonu Waqainabete and we have had recommendations for the successor of Misa in Samoa.

Despite the very late signature of the LoAs and despite all these departures, the project was able to establish the Steering Committee during the inception meeting which was held in Fiji in June 2016; launch the 2 groups of experts and begin both the work under the technical group by identifying a PhD student and define his topic, and begin to prepare the work on the new methods of collect and data recording. The project also established new contacts in replacement of Dr Geo Coppens with SPC, IRD and within Bioversity International in order to reschedule the research on mapping of coconut endangered areas.

So in summary, although the project is quite ambitious, given the number and the configuration of the partners, and project launch presented some challenges, everything is now in place to proceed with the core activities which are the identification and the collect of new accessions for the Pacific Genebank.

4.1 Progress in carrying out project Activities

Activities

Output 1

1.1 Kick-off meeting with the partners, back to back to a first SC meeting, aiming for best gender balance.

The inception meeting was held on time and was prepared by Bioversity International and SPC. During this meeting a Steering Committee (SC) of the project was also held and the project activities were reviewed along with the partnerships. The SC is composed of one representative of each key partner (COGENT/ Bioversity International, SPC, CIRAD, APCC, KIK, Governments of Fiji and Samoa, The Crop Trust). COGENT/Bioversity will chair the SC and is in charge of organizing the meetings. The SC will meet twice a year (by videoconference and back to back to the 3 project meetings). Some additional extraordinary meetings can be organized at the request of any member. A report is available in Doc 1 where you will find the main decisions taken. Another key output of the meeting was the revision of the project timeline

1.2 State of the art on the climate change threats and GIS in the South Pacific countries. Search for climate change and sea level rise forecast in the future 40 years. Search for mapping of current or past coconut palm plantings at any scale. (2 MSc)
1.3 If not available creation of a map of the coconut cultivation area in the countries targeted by the project
1.4 Creation of the maps of the current and future endangered coconut cultivated areas in the Pacific.

To replace Dr Geo Coppens, other contacts have been made within SPC with Dr Wolf Forstreuter, Dr Morgan Mangeas from IRD, French Institute working on Research for

Development, based in New Caledonia, and Mr Hannes Gaisberger, a scientist from Bioversity International. Researchers from Europe and New Caledonia could make this research but the objective was also, during this first year, to train 2 students in the Pacific area on the coconut mapping and climate change analysis. So despite the significant delay in implementing this activity, we will implement in one of the 3 targeted countries, and Fiji has been identified as one of the student providers, for building local capacity.

Currently, discussions are in place between the technical leader of the project, SPC and the University of the South Pacific (USP) to find one or 2 students to perform this task during year 2. If we cannot find students for this period, then the task could be performed by the team of the researcher replacing Dr Geo Coppens at SPC. This decision has been taken by the SC very recently and will be proposed as soon as possible with a change request form to Darwin administration.

Output 2

2.1 Establishment and validation of the ToRs of the 2 International teams of Experts (ITEx) by the SC, aiming for best gender balance
2.2 Constitution of the two gender-balanced ITEx and recruitment of the experts (contract's signature with the corresponding institutions (LoAs))

The ToRs were first discussed and validated just after the inception meeting at the first SC meeting (Doc 2). Then the official launch of the two international teams of experts was done after the signature of the LoAs mid-March 2017 during the SC meeting held in Bangkok, Thailand (see report of the Bangkok meeting in Doc 3).

2.3 ITEx n°1 builds a protocol and writes guidelines

A first round of email discussions has been managed within the experts by Dr Luc Baudouin, the leader of the expert group. The group will be revising the previous document and will study the possibility of the integration of new criteria and use new tools (tablets, digital images and GPS coordinates) into the guidelines for identification and characterization of the new accessions. Dr Baudouin, in collaboration with the partners, especially KIK, made a list of the current and potentially interesting cultivars for the international collection (see Doc 4).

2.4 State of the art and revision of the status of the current ICG-SP by the ITEx n°2 and preparation of the documents for collecting missions and subsequent governance

The members of the international group of legal experts are known (Doc 2). However, during the last meeting in Bangkok, the SC decided, based on recommendations of the Global Crop Diversity Trust (GCDT), that this group should be led by a person from the International Treaty for Plant Genetic Resources for Food and Agriculture (ITPGRFA- hereafter referred to as the Treaty) in Rome. As the Treaty is not an official partner of the project, the members of the ITEX 2 and the technical leader of the project will contact the Secretary of the Treaty to ask for the participation of one of their staff to this group. This will also be noted in a change request form to Darwin administration once we have the approval of the Treaty.

2.5 Gender-sensitive workshop (combined with the 3rd SC Meeting) to communicate, discuss and endorse the results of the mapping, the guidelines, finalize the list of cultivars and design a plan of collect.

Year 2. The project technical leader is currently preparing a tentative list of the participants and a first draft of the agenda. The SC has decided to hold this meeting in Samoa in September 2017. However the fact that the contact for Samoa has not yet been replaced, as far as we know, could put this location at risk. We have identified a possible replacement and communications have just been initiated. We hope this will not be the case because Prof. Adkins, from the University of Queensland, Australia has received some complementary funds from ACIAR to organise a back-to-back coconut tissue culture training session in Samoa in September 2017. The SC members agreed to combine the funds of the Darwin project and from ACIAR so that Alfred Kembu, the curator of the

South Pacific genebank, can also benefit from this training session, at the same time as those staff that will run the future coconut genebanks and coconut tissue culture research in the Pacific.

2.6 Validation of the guidelines, protocols, list and plan of collect by the 3rd SC. Preparation of the workplan for year 2.

The 3rd SC meeting will be held in Samoa in September 2017 at the same time of the workshop (see 2.5). The protocols, list and plan will be presented during the workshop and validated by the SC members just after. The workplan for years 2 and 3 will also be reviewed at this time.

2.7 Official presentation of the project at the 7th Governing Body Session of the Treaty

Bioversity International could propose a side-event to the next session in late 2017 to present the project and the first results. The session should be held after the workshop, so the planning of the collecting missions will be known and the new protocols and methods as well as some of the legal expert group's results will also be available, such as specific Material Transfer Agreement designed to respect farmers' rights whenever new coconut accessions are identified in the field.

2.9 Preparation of the 3 sites or quarantine areas for the newly collected accessions (nurseries and sanitary issues)

The three governments have begun preparing the planting sites for the new material. PNG, Fiji and Samoa have all secured the land. The project technical leader visited the new Samoan site in June 2016. The PNG government has signed a MoA (May 2016) with the Milne Bay Provincial Authorities where the new genebank is to be established.

The project technical leader was able to meet some of the Darwin partners during the 47th APCC COCOTECH Conference hold in September 2016 in Bali, Indonesia.

- PNG confirmed nursery preparation on the quarantine island in Misima. We were able to meet some of the PNG private partners (virgin coconut oil processors) that will be involved in value-adding to coconut fruits coming from the new genebank. The aim is to have more sustainable genebank sites and making products for the local and regional markets is one of the envisioned solutions. KIK, representing the PNG Government would like to invite Dr Luc Baudouin, the CIRAD expert, to come and help them in the design of the new genebank. This mission could be combined with the collecting preparation mission of Dr Baudouin which is the project framework.
- The Samoan Government was preparing a mission for a CIRAD expert (Dr Roland Bourdeix) in October 2016 to design the new genebank's site. Unfortunately the mission was postponed at the last minute to February/March 2017 for financial and government agenda's reasons. Discussions were held about the idea of having a multi-crop genebank and also develop the in-situ conservation for remote and isolated areas as a complement of the accessions conserved in the ex-situ genebank and/or as a mean of supporting the transition period between the time that Darwin will identify the endangered accessions and the time that the new genebank site will be ready to welcome the seedlings of the identified coconut trees.
- Fiji key partners were not present at the APCC Conference but the project technical leader had the chance to meet Mr. Jitendra Singh, Permanent Secretary for Agriculture, Ministry of Agriculture and took the occasion to describe the objectives of the project. Mr Singh gave us the information that a team at the Ministry of Agriculture has already a detailed map of Fiji, using remote sensing tools. He told us that he will give the contact of this team so that they can interact with the Darwin partners in charge of the mapping of the threatened zones in Fiji.

  The Government of Fiji communicated on the current status of the genebank: "The current status of the coconut germplasm in Fiji comprises of 18 accessions which are being conserved at Taveuni Coconut Center in conservation blocks/evaluation trials/seed production blocks. In addition few palms of 3 accessions namely Markham Valley Tall,

Karkar Tall and Federated Micronesian States Tall are conserved at Wainigata Research Station in Vanua Levu Island. The original introduction of few palms of Green Dwarf introduced from Malaysia and Markham Valley Tall introduced from Papua New Guinea are conserved at Naduruloulou Research Station in Viti Levu Island. We are in the process of identifying potential new collections with diverse traits from unexplored coconut areas of Fiji.

In the coming years we would like to take up mainly the regeneration of the available germplasm and the collection of the new accessions for establishment of well laid out field genebank at Wainigata Research Station in Vanua Levu. Possibility also will be explored to establish an alternate genebank site in Viti Levu. The palms currently available at the 3 research stations will be used for seed production and other regeneration activities."

2.8 Different missions by the mixed teams of junior/expert scientists for identification/characterization/collection of endangered cultivars

To be performed in year 2 and 3.

2.10 Preparing and recording the accessions in Coconut Genetic Resources Database (CGRD)

Contact has been made between Max Ruas, Bioversity International, in charge of the CGRD database and Dr Luc Baudouin. Max will integrate the new data collecting during the project under CGRD thanks to the help of a student (see activity 3.6).

2.11 Movement of some of the cultivars to the designated 3 sites

Year 3

2.12 Workshop with ITEX n°2 and project partners back to back the 4th SC meeting of the project to discuss and present the documents to be endorsed by the SC Meeting of COGENT in 2018 (year 3, Q3) and the PAPGREN network.

Year 3

2.13 Signature of the MOAs and MOU at the final meeting of the project or at the COGENT SC Meeting in 2018 (which could be held back to back in the same place in PNG). Official restitution to the Governments.

Year 3

Output 3

3.1 Training the ICG staff (gender equitable) **Year 2 & 3**

Arrangements have been made for Alfred Kembu, curator of the South Pacific International Coconut Genebank, in Madang, Papua New Guinea to receive training in tissue culture (TC). Alfred attended a TC workshop in the Philippines in November 2016[1], and will embark on a TC Master's programme via Papua New Guinea and University of Queensland (UQ). Prof Steve Adkins, from UQ agreed to welcome Alfred in his research team in second semester 2017 or

[1] Bart Panis & Juhee Rhee, 2016. Report of the workshop "Developing cryopreservation protocols for sub-tropical crops and establishing a cryo-genebank at RDA with Bioversity International". Bioversity International & RDA, 21-24 November 2016, PCA, Legazpi, Philippines. *To be published. Contact: b.panis@cgiar.org*

whenever KIK will decide. Negotiations are also under way to train one SPC staff at the same time.

A training session will also take place during the workshop in September 2017 for the genebank staff of the 3 countries. The training session will include the methods of identification, characterization and recording of new accessions or data on the current accessions in the genebank that are not characterized by the new technics and for the newly defined criteria.

3.2 One PhD student to participate to the project and to be employed by the ICG,(preferably female) **Year 1**

Julius Maot (see Curriculum and references in Doc 5) has been selected as the student by KIK and will be hired as one of the South Pacific international genebank staff. He has an MSc in Horticultural Science from the Massey University, New Zealand. He will be registered at the University of the Philippines Los Banos and will be working with 3 supervisors: Dr Luc Baudouin, CIRAD; Dr Ramon Rivera, Philippines Coconut Authority; Dr Pons Batugal, APCC. Julius will be working with the technical expert group and will be involved in the collecting missions in the field, at least in PNG.

3.3 1 MSc student to support the ITEX n°1 (breeding and collection) **Year 2 & 3**

It was decided, at the PNG demand and with the approval of all the partners that the MSc in breeding will be trained on tissue culture. A change request was then sent to Darwin administration team and was accepted. The logical framework presented in Annex 2 is the revised one.

3.5 2 MSc students to support to mapping **Year 1**

MSc students will perform their training period with SPC researchers in year 2. They will be supervised by Mr. Wolf Forstreuter, SPC-GSD Geoscience Division. If accepted (see change request form), they will work on year 2 to prepare the mapping tools.

3.6 1 MSc student to support database CGRD **Year 2**

Max Ruas and Luc Baudouin are currently preparing the terms of reference of the student and will soon contact the appropriate schools of engineers or Universities to propose this topic for a training period.

4.2 Progress towards project Outputs

As this report covers the first 9 months of the project, progress towards the project outputs is mostly of a preparatory or planning nature. The measurement of lots of indicators, such as student reports, publications, certificate of training, publications on the websites are not yet possible. However, you will find below the information on the progress.

Outputs

1. Maps and models of current and future threatened coconut cultivated areas in the Pacific have been made available on the COGENT and SPC Websites

Due to the non-availability of Dr Geo Coppens, this output has been deferred but will still be completed within the project timeframe. Other contacts have been made with local teams at SPC and IRD in the Pacific area in order to find alternate research coordination for this task. To date, new researchers are committed to do it, we have now to prepare a work plan with them, present a change request to Darwin administration and if the latter agrees, prepare the contracts with the new participants so that we can begin the work at the soonest. Maps already exist for Fiji at the Ministry of Agriculture. It will be useful to base the research work on these maps.

2. An effective, gender-sensitive coconut germplasm management plan for the Asia Pacific developed

The project already developed a list of the existing accessions currently in the South Pacific international coconut genebank and developed also a new list of the accessions to be transferred to the new site of the collection in Punipuni, Papua New Guinea. This list is now available (Annex 1) and will be enlarged by the new accessions identified by the project in years 2 and 3. This is a very important achievement because there is an agreement now on the accessions that are going to be the core of the new collection.

Year 2 of the project, as planned, the definition of new criteria of characterization of the coconut germplasm by the team of technical experts will include the gender aspects, especially for the uses and ownership of the germplasm. The name, gender and sociological characteristics of the individuals or households holding the new collected accessions will be recorded. The new criteria will also be measured and recorded with modern tools and taking into account the new “omics” era (where we can use molecular tools to help characterise the diversity). The project has procured a digital camera, GPS units, and tablets for important data collection and diversity mapping. There are funds for molecular analyses and fine biochemical analyses of the new accessions. These results, combined with results from the previous molecular analyses done on the current South Pacific coconut collection, will help in defining a vision of the new collection. This vision is a deliverable of the team of technical experts.

The team of legal experts is now identified. However the last SC decision taken in March 2017 implies a modification of the leadership of this group. The project will invite a person from the International Treaty to lead the group and this still has to be done. However, if this new objective is reached, the work of this group will be highly efficient and will highly simplify the negotiations for the establishment of the enlarged Pacific international genebank.

The progress of these two groups of experts will be measured thanks to their reports (the leaders report to the SC quarterly, fixed in ToRs in Doc 2). As they were officially launched in March 2017, we cannot show any report for the moment.

3. Training and capacity building provided to the staff of the 3 genebanks and to young scientists

Two key staff of the South Pacific International Coconut Genebank have been identified and are ready to prepare for their graduation. Alfred Kembu, the PNG genebank curator, will study for a Master of Science in tissue culture. Julius Maot will be the future coconut breeder of the Pacific genebank in Papua New Guinea and will prepare for a PhD in breeding (see the definition of his subject in Doc 6). The proof of their registration will be available in year 2 of the project.

Fiji and Samoa still have to identify 2 students to work on mapping and climate change (year 2 and 3).

The workshop in year 2 to be held in Samoa will train the genebank staff of the 3 countries. The certificate of training will be delivered and will be used as indicators.

4.3 Progress towards the project Outcome

The project outcome is:

"Critical knowledge, capacities and approaches developed to conserve endangered, critical coconut germplasm from Fiji, Samoa, and PNG, ensuring a stable future for coconut breeding and production"

The partners of the project agreed on a list of accessions to be transferred to the new South Pacific International Coconut Genebank. New sites are secured for the new genebanks in Papua New Guinea, in Fiji and in Samoa (Doc 7). Two key staff of the international genebank are identified to be trained and graduated for an MSc in tissue culture and a PhD in breeding.

Two groups of international experts are formed. The first one began to work, recently, on the technical aspects of the preparation of the collecting/identification missions. The second group who will work on the legal aspects has still to find an appropriate leader so that the activities can begin.

The indicators are adequate to measure the outcomes. We still think that, although the project had difficulties in putting in place the administration of the partnership; partners are very committed and interested in achieving the intended outcome.

The difficulties could come from the legal aspects if we cannot find the appropriate person from the Pacific Region who is a good leader, as these negotiations are tricky and have to be organised at the highest level of the different Governments as well as at the international level.

Obviously, mapping the endangered area was not achieved within year 1, but it can be reached by the end of the project. The capacity building will also be performed. We trust the group of technical experts to propose the new guidelines for collecting accessions and for increasing the number of record data in CGRD. These achievements will benefit the 39 countries of the COGENT network and will be in line with the COGENT SC recommendations regarding the priorities of the future Coconut Genetic Resources Strategy[2].

4.4 Monitoring of assumptions

You will find below the assumptions for which the project think that we need some adjustments.

Assumption 1: There will be no legal/diplomatic insurmountable constraints regarding the MOAs and MOU preparation and signature

Comments: Given the duration and some difficulties encountered during the preparation of the contracts, the project cannot ensure that these constraints will not be insurmountable. We will probably have to adapt the objectives of the project according to the reaction of the main partners. This will be a step by step process.

Assumption 2: Any phytosanitary risk will be effectively addressed and not impact on germplasm transfer, from collection and distribution.

Comments: This will not be easy to achieve because there is no scientific evidence today that the disease is not transferred via the embryo. More research is needed and the results will not be available before the end of this project. Phytosanitory risk includes insects, mites and diseases. The first two do not pass through the embryo. Only viruses or mollicutes may. We will

[2]http://www.cogentnetwork.org/images/2014_scmeeting/Reccommendations_SCMeeting_2014_FinalVersion_Pro.pdf

thus quarantine and then move the material or collection itself should be from disease-free areas. However quarantine facilities are not yet available for coconut embryos in the Pacific Region.

Assumption 3: The coconut biodiversity preserved in the 3 sites is secured by the signature of MOAs and the genebanks have a clear governance system at the regional level

Comments: Same comments as for assumption 1.

4.5 Impact: achievement of positive impact on biodiversity and poverty alleviation

This project is directly linked to more impact on biodiversity preservation. Through the consolidation of the South Pacific Genebank by moving the PNG collection to a safer place, initiating duplication back-up in the Fiji and Samoa countries, the project will preserve a major part of coconut biodiversity in the Pacific area. The ex-situ collections will be secured by staff with improved skills, and the staff of the 3 genebanks will have a working relationship. By creating a "community" of practice of genebank staff across the project, and beyond, and by preparing the back-up sites, the resilience of the Pacific international genebank will be greatly improved.

For the moment, the community spirit is slowly under construction but after meeting on meeting and during the technical discussions among scientists and staffs of the project, the feeling of being part of a group of countries protecting a common good is steadily growing.

5. Contribution to the Global Goals for Sustainable Development (SDGs)

The project contributes to the 15th SDG Life on land by reducing coconut biodiversity losses in the Pacific. It also contributes to the 2nd SDG zero hunger by securing the genetic resources that will help in creating more sustainable and resilient agri-food systems for future generations.

6. Project support to the Conventions, Treaties or Agreements

Ensuring long-term coconut genetic diversity conservation contributes to **CBD** objective 1: *(Biological diversity conservation)*, especially implementing the CBD Agricultural Biodiversity programme and achieving Aichi Biodiversity target 13[3].

Making more and safer coconut genetic diversity available through the multilateral system (MLS) contributes to **ITPGRFA** objectives. The ICG-SP is part of the MLS via agreement between ITPGRFA's Governing Body, Bioversity International and the Government of PNG (see Doc 8), whereby coconut stakeholders can better access genebank germplasm. Funds from their use partly flow back to the conservation community, including farmers. The project also contributes to ITPGRFA articles 5 (conservation) and 6 (sustainable use).

Bioversity International has recently met ITPGFRA staff in Rome to present the project and discuss the future of the 5 International Coconut Genebanks. This will garner extra support for the long-term outcomes of this work.

Fiji and Samoa participate in the **Nagoya Protocol** (NP). Access to new coconut germplasm in the ICG-SP will be subject to NP provisions. Project partners aim to include this material in the MLS, simultaneously ensuring that original providers' interests and rights are addressed. This offers opportunities to support Samoan and Fijian organizations to implement the NP in line with the ITPGRFA.

The project has already engaged with ITPGRFA focal points who are members of the project steering committee. In fact, SPC, as the ITPGFRA focal point for the Pacific region, is participating to the project and is liaising with the 3 different Governments for the project.

[3] By 2020, the genetic diversity of cultivated plants and farmed and domesticated animals and of wild relatives, including other socio-economically as well as culturally valuable species, is maintained, and strategies have been developed and implemented for minimizing genetic erosion and safeguarding their genetic diversity)

We have informed the CBD focal points for all three target countries, and invited them to support the proposed work as they see fit. We have shared the proposal with them and they were invited at the inception meeting.

7. Project support to poverty alleviation

In the short-term, there is the project cannot directly alleviate poverty. However, project outcomes will benefit more than 8 million Asia-Pacific coconut-dependent stakeholders in the longer term.

Grown on over 12 million hectares, coconut is a culturally and economically important livelihood crop for scores of millions across the world. When fully developed and strategically used, coconuts increase food production, improve nutrition, create employment opportunities, enhance equity and help conserve the environment. Coconut is a very important source of diverse and high-value products such as oil, coconut water, sugar, and fibres (for non-soil growing media or geotextile). Coconut is one of the most useful in the plant kingdom yet one of the least studied and supported by research and the international community. As an important health food, coconut provides a significant source of energy, minerals, and fibre. Its proportionate role as cash-crop versus domestic consumption varies widely, but globally around 52% is exported as copra oil, with the domestic crop having important implications to improve women's equity and child nutrition.

International markets for diverse products based on coconut such as virgin coconut oil, and coconut-water beverages, are regularly growing[4]. The future of global coconut production and livelihoods critically depends on the availability of genetic diversity and the sustainable use of this broad genetic base to breed improved varieties. Harnessing and conserving agrobiodiversity are critical to sustainably boosting productivity and livelihoods, and addressing important challenges including those posed by climate change or pest and disease epidemics. Today, more than 12 million people rely directly on coconut production, and hundreds of millions more are each growing a few coconut palms in their home gardens.

8. Project support to gender equality issues

There are no notable achievements this year regarding the gender equality. Trainings are planned in year 2 and year 3 and it is supposed that the training of the genebank staff and other scientific staff will welcome a good balance of women/men and/or junior/senior staff.

9. Monitoring and evaluation

We need to put in place a new system to better monitor the reporting of the different partners as it appears that the date of the annual reporting is corresponding, more or less, to the annual leave of major partners. The preparation of the financial and technical reports will have to be anticipated carefully next year. The project had regular Skype calls and Emails exchanges with the SC members and official representatives of the different Governments about the technical aspects of the activities.

However we will have to better train our partners in preparing their report as it is the first time they work on a Darwin initiative project. Hence, they are not familiar with the requirements of this type of project, especially regarding the financial aspects and the reporting deadlines. Skype training sessions will be organized to help them in preparing their reporting.

10. Lessons learnt

The lessons we learnt this year are at several levels. It comes from the fact that the project dealt with 8 organizations from different "administrative" cultures and that these institutions are not

[4] Prades A., and Salum U. N., (2016). "New era for the coconut sector. What prospects for research?" OCL **23**(6): D607.

really used to working together. This project involves scientists and decision makers at the highest level. This is why it is a key project for the preservation of the coconut diversity in the Pacific area. But this is also why it is so difficult to put in place.

At the administrative levels, we had several delays because of internal lengthy administration processes in the different organizations. Due to challenging virtual access of the project coordinator to Bioversity's administrative tools and insufficient knowledge of recently changing internal procedures, the project/grant administration has now been assumed by Dr Krishna Kumar, from Bioversity International's Office in India. The technical coordination is still managed by Alexia Prades, CIRAD. We anticipate all the activities and especially the preparation of contracts and the organization of the meetings will be greatly improved.

The project is also ambitious compared to the total grant budget and this implies that the partners have to co-fund a big part of the activities. This is not very easy for developing or emerging countries. Convincing any government from a developing country to invest in an international coconut genebank when investments only pay off in the long term and when benefits are not clearly linked to increasing in national employment or social progress, is a challenge for our contract partners and for the project coordination team. In the coming 2 years, the SC members will also focus on developing the needed resources to finalize the project and organize future activities. Indeed ACIAR are keen to support this work, as evidenced below, and within ongoing interactions.

It is important to highlight that the Government of PNG is funding the transfer of the international coconut genebank from Madang to Punipuni on a 5 year project. This project started in 2015 and was designed during a workshop organized by the Crop Trust, SPC, and COGENT/Bioversity International and funded by ACIAR. Under this project, national complementary funds will help in the capacity building of the staff of the genebank.

The contact in Samoa, Mr Misa Konelio prepared, with our support, a concept note and sent it to SPC in order to ask for funds for the preparation of the design of the new genebank site at Olomanu. The concept note was sent in March 2017.

A key factor for the success of the project in the long term could be the establishment of a permanent COGENT subnetwork or a "pacific coconut focal point" in the region, linked to PAPGREN or any other relevant network working on genetic resources. This representative of COGENT or this coconut focal point could monitor the coconut genetic resources activities at the regional level.

11. Actions taken in response to previous reviews (if applicable)

Not applicable

12. Other comments on progress not covered elsewhere

No more comments at this stage.

13. Sustainability and legacy

The 3 involved countries secured land for the future genebanks. PNG invested in training and hiring new staff. Fiji recently engaged a coconut specialist for 1 year. Samoa prepared a concept note to ask for support in order to prepare the design of the new genebank. The project has already begun to build local scientific capacity, and more will follow in the coming 2 years. There is evidence that the 3 countries are committed to keep on working on coconut preservation and take care about their local cultural and agricultural legacy. In that sense, the project's sustainability and legacy seems quite high at this stage.

14. Darwin identity

The project is present on several websites:

http://www.bioversityinternational.org/news/detail/saving-the-pacifics-coconuts/

http://umr-qualisud.cirad.fr/principaux-projets/darwin-upgrading-and-broadening-the-new-international-coconut-genebank-for-south-pacific

http://www.spc.int/blog/un-nouveau-projet-vise-a-sauvegarder-la-diversite-des-varietes-de-cocotiers-dans-les-iles-du-pacifique/?lang=fr

It was presented at several conferences and meetings:

Prades, A. (2016). Status of the International Coconut Gene banks with Opportunities for Utilisation of Coconut Germplasm for Development. 47th APCC COCOTECH Conference, Bali, Indonesia.

Prades, A. (2016). The International Coconut Genetic Resources Network, COGENT. 52nd APCC Ministerial Meeting Session, Jakarta, Indonesia.

Prades, A. (2016). Strategy and Challenges of the International Coconut Genetic Resources Network, COGENT. ISOCRAD 3, Kasaragod, India.

Coconut endangered diversity was highlighted on TV and radio at the BBC:

https://www.youtube.com/watch?v=0FBGTNH3_VU

See mp3 file (Doc 9) for BBC radio interview.

It was cited in the press:

http://onlinelibrary.wiley.com/doi/10.1002/fee.1428/full

http://www.tntv.pf/Un-projet-pour-sauvegarder-la-diversite-des-cocotiers-dans-le-Pacifique_a13027.html

A few articles were published in the local Fijian and Pacific newspapers when the inception meeting was held in Lautoka. We do not have the records here.

This communication led to several contacts with other partners and synergies with other projects: ACIAR*, University of Queensland*, SPC**, and other Pacific countries (like Cook Islands) who would like to be part of a future project.

* Professor Steve Adkins, University of Queensland, agreed to host a genebank staff-member-Alfred Kembu (ICG-SP Curator), in his laboratory for coconut tissue culture research and training (MSc). We also talked about having him or students from UQ joining the collecting missions of the project. Darwin project has no funds to collect embryos and do cryopreservation but we could go together to ACIAR or other donors and ask for complementary funds. Indeed ACIAR have already expressed a desire to support this work during meetings in September 2016. Dr Adkins agreed on the idea and was interested in sourcing embryos from different varieties to test the robustness of his protocols.

** SPC discussion with Karen Mapusua, Team Leader of the Coconut Industry Development for the Pacific (CIDP), included possible connections between the Darwin initiative project and the EU coconut sector development project that Karen is coordinating. The EU project began in 2016 and will support the private sector to develop new and innovative projects (“not business as usual”). Some of the private farmers or groups of farmers who would like to produce coconut

seedlings (build a nursery and sell the plantlets) could be beneficiaries of the EU project and could help diffuse the germplasm from the genebank in the future.

15. Project expenditure

Financial report will be sent later as a request has been submitted to Darwin administration to postpone the deadline to 15th of June 2017.

Table 1: Project expenditure during the reporting period (1 April 2016 – 31 March 2017)

Project spend (indicative) since last annual report	2016/17 Grant (£)	2016/17 Total Darwin Costs (£)	Variance %	Comments (please explain significant variances)
Staff costs (see below)			-6%	PhD and MSc Students were not recruited in year 1, will be in year 2 with Darwin persmission.
Consultancy costs			-28%	Due to the late signature of contracts, Gvt of Samoa was not able to recruit the international consultants
Overhead Costs			-18%	
Travel and subsistence			-12%	Gvt of Samoa was not able to attend the inception and SC meetings
Operating Costs			-26%	Gvt of Samoa was not able to attend the inception and SC meetings
Capital items (see below)			-40%	Gvt of Fiji did not sign the contract with Bioversity International on time (before 31/03/17) due to external and internal reasons (see change request) thus did not buy laptop and hard drives.
Monitoring and Evaluation			-68%	2 partners were not able to put in place the M&E system. It is in place for year 2.
Others (see below)			-100%	
Audit costs			0%	No costs were incurred.
TOTAL	91,070	74,366	16,704	

16. Annex 1: Report of progress and achievements against Logical Framework for Financial Year 2016-2017

Project summary	Measurable Indicators	Progress and Achievements April 2016 - March 2017	Actions required/planned for next period
Impact ⇒ Coconut stakeholders and scientists have used and have had better access to wider genetic diversity, facilitating new breeding outputs, ultimately benefitting at least 10 million people within the Asia-Pacific.		Nothing for the moment. In preparation.	
Outcome Critical knowledge, capacities and approaches developed to conserve endangered, critical coconut germplasm from Fiji, Samoa, and PNG, ensuring a stable future for coconut breeding and production	0.1 One regional and three national maps of the most endangered zones for coconut cultivars in Fiji, Samoa and PNG regarding sea-level rise and climate change are available to women and men coconut scientists and policy makers by the end of year 1 of the project 0.2 There is an agreement by the project SC, on a standardized methodology to collect, identify, characterize and register new accessions for COGENT members (at a global level) at the beginning of year 2 of the project, with an awareness of gendered trait preferences 0.3 The number of conserved accessions in the Pacific Genebank has increased by 10% (between 5 to 10 new accessions have been identified and recorded in the CGRD database) by the end of the project	A list of existing accessions for the new Pacific genebank is available. The team of international experts in charge of working on a standardized methodology is operational and has already began to discuss the methodology	the key actions are • to put in place the new team to do the mapping work – done • to launch the activities of the international team of legal experts –done • to identify the students in mapping and climate change, in database analyses and in breeding - in progress • To detail the work plan of the PhD student – in progress

Project summary	Measurable Indicators	Progress and Achievements April 2016 - March 2017	Actions required/planned for next period
	0.4 At least 9 Genebank staff (30% female) from Fiji, Samoa and PNG are trained to manage the genebank according to the rules of the multilateral system, supported by the ITPGRFA and according to the technical guidelines recommended by COGENT in year 3 0.5 The creation of the multi-site genebank is ratified by the end of the project with signed MOAs between the 3 countries and Bioversity International/COGENT or SPC and FAO/ITPGRFA		
Output 1. Maps and models of current and future threatened coconut cultivated areas in the Pacific have been made available on the COGENT and SPC Websites	1.a Four Maps and models to predict the impact of future climate change on the target counties' "coconut ecosystem" accessible on the COGENT, CIRAD and SPC websites by the end of year 1 1b 2 to 3 journal publications of new methodology available to predict the evolution of coconut production areas in the future due to climate change by the end of year 2	This activity was postponed to year 2 due to the lack of availability of the key partner.	
Activity 1.1 Kick-off meeting with the partners, back to back to a first SC meeting, aiming for best gender balance		Report of the inception meeting in Doc 1. Next meeting will be the workshop in September 2017.	
Activity 1.2 State of the art on the climate change threats and GIS in the South Pacific countries. Search for climate change and sea level rise forecast in the future 40 years. Search for mapping of current or past coconut palm plantings at any scale.		Nothing. Next step is to put in place the new team asap.	

Project summary	Measurable Indicators	Progress and Achievements April 2016 - March 2017	Actions required/planned for next period
Activity 1.3 If not available creation of a map of the coconut cultivation area in the countries targeted by the project		Nothing. Next step is to put in place the new team asap.	
Activity 1.4 Creation of the maps of the current and future endangered coconut cultivated areas in the Pacific.		Nothing. Next step is to put in place the new team asap.	
Output 2. An effective, gender-sensitive coconut germplasm management plan for the Asia Pacific developed	2a: gender-balanced ITEx n°1 – one proposed guidelines for the choice of Pacific cultivars to be preserved by the end of the first year (also relevant to cultivar choice elsewhere) 2b. ITEx n°1 publishes one list of all the cultivars currently preserved and to be preserved (not only endangered) in the ICG-SP following the Global Strategy of COGENT. 2c. By early year 2, one overall collection plan (3 country subsections) is designed by ITEX n°1 based on the results of the mapping 2d.Between 5 and 10 accessions moved by genebank staff and/or collecting teams to a nursery at one of the 3 sites of the ICG-SP by the end of the project 2e. ITEX n°2 prepare the MOU to organize the governance within the	The team of technical experts is created (Doc 2) and a list of all accessions conserved in the ICG-SP has been established. A list of the accessions to be moved from Madang to Punipuni is also available. See Doc 4.	

Project summary	Measurable Indicators	Progress and Achievements April 2016 - March 2017	Actions required/planned for next period
	3 sites of the genebanks by the middle of year 3, with gendered considerations 2f. ITEX n°2 prepare the MOAs to be signed between the different institutions (local research institutions or Government, Bioversity International/COGENT, SPC, and FAO/Treaty) by the end of year 2, MoAs to include gendered considerations where appropriate.		
Activity 2.1. Establishment and validation of the ToRs of the 2 International teams of Experts (ITEx) by the SC, aiming for best gender balance		Done. See report of the Bangkok meeting in Doc 3.	
Activity 2.2. Constitution of the two gender-balanced ITEx and recruitment of the experts (contract's signature with the corresponding institutions (LoAs)		Done. 6 LoAs signed, see table 1 in § 3.	
Activity 2.3 ITEx n°1 builds a protocol and write guidelines for the identification/characterization/collection and transport of the new accessions (1 PhD). The team also make a list of the current and potentially interesting cultivars for the international collection		List of the current cultivars available in Doc 4. Protocols and guidelines currently in progress.	
Activity 2.4 State of the art and revision of the status of the current ICG-SP by the ITEx n°2 and preparation of the documents for collecting missions and subsequent governance (1 MSc)		Team of legal experts still needs a leader. The project recommended that the leader should be from ITPGFRA in Rome. Contacts will soon be made to see if it is possible.	
Activity 2.5 Gender-sensitive workshop (combined to the 3rd SC Meeting) to communicate, discuss and endorse the results of the mapping, the guidelines, finalize the list of cultivars and design a plan of collect.		Workshop is scheduled in September 2017, possibly in Samoa. Tentative list of participants has been drafted and provisional agenda is being considered.	
Activity 2.6 Validation of the guidelines, protocols, list and plan of collect by the 3rd SC. Preparation of the workplan for year 2.		To be done in year 2	

Project summary	Measurable Indicators	Progress and Achievements April 2016 - March 2017	Actions required/planned for next period
Activity 2.7 Official presentation of the project at the 7th Governing Body Session of the Treaty		To be done in year 2	
Activity 2.8 Preparation of the 3 sites or quarantine areas for the newly collected accessions (nurseries and sanitary issues)		In progress, see § 3.1 for details	
Activity 2.9 Different missions by the mixed teams junior/expert for identification/characterization/collection of endangered cultivars (2 MSc and 1 PhD)		To be done in year 2	
Activity 2.10 Preparing and recording the accessions in CGRD (COGENT database) (1 MSc)		To be done in year 2	
Activity 2.11 Movement of some of the cultivars to the designated 3 sites		To be done in year 3	
Activity 2.12 Workshop with ITEX n°2 and project partners back to back the 4th SC meeting of the project to discuss and present the documents to be endorsed by the SC Meeting of COGENT in 2018 (year 3, Q3) and the PAPGREN network in??		To be done in year 3	
Activity 2.13 Signature of the MOAs and MOU at the final meeting of the project or at the COGENT SC Meeting in 2018 (which could be held back to back in the same place in PNG?). Official restitution to the Governments.		To be done in year 3	
Output 3. Training and capacity building provided to the staff of the 3 genebanks and to young scientists	3a. One PhD student, is recruited (if candidates comparable in all other respects will consider appointing a female candidate) and begins the thesis work during the first year of the project (preferably to become a coconut breeder working on one of the 3 sites) 3b. At least 6 MSc students (2 for mapping, 1 for Policy, 2 for breeding	The PhD student has been identified (see Doc 5) and the topic of the thesis is agreed (Doc 6). In fact 4 MSc students will be trained. Due to budget restriction, the MSc student in policy was not maintained. One Master student in tissue culture is also identified, replacing the Master student in breeding (change accepted by Darwin). The student for the database and the mapping will be identified in the coming month. The MScs for climate change and mapping studies will be trained in year 2 instead of year 1 (see change request).	

Project summary	Measurable Indicators	Progress and Achievements April 2016 - March 2017	Actions required/planned for next period
	and 1 for database) are trained in the coconut field by end of project, aiming for at least half of the students to be female if competence available. 3c. At least 9 persons (30% female) of the future staff of the ICG-SP are trained by end of project		
Activity 3.1 Training the ICG staff (gender equitable) Activity 3.2 One PhD student to participate to the project and to be employed by the ICG,(preferably female) Activity 3.3 1 MSc students to support the ITEX n°1 (breeding and collection) Activity 3.4 1 MSc student to support the ITEX n°2 Activity 3.5 2 MSc student to support to mapping Activity 3.6 1 MSc student to support database CGRD		Same as above for students. The training session for the genebank staff will be organized back to back to the next workshop, possibly in Samoa.	

17. Annex 2: Project's full current logframe as presented in the application form (unless changes have been agreed)

Project summary	Measurable Indicators	Means of verification	Important Assumptions
Impact: (Max 30 words) Coconut stakeholders and scientists have used and have had better access to wider genetic diversity, facilitating new breeding outputs, ultimately benefitting at least 10 million people within the Asia-Pacific.			
Outcome: (Max 30 words) Critical knowledge, capacities and approaches developed to conserve endangered, critical coconut germplasm from Fiji, Samoa, and PNG, ensuring a stable future for coconut breeding and production	0.4 One regional and three national maps of the most endangered zones for coconut cultivars in Fiji, Samoa and PNG regarding sea-level rise and climate change are available to women and men coconut scientists and policy makers by the end of year 1 of the project 0.5 There is an agreement by the project SC, on a standardized methodology to collect, identify, characterize and register new accessions for COGENT members (at a global level) at the beginning of year 2 of the project, with an awareness of gendered trait preferences 0.6 The number of conserved accessions in the Pacific Genebank has increased by 10% (between 5 to 10 new accessions have been identified and recorded in the CGRD database) by the end of the project 0.4 At least 9 Genebank staff (30% female) from Fiji, Samoa and PNG are trained to manage the genebank according to the rules of the multilateral system, supported by the ITPGRFA and according to the technical guidelines recommended by COGENT in year 3 0.5 The creation of the multi-site genebank is ratified by the end of the project with signed	0.1. Maps published on the COGENT and SPC websites during first year of the project 0.2. Published guidelines for collecting new accessions on the COGENT Website 0.3. Genebank records (# Pacific accessions recorded in the Coconut Genetic Resources Database, (CGRD) before and after the project 0.4a Training certificates /records of women and men staff operating in genebanks (or nurseries to prepare the genebanks) are available online on the COGENT website (page of the regional genebank) 0.4b An MOU is signed within the 3 genebanks to define and agree their governance and collaboration 0.5. MOAs signed and registered at FAO and the Secretariat of the ITPGRFA 0.6 List of COGENT members on the Website before and after the project	• Policy makers, Ministries of Agriculture and private sector bodies have gender-equitable access to coconut production climate-change scenarios and the corresponding risks, so they can better manage/anticipate the protection/erosion of the biodiversity • The maps will help in rationalizing the 5 COGENT ICGs • COGENT member countries will share a methodology to increase the number of accessions in the genebanks network • Women and men trained staff aware of the multilateral system will help in improving the exchange between genebanks at regional and international levels • More comprehensive conservation will lead to wider use and improved coconut livelihoods • The Pacific Region will be more involved in the Global Conservation Effort for future generations • Assuming fully comprehensive gender-equitable partner engagement beyond the project life • There will be no legal/diplomatic insurmountable constraints regarding the MOAs and MOU preparation and signature • Any phytosanitary risk will be effectively addressed and not impact on germplasm transfer, from collection and distribution.

Project summary	Measurable Indicators	Means of verification	Important Assumptions
	MOAs between the 3 countries and Bioversity International/COGENT or SPC and FAO/ITPGRFA		
Outputs: 1. Maps and models of current and future threatened coconut cultivated areas in the Pacific have been made available on the COGENT and SPC Websites	1.a Four Maps and models to predict the impact of future climate change on the target counties' "coconut ecosystem" accessible on the COGENT, CIRAD and SPC websites by the end of year 1 1b 2 to 3 journal publications of new methodology available to predict the evolution of coconut production areas in the future due to climate change by the end of year 2	1a: check COGENT and SPC Websites 1b: article(s) published online in open access	• Maps will be meaningful, accurate, understandable, compatible with local systems, accessible, usable and used • Uncollected diversity in less-endangered zones will not be wiped out before it has been conserved • That the prediction tool will be sufficiently accurate and simple to be used and implemented by a great number of gender-balanced stakeholders such as policy makers, NGOs, private sector
2. An effective, gender-sensitive coconut germplasm management plan for the Asia Pacific developed	2a: gender-balanced ITEx n°1 – one proposed guidelines for the choice of Pacific cultivars to be preserved by the end of the first year (also relevant to cultivar choice elsewhere) 2b. ITEx n°1 publishes one list of all the cultivars currently preserved and to be preserved (not only endangered) in the ICG-SP following the Global Strategy of COGENT. 2c. By early year 2, one overall collection plan (3 country subsections) is designed by ITEX n°1 based on the results of the mapping 2d.Between 5 and 10 accessions moved by genebank staff and/or collecting teams to a nursery at one of the 3 sites of the ICG-SP by the end of the project	2a. Guidelines are published, available on COGENT website in several languages during year 2 2b. The cultivar lists for the 3 sites will be published in a scientific article and on the institutions' Websites (about 60 cultivars should be on the list) 2c. A report on the plan (strategy) of collect is published on the COGENT and SPC websites 2c. Mission report of the mixed teams junior/senior experts available on the COGENT and SPC Websites 2d. consultation of the CGRD: at least 5 new accessions are recorded and well documented	• COGENT member countries will have access to the guidelines, methodology and selection criteria and they apply it in their own countries • That as much as possible representative diversity has been identified and will be conserved • data are easily accessible to all and safeguarded • The coconut biodiversity preserved in the 3 sites is secured by the signature of MOAs and the genebanks have a clear governance system at the regional level • That the isolated nature of the genebank locations will not be a disincentive to staff remaining to work there.

Project summary	Measurable Indicators	Means of verification	Important Assumptions
	2e. ITEX n°2 prepare the MOU to organize the governance within the 3 sites of the genebanks by the middle of year 3, with gendered considerations 2f. ITEX n°2 prepare the MOAs to be signed between the different institutions (local research institutions or Government, Bioversity International/COGENT, SPC, and FAO/Treaty) by the end of year 2, MoAs to include gendered considerations where appropriate.	2e. MOU signed between the 3 managers of the genebanks 2f. MOAs are signed by the end of the project and published on the COGENT and SPC Websites	
3. Training and capacity building provided to the staff of the 3 genebanks and to young scientists	3a. One PhD student, is recruited (if candidates comparable in all other respects will consider appointing a female candidate) and begins the thesis work during the first year of the project (preferably to become a coconut breeder working on one of the 3 sites) 3b. At least 6 MSc students (2 for mapping, 1 for Policy, 2 for breeding and 1 for database) are trained in the coconut field by end of project, aiming for at least half of students to be female if competence available. 3c. At least 9 persons (30% female) of the future staff of the ICG-SP are trained by end of project	3a. A document is describing the thesis topic and workplan + report of the SC of the first year of the PhD student. 3b. MSc reports published on COGENT Website (6) 3b. Scientific articles are published in open access journals (1 or 2) 3c. Certificate of training of staff (at least 9 persons, with declared gender balance)	• That young breeders will contribute expected breeding outputs • That the breeder will build the capacity of other men and women in the Pacific Region • Masters students will participate in future coconut GR projects and disseminate coconut GR knowledge • That capacity will be effectively built and harnessed, in a gender-equitable manner • The ICG will begin to put in place internal procedures to share germplasm internationally
Activities (each activity is numbered according to the output that it will contribute towards, for example 1.1, 1.2 and 1.3 are contributing to Output 1) Output 1 1.1 Kick-off meeting with the partners, back to back to a first SC meeting, aiming for best gender balance 1.2 State of the art on the climate change threats and GIS in the South Pacific countries. Search for climate change and sea level rise forecast in the future 40 years. Search for mapping of current or past coconut palm plantings at any scale. (2 MSc) 1.3 If not available creation of a map of the coconut cultivation area in the countries targeted by the project 1.4 Creation of the maps of the current and future endangered coconut cultivated areas in the Pacific. Output 2			

Project summary	Measurable Indicators	Means of verification	Important Assumptions
2.1 Establishment and validation of the ToRs of the 2 International teams of Experts (ITEx) by the SC, aiming for best gender balance 2.2 Constitution of the two gender-balanced ITEx and recruitment of the experts (contract's signature with the corresponding institutions (LoAs)) 2.3 ITEx n°1 builds a protocol and write guidelines for the identification/characterization/collection and transport of the new accessions (1 PhD). The team also make a list of the current and potentially interesting cultivars for the international collection 2.4 State of the art and revision of the status of the current ICG-SP by the ITEx n°2 and preparation of the documents for collecting missions and subsequent governance (1 MSc) 2.5 Gender-sensitive workshop (combined to the 3rd SC Meeting) to communicate, discuss and endorse the results of the mapping, the guidelines, finalize the list of cultivars and design a plan of collect. 2.6 Validation of the guidelines, protocols, list and plan of collect by the 3rd SC. Preparation of the workplan for year 2. 2.7 Official presentation of the project at the 7th Governing Body Session of the Treaty 2.9 Preparation of the 3 sites or quarantine areas for the newly collected accessions (nurseries and sanitary issues) 2.8 Different missions by the mixed teams junior/expert for identification/characterization/collection of endangered cultivars (2 MSc and 1 PhD) 2.10 Preparing and recording the accessions in CGRD (COGENT database) (1 MSc) 2.11 Movement of some of the cultivars to the designated 3 sites 2.12 Workshop with ITEX n°2 and project partners back to back the 4th SC meeting of the project to discuss and present the documents to be endorsed by the SC Meeting of COGENT in 2018 (year 3, Q3) and the PAPGREN network in?? 2.13 Signature of the MOAs and MOU at the final meeting of the project or at the COGENT SC Meeting in 2018 (which could be held back to back in the same place in PNG?). Official restitution to the Governments. Output 3 3.1 Training the ICG staff (gender equitable) 3.2 One PhD student to participate to the project and to be employed by the ICG,(preferably female) 3.3 2 MSc students to support the ITEX n°1 (breeding and collection) 3.4 1 MSc student to support the ITEX n°2 3.5 2 MSc student to support to mapping 3.6 1 MSc student to support database CGRD			

18. Annex 3: Standard Measures

Table 1 Project Standard Output Measures

Code No.	Description	Gender of people (if relevant)	Nationality of people (if relevant)	Year 1 Total	Year 2 Total	Year 3 Total	Total to date	Total planned during the project
1A	PhD student to be hired by the South Pacific genebank	M	PNG	0	1	1	0	1
2	MSc students		Fijian and Samoan	0	3	1	0	4
5	Genebank curators	M	PNG, Fiji, Samoa	0	3	3	0	3
6A	Genebank staff		PNG, Samoa, Fiji	0	9	9	0	9
6B	Training on characterization and data management and storage			0	2	2	0	4
7	Guidelines for collection, video to illustrate collecting method, maps of the coconut production area, posters on the 3 genebanks			0	2	2	0	4
14A	1 workshop and 1 seminar			0	1	1	0	2
14B	Presentation of the project in seminars/Conference …			3	2	3	3	8
20	Value of computers and material for collects (GPS, tablets…)							9000 GBP
21	COGENT sub-network and/or 1 group of curators of the 3 genebank will be formed.							

Table 2 Publications

Title	Type (e.g. journals, manual, CDs)	Detail (authors, year)	Gender of Lead Author	Nationality of Lead Author	Publishers (name, city)	Available from (e.g. weblink or publisher if not available online)
Inception Meeting report	Report	Johnson V. and Prades A.	M & F	English and French	Bioversity International, Rome, Italy	Bioversity/COGENT
Short Meeting report in Bangkok, Thailand	Report	Prades A.	F	French	Bioversity International, Rome, Italy	Bioversity/COGENT
Priority accessions of the South Pacific Regional Coconut Genebank	Report	Ovasuru, T., based on a report of Baudouin, L.	M & M	Papua New Guinean and French	KIK, Port-Moresby	KIK and CIRAD

19. Annex 4 Onwards – supplementary material (optional but encouraged as evidence of project achievement)

This may include outputs of the project, but need not necessarily include all project documentation. For example, the abstract of a conference would be adequate, as would be a summary of a thesis rather than the full document. If we feel that reviewing the full document would be useful, we will contact you again to ask for it to be submitted.

It is important, however, that you include enough evidence of project achievement to allow reassurance that the project is continuing to work towards its objectives. Evidence can be provided in many formats (photos, copies of presentations/press releases/press cuttings, publications, minutes of meetings, questionnaires, reports etc.) and you should ensure you include some of these materials to support the annual report text.

Name of the files	Document title	Type of document
Doc 1	Inception meeting	Report (pdf)
Doc 2	ToRs 2 Groups	Note (pdf)
Doc 3	Bangkok meeting	Report (pdf)
Doc 4	List of accessions	Report (pdf)
Doc 5	CV & Refs PhD (Curriculum and references for PhD student)	CV and letters (pdf)
Doc 6	Topic for PhD student	Note (pdf)
Doc 7	Pictures of the genebanks in PNG, Fiji and Samoa	Photos (zip)
Doc 8	MoA between Bioversity International, FAO and Papua New Guinea	Contract (pdf)
Doc 9	BBC_VJ (interview of Vincent Johnson by BBC)	Audio (mp3)

20. Checklist for submission

	Check
Is the report less than 10MB? If so, please email to Darwin-Projects@ltsi.co.uk putting the project number in the Subject line.	
Is your report more than 10MB? If so, please discuss with Darwin-Projects@ltsi.co.uk about the best way to deliver the report, putting the project number in the Subject line.	
Have you included means of verification? You need not submit every project document, but the main outputs and a selection of the others would strengthen the report.	
Do you have hard copies of material you want to submit with the report? If so, please make this clear in the covering email and ensure all material is marked with the project number.	
Have you involved your partners in preparation of the report and named the main contributors	
Have you completed the Project Expenditure table fully?	
Do not include claim forms or other communications with this report.	