ICC-COGENT planning meeting report: January 2020

ICC-COGENT Steering Committee (SC) - recent and upcoming meetings
Dear COGENT stakeholder,

Despite the Covid-19 situation, in reading this we hope you will celebrate with us the dawn of a renewed International Coconut Genetic Resources Network, (COGENT) as a programme within the International Coconut Community. Following the first COGENT planning programme meeting (20-31 Jan- see section 2), in our first joint message to you all, we would like to outline COGENT’s near horizon, and recent events. This extended first newsletter outlines COGENT’s plans and recent projects, including: i) the International Coconut Genebank (ICG) appraisals; ii) reformation of the International Thematic Action Groups (ITAGs); iii) a history of COGENT, iv) a snapshot of the events calendar; v) and plans for COGENT’s Steering Committee.

COGENT’s exciting renewal is driven by a confluence of supporting drivers:

i) the ongoing expansion of global coconut markets, particularly VCO and coconut water, offers new opportunities for exchanging improved coconut germplasm;

ii) the recent change to international status of the former Asia-Pacific Coconut Community to become the International Coconut Community (ICC) allows the ICC to become the new host for COGENT (September 2019 see ICC report);

iii) the injection of substantial support from ACIAR/DFAT during COGENT’s 2-year re-establishment period (beginning January 2020-see section 6, include a note from their programme managers, Irene Kernot and Christine Pahlman) that allows;

iv) a much-needed boost to begin implementing COGENT’s Global Strategy for Conservation and Use of Coconut Genetic resources. This includes:

- the (re-)forming of four international thematic action groups (ITAGs) within COGENT on: conservation, breeding & genomics, phytopathology & germplasm movement, and in vitro culture and cryopreservation (by June 2020). We are starting by confirming leadership and membership. The groups will spearhead development of COGENT priority projects within their thematic area (see section 8).

v) Dr Jelfina C. Alouw’s appointment as the new Executive Director of the ICC (January 2020 see ICC report), which is driving COGENT’s reformation forwards.

vi) The synergies of COGENT finally being physically located within a major coconut production area, and within the ICC- an organization linking coconut genetic resources conservation to their use (see fig 2 for structure of ICC and COGENT).

vii) The support for Vincent Johnson of the Bioversity-CIAT Alliance to continue as interim COGENT Coordinator (at least until December 2020), as well as providing support to ICC.

viii) The recruitment of a full time COGENT Coordinator based out of Jakarta, (circumstances prevented ICC appointing the selected candidate so we have re-opened the recruitment process) and for a part-time assisting coordinator (Dr Carmel Anne Pilotti, formerly of PNG now based with the Pacific Community (SPC) in Fiji (from January 2020).

ix) Improvements to COGENT’s communications and website maintenance (from January 2020).

COGENT is on the move

Joint Message from ICC’s ED, and COGENT’s Interim Coordinator

Figure 1: COGENT Global Strategy Frontispiece
Figure 2: Organigram for ICC & COGENT 2020

ACIAR grant planning: L to R: Mr Vincent Johnson (Bioversity-CIAT, Interim COGENT coordinator), Ms Irene Kernot, (ACIAR Hort Prog Mgr), Mr Uron Salum, (outgoing ED, ICC), Ms Mridula Kottekate, (Ass. Dir ICC), Dr Jelfina C. Alouw (ICC, ED), Mr Ramon Rivera, (PCA)

Main topics:
Coconut genetic resources conservation, ACIAR grant planning, ICG appraisals, Coordinator recruitment

Objectives:
1. Attending the handover of ICC-COGENT responsibilities from the outgoing Executive Director (ED) to the incumbent ED 2 (Jan 22).
2. Finalizing the appointment of the new COGENT Coordinator (Jan 23-24)
3. Finalizing the ACIAR/DFAT workplan for 2020, including Bioversity’s contract
4. Driving forwards the International Coconut Genebank (ICG) rapid appraisals
5. Driving forwards the reformation of the International Thematic Action Groups (ITAGs)
6. Discussing the appointment/ ICC allocation of the IT, communications and administrative functions for the COGENT Secretariat
7. Organising the next Steering Committee Meeting
8. Discussing capacity building and coconut germplasm data management

Meeting Summary
1. Attend inauguration ceremony of new ICC-ED
2. Handover of COGENT overview from outgoing ED to the incumbent ED- We participated in several planning and briefing meetings 20-31 Jan
3. Finalizing the appointment of the new Coordinator – Interacted with Ramon Rivera who came from the PCA for interview. Formal offer delivered and provisionally accepted, provisionally to start 1st March, but later PCA endorsement of the 2-year secondment was withdrawn due to heavy commitments
4. Finalizing the ACIAR/DFAT workplan for 2020, including Bioversity’s contract- planned major events and activities for 2020-21, especially the ICG appraisals, ITAG reformation, training meetings and SC meetings
5. Driving forwards the remaining International Coconut Genebank (ICG) rapid appraisals - planned the schedule of remaining appraisals, to be completed by Dec 2020, planned the ICG-SP appraisal in Manado back-to-back with SC meeting
6. Driving forwards the reformation of the International Thematic Action Groups ITAGs – reviewed the list of nominations for leaders and members, drafted the letters for ITAG leader confirmation and participation in the upcoming SC meeting
7. Discussing the appointment/ICC allocation of the IT, communications and administrative functions for the COGENT Secretariat - interacted with ICC admin, finance, communications and IT staff. Discussed reporting obligations and agreed to provide reporting templates, discussed migration of website, production of newsletter, including the structure of website and newsletter and content of first issue
8. Organising Steering Committee meeting (March/April 2020), drafting invitations, organising SC nominations. Drafted permission letter for IAARD to host SC meeting in Manado and conduct ICC appraisal and data training. Planned dates, drafted detailed agenda and budget
9. Developed budget workbook to estimate how the budget will be disbursed and calculate more fine-tuned estimations of expenses within the four 6-monthly grant periods
10. Interacted with ACIAR horticultural research programme manager
11. Interacted with Assistant Director and ED in planning to harmonise COGENT and ICC country memberships

Follow-up activities & recommendations
1. Invitations to be sent for SC nominations
2. Develop Strategy Implementation Plan during SC meeting
3. Develop new coordinator and assisting coordinator, induction programme
4. Liaise with SPC regarding assisting coordinator’s proposed interactions with COGENT
5. Complete international and selected national genebanks appraisals/surveys
6. Rebuild COGENT technical working groups (ITAGs), ensure they complement existing ICC groups
7. Develop plan for longer term funding raising
8. Develop scientific / technical capacity building / data management plan,
9. Fine tune research plan focusing on potential alternative strategies for conservation and exchange of material, referring to the Global Strategy
10. Continue interactions as often as possible with new Coordinator
11. Contact assisting coordinator in SPC, Fiji to develop common workplan
12. Set up monitoring for the ACIAR/DFAT workplan for 2020-21,
13. Finalise Biodiversity-CIAT/ICC contract for COGENT work
14. Organise remaining International Coconut Genebank (ICG) rapid appraisals – especially the ICG-SP appraisal in Manado back-to-back with SC meeting
15. Send letters for ITAG leader confirmation and participation in the upcoming SC meeting
16. Articulate ICC-COGENT reporting obligations and provide reporting templates.
17. Migrate and redesign COGENT website,
18. Issue first newsletter
19. Finalise Steering Committee meeting (March/April 2020), including agenda and participants list, send invitations, for meeting and SC nominations.
20. Send permission letter for IAARD to host SC meeting in Manado and conduct ICG appraisal and data training.
21. Review budget estimations of expenses within the four 6-monthly grant periods
22. Organise regular interactions with ACIAR horticultural research programme manager and ICC
23. Contribute to ICC membership drive

Persons met or visited International Coconut Community (ICC):
- Mr. Uron Salum, outgoing ICC Executive Director (ED)
- Dr. Donna C. Alouw, incumbent ED
- Dr Pons Batugal, Technical Working Group Chair
- Ms. Miridula Kottekate, Assistant Director,
- Mr Sutrisno Halim, Admin & Finance Officer
- Mr. Muft Febrianto, IT Assistant
- Mr. Arif Hakim, Information & Publication Officer

Philippines Coconut Authority
- Mr Ramon Rivera, Director, Zamboanga Coconut Research Station, Philippines

ACIAR
- Irene Kernot, Horticultural Research Program Manager

FAQ Plant Treaty
- Daniele Manzella, Technical Officer (virtual conference)

CIFOR
- Dr Vincent Gitz, Director CGIAR FTA programme

Indonesian Agency for Agricultural Research & Development (IAARD)
- Dr Syafaruddin, Director ICC/CRD
- Dr Ismail Maskromo, Director, Balit Palma,
- Dr Hengky Novarianto, Principle Coconut Breeder
- Other team members of the ICG-SP, Manado

Additional Comments
Imminent planned meetings may be postponed by coronavirus crisis

Coconut Cryopreservation

| Title | Developing cryopreservation protocols for sub-tropical crops and establishing a cryo-genebank at RDA with Bioversity International |
| Donor | The Rural Development Administration, Ministry of Agriculture, Food and Rural Affairs South Korea (http://www.rda.go.kr/foreign/ten/index.jsp) |
| Partners | Bioversity International, RDA, Korea, Philippines Coconut Authority |
| Period | November 2019 - December 2019 |
| Aim | Recalcitrant coconut seeds cannot be stored. Cryopreservation offers a viable conservation complement to field genebanks. The tissues following can be used: zygotic embryos; plumes excised from zygotic embryos; somatic embryos and shoot meristem tips. Cryopreservation of coconut zygotic embryos and plumes have both been successfully developed but are still not applied on a large scale. Cryopreservation of coconut somatic embryos is hindered by the slow and difficult initiation phase and low establishment rate. Therefore, this work focuses on cryopreservation of shoot-tips derived from in vitro seedlings of coconut. After addressing the challenges to: i) Initiation of sterile tissue cultures; ii) Multiplication of coconut shoot cultures (using cytokinin to reduce shoot apical dominance); and iii) Optimising cultures for Meristem tip regeneration. Work has optimized a droplet vitrification protocol (already proven successful in many species). The protocol is being validated and will be subsequently used to cryo-preserve coconut germplasm. |
| Outputs | A viable cryopreservation protocol for coconut germplasm. |
| Establishing cryobank at RDA, Korea and Leuven, Belgium |
| Outcomes | Capacity for coconut cryopreservation to be applied in ICGs and in Biodiversity, Leuven |
| Impact | Moves towards establishing cryobanking at the 5 International Coconut Genebanks |

Recent on ongoing COGENT-linked Projects (traffic light colours indicate progress)
**Darwin Coconut conservation**

**Title**
Establishing Coconut Genomics Mapping populations in ICG-AIO

**Donor**
UK Department for International Development (DfID)-Darwin Initiative (https://www.gov.uk/government/groups/the-darwin-initiative)

**Partners**
Bioversity International, SP, Cirad, Gov’ts Fiji, PNG (KIK) and Samoa, ITPGRFA.

**Period**
April 2016 - November 2017 (cut short - scheduled to end April 2019, so not able to implement germplasm prospecting, or register MSC or doctoral students)

**Project aim**
To identify those areas of Fiji, Papua New Guinea (PNG) and Samoa where coconut biodiversity is threatened and to ensure threatened coconut germplasm is conserved by: (i) developing the associated listing, (ii) characterizing its diversity and (iii) preparing for prioritized germplasm transfer to the ICG-SP (part of COGENT), and placed under the protection of the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA).

**Main planned outputs**
A germplasm collection methodology developed, including arrangements for managing and sharing the germplasm. Coconut germplasm characterization guidelines (building on Stantech manual) will be published by Dec 2020.

**Outcomes**
Selected threatened coconut germplasm were to be listed for introduction into the International Coconut Genebank of the South Pacific (ICG-SP) and in the International Coconut Genetic Resources Database (CGRDB), available for future generations of researchers, farmers, consumers and other users.

**Impact**
Consequences will contribute towards improved / elite lines to be used as material in breeding programmes and experimental plots. In 2013 estimates of the annual cost per accession varied between US$762 (COGENT) and US$2,787, so a 60-accession genebank would annually cost anything between US$46K and US167K (Global Strategy, 2018). The collections in Côte d’Ivoire, Indonesia and PNG are being moved to new sites, and a recent estimate for moving the ICG-AIO over an 8-year period came to over US$15 million for 59 accessions. Costs seem generally higher in Africa than in Asia.

<table>
<thead>
<tr>
<th>Palm type</th>
<th>accession size</th>
<th>planting density</th>
<th>area/ accession</th>
<th># accessions</th>
<th>total area</th>
<th>annual maintenance cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dwarf</td>
<td>45 palms</td>
<td>120 palms/ha</td>
<td>0.375 ha</td>
<td>30</td>
<td>11.25</td>
<td>US$2787</td>
</tr>
<tr>
<td>Tall</td>
<td>96 palms</td>
<td>120 palms/ha</td>
<td>0.8 ha</td>
<td>30</td>
<td>24</td>
<td>US$762</td>
</tr>
<tr>
<td><strong>TOTALS</strong></td>
<td><strong>60</strong></td>
<td><strong>35.25</strong></td>
<td></td>
<td><strong>762</strong></td>
<td><strong>167,220</strong></td>
<td></td>
</tr>
</tbody>
</table>
COGENT, ICC and the CGIAR: Then and Now

COGENT’s Evolution

Next year COGENT will celebrate its 30th Anniversary. The International Board for Plant Genetic Resources (IPGRI) in 1974, became the International Plant Genetic Resources Institute (IPGRI) in 1977. CGIAR decided to include coconut in its research portfolio in 1991, and IPGRI was given the mandate to organize the International Coconut Genetic Resources Network (COGENT) to implement this decision. ACIAR Commissioner Dr Gabrielle Persley was personally involved in the foundation of COGENT which started with 15 coconut growing countries as members and has subsequently expanded to 39 member countries. IPGRI, along with the International Network for the Improvement of Banana and Plantain (INIBAP) became Bioversity International in 2006. Following CGIAR funding reforms in 2010, Bioversity no longer had sufficient funds to maintain COGENT, nor a full-time coordinator, and increasingly relied on part-time coordination provided by seconded Cirad specialists. In 2017 Bioversity decided to solicit a new host for COGENT, with APCC agreeing to host the network as one of its programmes. The transfer was ratified in 2019, in an arrangement that directly links coconut genetic resources conservation with their use, and locates the network HQ within the most productive coconut region globally. From January 2020, the Australian Centre for International Agriculture Research (ACIAR) and the Australian Department for International Trade (DFAT) are providing 2-year initial co-financing to establish this new arrangement (see section 6), and by end 2021 COGENT will be implementing an effective sustainability plan (see Fig 3 for graphic timeline).

COGENT still gathers 39 country-members and is organized into 5 regional sub-networks: i) Africa and the Indian Ocean; ii) Latin America and the Caribbean; South Asia and Middle East; Southeast and East Asia; and the South Pacific, each hosting an International Coconut Genebank (see fig 3 below). For the current outline of COGENT see section 1 as well as the Global Strategy pp 22 - 24.

COGENT programme priorities and activities will still be decided by a streamlined Steering Committee (see section 7), in consultation with the ITAG leaders (see section 8) and the Coordinator. Together they will coordinate the planning, implementation, monitoring and evaluation of COGENT’s programme, projects and activities, and established linkages with collaborating institutions, programmes and donors.

There are five International Coconut Genebanks (ICGs), established in the 1990s in Brazil, Côte d’Ivoire, India, Indonesia and Papua New Guinea. In common with many of the 19 national collections, all five ICGs face several challenges that constrain germplasm exchange. Previous surveys indicate that overall ICG management and capacities need strengthening, and they suffer from accessions’ mislabelling, threats from pests and climate change, land tenure issues, poor germplasm data management, lack of human and other resources, including financial support, and are in desperate need of upgrading, especially in terms of rejuvenation, backup, and collecting new material.

For an international collection to be ratified, the host government signs a tripartite ‘Article 15’ agreement with both the FAO-International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA) and the COGENT host organisation (now the ICC), to hold the collection as a global public good to be accessible within the multilateral system of germplasm exchange, and to effectively maintain and protect the collection. New agreements for all 5 ICGs are being drafted, to accommodate COGENT’s new host, the ICC.

New support from ACIAR/DFAT (see section 6) is allowing COGENT to conduct rapid appraisals of the 5 ICGs by the end of 2020, as also a survey of the national collections. The appraisal for the South Pacific Collection (ICG-SP) has recently been conducted and the report will be available soon. The ICG rapid appraisals will determine: 1. Status of the MOA/ICG agreement; 2) Availability and status of ownership of ICG land; 3) Number of accessions planned to be/actually conserved; 4) Number of palms per accession and representativeness; 5) Number of countries which requested/ were provided with germplasm; 6) How germplasm data is recorded/stored; 7) Disease/Pest threats; 8) Planned duplications; 9) Commercial activities; 10) Research conducted: a. Collecting for additional conservation; b. Characterization of accessions; c. Yield evaluation; d. Disease resistance trials; e. Tissue culture; f. Advancing knowledge; and 11) other information.

Once the ICG appraisals and the national CG survey are conducted COGENT will compile a report on the state of global coconut genetic resources and how the community can ensure a sustainable system for coconut germplasm conservation, exchange and use. This will be linked to the genebanks sustainability plan (see section 6). The next newsletter will provide a progress update on these appraisals.

Figure 3: COGENT evolution

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
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<tbody>
<tr>
<td>1967</td>
<td>CIAT established</td>
</tr>
<tr>
<td>1969</td>
<td>CGIAR established</td>
</tr>
<tr>
<td>1971</td>
<td>IPGRI established</td>
</tr>
<tr>
<td>1974</td>
<td>IPGRI &amp; Joins CGIAR</td>
</tr>
<tr>
<td>1985</td>
<td>IPGRI joins CGIAR</td>
</tr>
<tr>
<td>1991</td>
<td>INIBAP joins CGIAR</td>
</tr>
<tr>
<td>1994</td>
<td>INIBAP merges with IPGRI</td>
</tr>
<tr>
<td>1996</td>
<td>CGIAR/INIBAP becomes Bioversity International</td>
</tr>
<tr>
<td>2006</td>
<td>INIBAP/IPCRI becomes Bioversity International</td>
</tr>
<tr>
<td>2010</td>
<td>Bioversity, CIAT Alliance established</td>
</tr>
<tr>
<td>2019</td>
<td>Bioversity - CIAT Alliance begins established</td>
</tr>
<tr>
<td>2019</td>
<td>COGENT (now 39 member countries) housing transferred to become ICG programmes</td>
</tr>
<tr>
<td>2020</td>
<td>ACIAR/DFAT COGENT transitional support begins</td>
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</table>
The ICGs in PNG and Côte d'Ivoire are currently being relocated.

Philippines
Sri Lanka
India
Indonesia
China
Cook Islands
Bangladesh
...

exhaustive logos table below). We acknowledge them in chronical order as follows:

COGENT would also like to pay tribute to nine coordinators for their dedicated work spanning almost 30 years. Their dynamic leadership provided the needed momentum to move COGENT forwards and we acknowledge their critical achievements that have helped conserve the diversity now held in collections across the world.

Hugh HARRIES' (1991-1993) dynamic leadership provided the needed momentum to move COGENT forwards and we acknowledge his critical achievements that have helped conserve the diversity now held in collections across the world.

Gerardo SANTOS (1993), the Division Chief III Breeding and Genetics Division, Philippine Coconut Authority, who was amongst other things involved in drafting the first guidelines on coconut germplasm movement and duplication.

With more than 20 years' experience in coconut improvement, including building the International coconut collection in Côte d'Ivoire, Dr Michel de NUCE de LAMOTHE (1993 – 1994) was instrumental in establishing the International Coconut Genebanks (ICGs), especially in Côte d'Ivoire. He subsequently became research director for the Research Institute for Oils and Oilseeds (IRHOI), the French National Institute for Agronomic Research (INRA) and Grad. He acted on the Boards of: the International Institute for Banana and Plantain (INIBAP), the International Plant Genetic Resources Institute (IPGRI) and the International Centre for Agricultural Research in Dry Areas (ICARDA), collaborated with many international organisations including FAO and the World Bank, and was President of the Agropolis Foundation in Montpellier, France.

Dr Ponciano BATUGAL (Pons) took up the baton for the next 12 years (1994-2006). He had previously worked with the University of the Philippines at Los Baños; the Philippine Council for Agriculture, Aquatic, and Natural Resources Research and Development (PCAARD) and the International Potato Center (CIP, Lima, Peru before he joined the International Plant Genetic Resources Institute (IPGRI) to coordinate COGENT. Dr Batugal transformed COGENT including increasing membership from 15 to 38 countries and attracting US$ multi-million resources to implement a wide-ranging coconut research for development programme. His work integrated sustainable coconut conservation and use with poverty alleviation, resulting in positive impact for millions worldwide. He also generated many publications too numerous to mention here. Dr Batugal is also the President and founder of the Farmers Community Development Foundation International. He now chairs the Technical Working Group of the International Coconut Community (ICC) and the CGC Newsletters.
Recruitment is underway for a full-time coordinator with a tenure from 1st September 2020 until 30 June 2022.

Also from Cirad, food technologist, Dr Alexia Praudes (2012-2017) took over as (20% part time) coordinator, winning a UK Darwin Initiative grant aimed at improving conservation of threatened coconut diversity in Fiji, PNG and Samoa, completing the compilation of the Global Strategy, and strengthening working relationships in the COGENT regions, particularly with the then Asia Pacific Coconut Community (now ICC). Although the UK grant was cut short, the work has been responsible for a soon-to-be-published Coconut Germplasm Characterisation guidelines and strengthened international relations.

Both Cirad coordinators were co-funded by Cirad and small funds from the CGIAR CRP Forests Trees and Agroforestry (FTA).

Ex-agronomist and currently science writer and project officer, Vincent Johnson of the Alliance of Bioversity and CIAT (ex-Bioversity), has assumed responsibility for interim part-time COGENT coordination since November 2017 (2017-2020), supported by funds from ACIAR and DFAT. Vincent developed ACIAR/DFAT proposals, that have allowed i) the publication of the Global Strategy, ii) the transfer of COGENT’s hosting from Bioversity to the ICC and iii) funding a two-year transition period. He also provided support to COGENT coordinators from 2008 until now.

Capitalising on Bioversity’s strong working relationship with Cirad, ethnobotanist and coconut diversity specialist, Dr Roland Bourdeix (2011-2013) was appointed as the next (20% part time) coordinator, and amongst his prolific output, he was responsible for i) revising COGENT’s infrastructure, steering committee, and website; ii) implementing key upgrading work in the International Collections; iii) introducing six international Thematic Action Groups (ITAGs- see section 8), and most importantly iv) developing a more coherent Global Strategy for the Conservation and Use of Coconut Genetic Resources (the Global Strategy- see Fig 1).

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Both Cirad coordinators were co-funded by Cirad and small funds from the CGIAR CRP Forests Trees and Agroforestry (FTA).
3. A status report on coconut genetic resources held in trust in the five multi-site international genebanks and in the national collections in 19 coconut growing countries, along with recommendations for restoring a functioning international multilateral system and initial support for effectively sharing coconut germplasm for the benefit of breeding programs, as a strategy to improve coconut productivity and linked livelihoods, across the Asia Pacific and beyond (WP 3).

4. The two-year project will also develop a sustainability plan and international research collaboration that will help sustain the COGENT program and the national and international collections in the longer term (WP4).

5. Having a fully functional COGENT will play a pivotal role in ensuring the more effective conservation and use of coconut genetic resources, and will contribute to building coconut stakeholders’ capacity and resilience across the value-chain. COGENT now being embedded within the ICC offers a golden opportunity to more effectively link coconut genetic resources conservation with their use, and concomitantly improving coconut-based livelihoods for coconut growing households and communities. This project will ensure that the capacity to conserve the genetic diversity of coconut is preserved and contributes to ACIAR’s long-term program of work to rejuvenate the coconut industry in the Pacific and beyond.

A note from ACIAR and DFAT
ICC and COGENT have been more frequently interacting with ACIAR and DFAT colleagues since mid-2018, and have invited them to express a few words of support in this first issue of COGENT’s newsletter.

Message from Christine Pahlman, Assistant Director, Agricultural Development and Food Security Section; Agriculture, Infrastructure and Water Branch, Australian Department of Foreign Affairs and Trade

Australia through the Department of Foreign Affairs and Trade (DFAT) is pleased to collaborate with ACIAR to support the Coconut Genetic Resources Network (COGENT) through its transition to the International Coconut Community. Australia has decades of experience in supporting agricultural development and food security through our aid program. Australia recognises the importance of COGENT in safeguarding coconut production and genetic diversity and in contributing to smallholder livelihoods and food security including in our region, the Indo Pacific. We hope that this investment will lead to innovation and initiatives that enhance the genetic resources of coconuts whilst increasing productivity and sustainable resource use. We are looking forward to collaborating with COGENT and its partners and stakeholders.

Message from Irene Kernot, Research Program Manager Horticulture, Australian Centre for International Agricultural Research

ACIAR invests in Research for Development that facilitates research partnerships. Through these partnerships our projects aim to improve food security and deliver economic benefit while also contributing to gender equity, health and nutrition, climate resilience for the world’s smallholder farmers. Preserving Coconut germplasm is a foundation project in this program because of the central role that coconuts can play in smallholder livelihoods. I encourage the researchers in this network to keep long term outcomes in mind as they will be central to the strong business case this team will develop to attract commitment and investment for the long-term future of coconuts in our environment and for small holder farming systems.

COGENT and ICC once again acknowledge and express gratitude for ACIAR and DFAT support, and are confident of a strong return on this significant investment.

Summary of last 3 SC meetings

2014, Sri Lanka: In conjunction with the Sri Lankan Coconut Research Institute (CRI, Dr Lalith Perera), Bioversity International organized the 17th COGENT SC Meeting 13th to 16th July 2014, in Lunuwila, Sri Lanka. The meeting was funded by the CGIAR Research Programme on Forests, Trees and Agroforestry. The SC and participants from nine countries (Brazil, Côte d’Ivoire, France, India, Indonesia, Kenya, Papua New Guinea, Sri Lanka, Tanzania), including official COGENT representatives, endorsed eight major international recommendations to finalise and begin implementing COGENT’s new Global Strategy.

2017, Fiji: In conjunction with the Pacific Community (SPC, Land resources Div-Dr Jan Helsen) and Fijian Government, Bioversity International organized the 18th COGENT SC Meeting 31st October to 4th November 2017, in Nadi, Fiji. The meeting was co-funded by ACIAR and APCC and aimed to determine how best to sustain the conservation and use of coconut genetic diversity for the Asia-Pacific region and globally. The report is available, please click here. The workshop i) finalised and informally launched the Global Strategy for Conservation and Use
of Coconut Genetic Resources (the Strategy), particularly exploring how this relates to the Pacific region; ii) discussed measures to assure the technical and organizational underpinning for conservation and use of coconut genetic diversity in the Pacific and globally, and iii) considered how best to address key biotic (pests and diseases) and abiotic threats to coconut diversity in the Pacific, as well as other regions. Achieving these three objectives over the longer term were encapsulated in 10 steering committee recommendations.

New SC structure and membership

COGENT’s new structure is articulated in section 1

COGENT programme priorities and activities are decided by its Steering Committee, which provides oversight and policy recommendations which are then reviewed by ICC to enhance complementarity and effectiveness. The COGENT Coordinator coordinates the planning, implementation, monitoring and evaluation of COGENT’s programme, projects and activities, and establishes linkages with collaborating institutions, programmes and donors.

Upgrading COGENT’s organization was initiated in 2012 by conducting two organizational assessments and two participative meetings. The composition and the role of the Steering Committee (SC) was modified in order both to increase its stability and to allow other member-countries to fully participate in decision making. The venue of COGENT meetings was fixed as biennial and linked with the COCOTECH meetings of APCC, in order to reduce costs and increase interactions with stakeholders from the coconut value chain. Other innovations are the creation of the ITAGs (see section 8), and the possibility of making decision at distance using two distinct processes, remote consensus and remote voting. Further details on COGENT and its recent reorganization, including a study to explore alternative hosting arrangements for the Secretariat are provided in Annex 4 of the global strategy.

Following more recent discussions with the ICC, it has been decided to slightly change and rationalise the SC membership to having a single representative from each ICG within the each of the five regions: from Brazil, Côte d’Ivoire, India, Indonesia, and PNG; and adding a representative from the more active/important national collections in Malaysia the Philippines, and Sri Lanka. The Executive Director of ICC and its technical working group chair have also been endorsed as SC members. These constitute the SC voting members.

The SC also invites non-voting, observer membership from international organizations: the CGIAR, the Pacific Community (SPC), The CropTrust, the UN Treaty, CIARD, FAO-Genebank resources Div. and Crop Protection Div.), who may provide technical oversight and assistance.

A new vice-chair is voted in every two years who becomes the chair by default for the next two years.

ICC has now sent out invitations for nominees to join the Steering Committee and almost all have accepted. ICC will send out a communiqué to announce the new SC which will be formally recognised in the upcoming virtual SC meeting, subject to all conditions being met.

Next SC Meeting

Covid-19 constraints have led to postponing the originally-scheduled SC meeting in 2021. This meeting had been scheduled to include an assessment of the ICG-SEA in Manado, as part of the ICG rapid appraisal ACIAR programme work-package (see section 4). This was to have been followed by a coconut germplasm management database training (in Jakarta). Commitment letters had then been received from the Indonesian Agency for Agricultural Research & Development (IARRD). The main purpose of holding these events in Indonesia was to demonstrate and strengthen the very much needed commitment and support by ICC and COGENT to our host country. COGENT is resolved to seek ways to further identify opportunities to support the host country and will plan an important COGENT SC meeting within Indonesia during the course of the ACIAR programme. The rapid appraisal ICG-SAME will be re-scheduled for October 2020.

It had then been proposed that COGENT hold its 20th SC meeting back-to-back with the 49th International COCOTECH Conference & Exhibition at Kuala Lumpur Malaysia on 12-13 September 2020 and include interactions on ICGs, ITAGs and the above-mentioned overview of coconut germplasm data management (see fig 5 for virtual SC meeting agenda). However, due to ongoing COVID-19 uncertainty, COGENT and the Malaysian host have agreed that the two events will be rescheduled (COGENT hopes to sometime in February 2021). In the meantime, COGENT will organise a series of first virtual SC meetings during the week of 22nd to 25th June 2020, or the week after according to availabilities. This will allow holding sharply focused and prioritised sessions, aiming for a daily duration of no more than two to three hours. COGENT is planning on asking the invited presenters to provide their (max 5 slide) pre-recorded presentations in advance, so delegates can download and listen to the presentations before the meetings and then time can be used for discussion. The final agenda will be circulated very soon. There will be separate virtual meetings on database training and ITAGs.

2018: Thailand (back-to-back with COCOTECH 48) In conjunction with and supported by the ICC and the Thailand government’s Department of Agriculture, Bioversity International organized the 19th COGENT SC Meeting 25–26 August 2018 Bangkok, Thailand. The meeting outlined plans for COGENT to address the global coconut community’s needs for more effective genetic resources conservation and use. Delegates formally launched the new Global Strategy for Conservation and Use of Coconut Genetic Resources 2018-2028 (the Strategy). COGENT again pays tribute to all those who contributed to this important document, which will guide the future of coconut diversity conservation and use. In response to the 18th SC meeting recommendations delegates planned for: i) reviving COGENT’s International Thematic Action Groups (ITAGs) that will guide strategy implementation, ii) evaluating the International Coconut Genebanks’ (ICGs), iii) implementing the above-referenced Strategy, and iv) progressing with the arrangements to transfer the COGENT Secretariat from Bioversity International to the ICC. The meeting addressed COGENT’s key funding and technical issues, considering strategies to ensure efficiencies and effectiveness. Delegates highlighted the need for accessing quality planting material, harnessing new genetics and tissue culture technologies and dynamizing the coconut value chain.
International Thematic Action Groups (ITAGs): New structure and membership

COGENT is reestablishing four International Thematic Action Groups (ITAGs) to lead in the identification and coordination of priority projects for germplasm conservation and use, linked to implementing COGENT’s Global Strategy for the Conservation and Use of Coconut Genetic Resources. During the 2012 SC meeting, participants from 16 countries recognized the need to create six International Thematic Action Groups (ITAGs), aiming to promote and coordinate international theme-specific research related to coconut genetic resources. The terms of reference for these ITAGs were discussed during the SC meeting (ITAGs are not decision-making bodies). The ITAGs objectives are to:

- assemble a group of the best specialists
- strengthen communications between researchers working in different countries but in the same thematic field.
- provide useful recommendations to COGENT’s SC, (the decision-making body) and secretariat.
- provide new research ideas to spearhead the implementation of the Global Strategy in the relevant thematic area, and develop funding proposals (see below for list of current priority projects).

The 2012 recommended 6 ITAGs were: (i) Ex situ conservation; (ii) Genomics; (iii) Breeding; (iv) Phytopathology & germplasm movement; (v) Ethnobiology & Socioeconomics, and (vi) In vitro culture. During the funding hiatus little was further developed until the ACIAR/DFAT proposal development.

In 2018 the SC recommended the addition of one new ITAG and slight changes to ITAGs 5 and 6 as follows: (v) Farmers’ Participation (under Ethnobiology & Socioeconomics), and (vi) In vitro culture and cryopreservation, and the new group will be dedicated to value-chain research.

In 2019, ACIAR/DFAT endorsed the proposal to support revitalizing COGENT, as a programme within ICC. The 4 proposed ITAGs are: (i) Ex- & in situ conservation; (ii) Genomics & breeding; (iii) Phytopathology, entomology & germplasm movement; and (iv) In vitro culture and cryopreservation.

Figure 6: ITAG proposed leaders and memberships

<table>
<thead>
<tr>
<th>ITAG name</th>
<th>Leader name</th>
<th>Leader email</th>
<th>Leader Country</th>
<th>Leader email</th>
<th>Leader Country</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Ex situ &amp; in situ Conservation (ITAG 1 SAC)</td>
<td>Bhuvan Dhull</td>
<td><a href="mailto:bhuvan.dhull@gmail.org">bhuvan.dhull@gmail.org</a></td>
<td>Mauritius</td>
<td>yun</td>
<td>Yes</td>
</tr>
<tr>
<td>2. Genomics &amp; Breeding (ITAG 2 EAB)</td>
<td>re / Sudarsono</td>
<td><a href="mailto:sudars0n0@gmail.com">sudars0n0@gmail.com</a></td>
<td>Indonesia</td>
<td>yun</td>
<td>Yes</td>
</tr>
<tr>
<td>3. Phytopathology, Entomology &amp; Germplasm movement (ITAG 3 EAB)</td>
<td>Mayana relics</td>
<td><a href="mailto:mayana.relics@ic.ac.jm">mayana.relics@ic.ac.jm</a></td>
<td>Jamaica</td>
<td>yun</td>
<td>Yes</td>
</tr>
<tr>
<td>4. In vitro culture &amp; cryopreservation (ITAG 4 EAB)</td>
<td>Anthia Barman</td>
<td><a href="mailto:anthia.barman@cgiar.org">anthia.barman@cgiar.org</a></td>
<td>India</td>
<td>yun</td>
<td>Yes</td>
</tr>
</tbody>
</table>
Figure 6 articulates the proposed group leaders and initial members, which has been developed from recommendations arising from the 18th SC meeting and subsequent interactions. The groups will convene to design the ITAG-linked priority projects and help to develop funding proposals with the support of COGENT-ICC. The COGENT coordinators and chair of ICC’s technical working group have drafted a first non-exhaustive list of priority projects (see below), and Figure 7 summarises the proposals pipeline with which we have been engaged since January 2020.

COGENT Priority research areas for ITAGs (first discussion 24 Jan 2020)

1. PROGRAM 1: COCONUT GENETIC RESOURCES CONSERVATION

1.1. Project 1: Strengthening the International Coconut Genebanks

1.2. Project 2: Strengthening the National Coconut Genebanks

1.3. Project 3: Implementation of the Global Strategy for Conservation of Coconut Genetic Resources

1.3.1. Study 1: Genomics and Breeding

1.3.2. Study 2: Ex- and In-situ Conservation

1.3.3. Study 3: Pest management and Germplasm movement

1.3.4. Study 4 In vitro culture and cryopreservation

1.3.5. Study 5: Infrastructure development of the International Coconut Genebanks

1.4. Project 4: Capacity Building

1.4.1. Study 1: Controlled Hand Pollination

1.4.2. Study 2: Genetic resources database development & management

1.4.3. Study 3: Molecular and morphological characterisation

1.4.4. Study 4: Germplasm prospecting and collecting

1.5. Masters and PhD fellowships, short term training to address key challenges

2. PROGRAM 2: COCONUT GENETIC RESOURCES UTILISATION

(PROGRAM TITLE: SUPPORT TO REPLANTING PROGRAMMES)

2.1. Project 1: Tissue culture for rapid coconut planting material propagation

2.2. Project 2: Massive selection of priority varieties linked to effective nursery management and replanting programmes

2.3. Project 3: Hybridisation of priority varieties for precocity, productivity, HVP, tolerance to priority abiotic and biotic stresses

2.4. Project 4: Supporting national replanting programmes and plant expansion in coastal areas

3. PROGRAM 3: STRENGTHENING COGENT MANAGEMENT TO PROVIDE GREATER SERVICE TO MEMBER-COUNTRIES

3.1. Project 1: Sustainability plan for COGENT- Study on how different countries private sector/ government levy schemes

Proposals Pipeline:

Since January 1st we have begun developing several proposals and where indicated submitted

<table>
<thead>
<tr>
<th>Proposal Type</th>
<th>ITAG</th>
<th>Owner</th>
<th>Source</th>
<th>Lead applicant</th>
<th>Deadline</th>
<th>Description</th>
<th>Amount</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase 1</td>
<td>Genomics and Breeding</td>
<td>COBRA</td>
<td>pending</td>
<td>submitted</td>
<td>30/04/2020</td>
<td>285,00</td>
<td>Cooperative Research on Pan-Asian Population Genetic Diversity of Coconuts Based on Pan-genome Analysis</td>
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</tr>
<tr>
<td>ISG phase 1</td>
<td>Conservation</td>
<td>SAG</td>
<td>rejected</td>
<td>submitted</td>
<td>01/04/2020</td>
<td>01/04/2020</td>
<td>specified</td>
<td>Researching &amp; creating new breeding resources with sustainable climate-change adaptation, coconut-linked food system and poverty reduction interventions, through an RBM and food-system strategy in poor coastal communities in Côte d’Ivoire, Kenya, and Tanzania</td>
</tr>
<tr>
<td>ISG phase 1</td>
<td>Conservation</td>
<td>Science for future and people partnership (SAAPP)</td>
<td>developing</td>
<td>developing</td>
<td>01/04/2020</td>
<td>01/04/2020</td>
<td>specified</td>
<td>Developing a sustainability model to promote sustainable development in poor coastal communities</td>
</tr>
<tr>
<td>ISG phase 1</td>
<td>Physicopathology / Germplasm Movement</td>
<td>ICBI</td>
<td>developing</td>
<td>developing</td>
<td>ICBI and COBRA</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>ISG phase 1</td>
<td>Physicopathology / Germplasm Movement</td>
<td>ICBI</td>
<td>developing</td>
<td>developing</td>
<td>ICBI and Grad</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>ISG phase 1</td>
<td>ICBI Health &amp; Nutrition</td>
<td>multi-donor targeting (CABT, RBG, Philippines, Indonesian Germs amongst others)</td>
<td>developing</td>
<td>developing</td>
<td>ICBI</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>ISG phase 1</td>
<td>ICBI Health &amp; Nutrition</td>
<td>CABI</td>
<td>pending</td>
<td>submitted</td>
<td>20/04/2020</td>
<td>2500,000</td>
<td>coconut can increase the capacity of local foods, particularly reduced food systems, to be resilient to current and future pandemic shocks, while ensuring increased market competitiveness as demand for healthy and sustainable food, Kenya, and Tanzania</td>
<td></td>
</tr>
</tbody>
</table>

Figure 7: COGENT-ICC proposals pipeline Jan-Jun 2020

Events calendar 2020-2022