



**ASIA-PACIFIC CONSORTIUM  
ON  
AGRICULTURAL BIOTECHNOLOGY AND BIORESOURCES (APCoAB)**

**XX<sup>th</sup> STEERING COMMITTEE MEETING  
(2019)**

**June 12, 2019  
(09:00-12:00 hrs)**

**Ibis Styles Bangkok Ratchda Hotel, Bangkok, Thailand**

**PROCEEDINGS**

The XX<sup>th</sup> Steering Committee (SC) Meeting of the Asia-Pacific Consortium on Agricultural Biotechnology and Bioresources (APCoAB) was held on June 12, 2019 at Ibis Styles Bangkok Ratchda Hotel, Bangkok, Thailand. The meeting was attended by 19 participants, comprising the Chairperson, Vice Chairperson, members of the SC, special invitees and observers (Annex I).



*Participants of the XX<sup>th</sup> Steering Committee Meeting of APCoAB*

**Agenda Item 1: Welcome and Introduction**

Dr Ravi Khetarpal, Executive Secretary, APAARI, welcomed the Chairperson, Vice Chairperson, members, special invitees, and observers of the SC meeting. He also welcomed

the staff members of APAARI. Dr Khetarpal thanked COA for providing additional funding to APCoAB for four years i.e. 2019-2022. He also thanked the Chairperson, Vice Chairperson, the members, special invitees and all participants for attending the SC meeting, as well as the major funding partner Council of Agriculture (COA) and Australian Centre for International Agricultural Research (ACIAR) for their generous support to APCoAB. This was followed by self-introduction by each participant.

## **Agenda Item 2:       Opening Remarks**

Ms Mellissa Wood, Chairperson of the SC, welcomed all the participants and expressed her pleasure to chair the SC meeting. While emphasizing the importance of agricultural biotechnology and bioresources as a part of solution to ongoing problems of food shortage which a major issue in Asia-Pacific region (APR), she mentioned about the significant role of APCoAB for capacity building and knowledge sharing in areas of agricultural biotechnology and bioresources. Ms Wood told that national agricultural research systems (NARS) in APR have recognized the importance of biotechnology and many countries have allowed cultivation of GM crops. A total of 8 countries of APR – Australia (cotton and canola), Bangladesh (brinjal), China (cotton, papaya), India (cotton), Pakistan (cotton), Philippines (maize), Myanmar (cotton), Vietnam (maize) allowed cultivation of biotech crops which have brought benefits to the farmers. Several biotech crops are in pipeline in many Asian countries. She emphasized that the adoption of biotech crops helps towards achieving the sustainable development goals but the challenge is how to enhance the acceptance of these crops and build the trust amongst the stakeholders including consumers about the safety of the biotech products.

Ms Wood stated that through new innovations like gene editing several products have been developed globally but the issues relating to regulatory policies for adoption of such products is still being debated. Countries like Australia, USA, Japan have decided to treat some of the gene-edited products like non-GM products. To harness the benefits of this innovative technology, the regulatory policies should be in place in the countries of APR so that when the products are ready, these can be taken forward to the fields. Asia-Pacific countries should deliberate and develop policies to deal with gene-edited products. She also mentioned that in the age of the Anthropocene, agriculture is a major source of many of the environmental challenges (biggest water user, 26% GHG emissions, biggest land user *etc.*) and therefore, agriculture is a solution to these problems and the biggest lever we have to address these global challenges. The biotechnology toolkit needs, therefore, to focus not just on sufficient and nutritious food, but on food that is sustainably produced.

Ms Wood mentioned that agricultural biotechnology is beyond the GM crops which has several applications in agriculture. It also plays a significant role in bioprospecting, effective conservation and sustainable use of bioresources. She stressed that in order to harness the full potential of biotechnology, capacity building in the above-mentioned areas is imperative for effective conservation and sustainable utilization of bioresources particularly for maintenance of diversity of vegetatively propagated crops in APR.

Finally, Ms Wood thanked the Vice Chairperson and all the members to attend SC meeting. She also extended special thanks to COA for being a major donor of APCoAB and further enhancing the funding for 2019-2022. She hoped that this cooperation will be continued in future also.

Before moving to the Agenda items, the Chairperson invited the Vice Chairperson for his remarks.

### **Agenda Item 3:       Remarks by COA**

Mr Vincent Lin, Vice Chairperson of the SC, expressed his pleasure to participate in the SC meeting. On behalf of COA and on his own behalf, he congratulated Ms Mellissa Wood to accept to be Chairperson of SC and providing the leadership to APCoAB programme. Mr Lin thanked the Secretariat of APAARI and especially the Coordinator, APCoAB to carry out the activities efficiently. He mentioned that COA is pleased to extend uninterrupted financial support to APCoAB during past many years which has further been extended up to 2022. Mr Lin stressed that development in biotechnology is very important in many countries of APR. However, he emphasized that the specific issues should be focussed in this programme, keeping their importance in view. There is a need to collaborate with other organizations in the region and he requested the Chairperson to provide the visionary guidance to make this programme more successful. Mr Lin expressed his satisfaction for the progress made under APCoAB programme and thanked the Chairperson for her guidance and all the members for their participation in SC meeting.

### **Agenda Item 4:       Approval of Agenda for the XX<sup>th</sup> SC meeting and Final Approval of the Minutes of the XIX<sup>th</sup> SC Meeting**

The Agenda for the XX<sup>th</sup> SC meeting was approved unanimously (Annex II). Participants were informed that the Proceedings of the XIX<sup>th</sup> Steering Committee held on May 28, 2018 in Bangkok, Thailand (Annex III) had been circulated to all the SC members and other participants of the meeting, on which no comments were received. The proceedings were placed before the Steering Committee for final approval and the same was approved unanimously.

### **Agenda Item 5:       APCoAB Program - Background and Status, Action Taken Report and Progress Report**

#### **Background and Status**

Dr Rishi Tyagi made a brief presentation on the mandate, program, progress and current status of APCoAB (Annex IV). He mentioned about the genesis of APCoAB, which was founded in 2003 in response to the need expressed during APAARI and FAO meetings for a regional initiative to promote the adoption of agricultural biotechnology for the benefit of the Asia-Pacific NARS and the farming community. The program has been funded, besides APAARI, by COA, ACIAR and other public and private organizations. COA has been the major supporter of APCoAB since 2008. In order to work towards the strategy plan of APAARI in the context of Sustainable Development Goals (SDGs), conservation and sustainable use of bioresources for sustainability of agri-food system, bioresources were included under the APCoAB program on November 12, 2017 by endorsement of APAARI's Executive

Committee. Thereafter, it has been renamed as Asia-Pacific Consortium on Agricultural Biotechnology and Bioresources (APCoAB).

APCoAB, in collaboration with APAARI member organizations, carries out expert meetings in the areas of policy, technological advances, benefits and concerns related to agricultural biotechnology in its broad sense. It also organizes training programs on a diverse range of agricultural biotechnology related topics. APCoAB has brought out a large number of publications, including proceedings of expert meetings, success stories and status reports of technology adoption and regulation. The APCoAB website ([www.apcoab.org](http://www.apcoab.org); <http://www.apaari.org/web/our-projects/apcoab/>) provides up-to-date information about the program and its activities, and global developments in agricultural biotechnology and bioresources.

### **Action Taken Report**

The Action Taken Report (ATR) regarding the recommendations made during the XIX<sup>th</sup> SC meeting was presented by Dr Tyagi (Annex V). Ms Mellissa Wood expressed her satisfaction about the ATR in accordance with the recommendations. Dr Shivendra Bajaj mentioned that agriculturally important microorganisms (AIM) play very important role in agriculture, therefore, a workshop on AIM assumes importance. Dr Tyagi responded that it was planned initially but due to limited availability of funds it was dropped later. Chairperson mentioned that AIM are important and many global organizations are working on these aspects. She mentioned that if funds are available, the knowledge on AIM needs to be shared with other partners involving like ACIAR and CABI.

Mr Vincent Lin emphasized that there is a need to strengthen the collaboration with not only with member countries in APR but with the countries even outside the region. Dr Tyagi mentioned that it is a very good suggestion and he informed that in this year we are partner in organization of a workshop on Innovation in Agribusiness is being organized with Asian Productivity Organization (APO) in Taipei in July 2019. Similarly, possibilities can further be explored to develop partnerships with other organizations also, depending upon the common issues to be addressed in partnership mode.

Dr Zongwen Zhang mentioned the important issues on pests and diseases e.g. banana disease. He suggested to plan some activities by linking national partners to address such specific issues.

Dr Huu-Sheng Lur commented that big data analytics are ‘very big’ there is a need to identify the focussed areas for Big Data analytics in biotechnology.

Dr Taek-Ryoun Kwon commented that it is interested to see the publication on success stories and there is need to understand the perception of the public about GMOs in order to improve the acceptability of GMOs and public awareness. He also expressed his concern about the definition of ‘biotechnology’, as it is a very broad subject. Ms Mellissa Wood asked if we have clear definition of biotechnology? Dr Tyagi informed that we are using the definition of biotechnology as defined by FAO.

Dr Kingsley Bernard congratulated APAARI for excellent work. He suggested that IT tools may also be suitably integrated in the activities under APCoAB.

### **Progress Report**

Dr Rishi Tyagi, Coordinator, presented the progress report of the work done from May 1, 2018 to May 31, 2019 (for detail report see Annex VI). A summary of the key points made by the Chairperson, Vice Chairperson and members is given hereunder.

The Chairperson greatly appreciated the enormous work done during the period under report. Following were the comments/suggestions made by the Chairperson, Vice Chairperson and other members:

- Ms Mellissa Wood suggested that APAARI needed to focus on activities that other organizations cannot do and are unique to APAARI's regional mandate.
- Dr Shivendra Bajaj mentioned that position paper on rice biotechnology is important to understand the contribution of biotechnology in rice improvement. Regarding the harmonization of regulatory processes, he mentioned that it may be possible as Australia and Canada are developing the import guidelines to streamline the imports.
- Dr Ravi Khetarpal was of the opinion that APAARI needs to develop policy briefs with scientific rationale about its stand on GMOs and bioresources. He suggested that partnership with key global biotech hubs and also with FAO needs to be strengthened. There is a risk of losing CGIAR centres as members of APAARI, we need to create mechanism to keep them as key partners in our activities.
- Dr Zongwen Zhang, while appreciating the magnitude of the work done during the year and congratulating the Coordinator, mentioned that still there is a room to enhance activities on research and policies in areas of management of plants, animals and fish genetic resources because different countries and regions have different situations. He also expressed his concern that how to ensure the implementation of the recommendations by member countries which have emerged out during the APAARI events?
- Dr Huu-Sheng Lur suggested that it is important to develop the mechanism to evaluate the impact of the biotechnologies which will help to find the support from the respective governments.
- Dr Ravi Khetarpal told that APAARI is apolitical organization. Harmonization of regulatory policies is difficult. What should be APAARI's stand on harmonization on biotech regulations may be developed as a policy brief for the use of the members countries.
- Dr Taek-Ryoun Kwon also mentioned that harmonization of regulatory process is difficult at scientists' level; it requires a policy dialogue at political level.
- Mr Vincent Lin advised that it is very difficult to take all activities at a time. Some activities need to be prioritized for a multi-year strategy in accordance with the availability of funds. Upon clarification by Dr Tyagi to whether revise the activities again under APCoAB programme, he further suggested that in 4-year programme, already approved activities should be carried out up to 2020 and in latter two years after reviewing the progress and impacts, the activities for the year 2021 and 2022 can be

refined/revised within the available budget and human resources. Two-three themes on most important issues may be prioritized and there would always be other activities on the side issues.

- Ms Mellissa Wood also opined that the important activities should be prioritized as suggested by the Vice Chairperson to address an overly ambitious work plan with insufficient resources. Themes can be narrowed down, refined and focus could be on policy dialogues along with side events following the MERL process.

The Chairperson appreciated the progress made under the APCoAB program noting, however, that it was unsustainable and required refinement and focus, as raised by the Vice Chairperson. The progress report was accepted by the Chairperson and other members of the Steering Committee.

#### **Agenda Item 6: APCoAB Program – Current Work Plan**

Dr Rishi Tyagi presented a work plan for the period of January-December 2019 (Annex VII). This work plan was based on approved revised APCoAB programme (2019-2022), subject to the availability of additional resources *i.e.* funds and human resources.

The Chairperson and other members approved the work plan for the year 2019, and suggested a review as per intervention by Vice Chairperson to prioritize the remaining activities in 2020.

#### **Agenda Item 7: Audited Financial Statement (January-December 2019)**

Dr Rishi Tyagi attached the overall Audited Account statement of APAARI for January-December 2018 in the folder for perusal and consideration of the Steering Committee (Annex VIII). Summary of Account Statement of APCoAB (January 1, 2018-December 31, 2018) was presented for approval. Dr Tyagi mentioned that during January-December 2018 the total amount of receipt under APCoAB was USD 173,438.23 and payments were also USD 173,438.23. He also presented the Summary of Expected Income and Expected Expenditure for the APCoAB activities during January 1, 2019-December 31, 2019. The expected income was estimated at USD 175,000.00 and expected expenditure at USD 260,900.00 (USD - 85,900). Dr Tyagi mentioned that the difference of USD 85,900 will be met by additional grant as agreed by COA. A summary of overall APCoAB's income and expenditure for 2018 is given in Annex IX and the expected income and expenditure for 2019 can be found in Annex X.

- Mr Vincent Lin assured that COA will provide additional grant as USD 100,000 with effect from 2019 to 2022.
- Mr Vincent Lin suggested that Annual Progress Report of APCoAB of each year should be submitted to COA latest by end of January of the next year.

The above Summaries of Account Statements were approved by the Steering Committee.

### **Agenda Item 8: General Discussion**

The Chairperson invited the members for their suggestions for improvisation and suggesting new initiatives to enhance the funding of APCoAB. Dr Zongwen Zhang suggested that the member countries may be invited for expert consultation on gene editing. APCoAB may be the main organizer of the activities with other suitable organizations as co-organizers.

### **Agenda Item 9: Review of Annual Performance, Salary benefits and Extension of Tenure of Coordinator, APCoAB**

The Chairperson asked the Coordinator, APCoAB to leave the room during discussion on these items.

(i) A performance management system needs to be established in APAARI in order to assess staff performance. The executive Secretary is taking steps to introduce such system. Following the implementation of performance management system, any salary increases must be covered in the budget and the Executive Committee (EC) needs to be confident there is money for this before agreeing.

(ii) The SC agreed to consider this issue at the next meeting, which will be scheduled at the end of the year with the EC meeting

### **Agenda Item 10: Any other Matters**

- (i) A decision was taken by ACIAR (reference Steering Committee proceedings; October 31, 2016; Agenda Item 8(7) – “ACIAR-FAO project on regional consultation meetings on biotechnology is presently under discussion and APCoAB will also be involved in its implementation”. As such, no involvement of APCoAB is there in implementation of above project. ACIAR is expected to comment on it.

The above Agenda Item # 10(i) was not discussed.

- (ii) Steering Committee meeting held once in a year. During 2017, no meeting of Steering Committee was held because Steering Committee tenure was over in 2017 and no Steering Committee was in place. After joining Coordinator, APCoAB the new Steering Committee was constituted in November 12, 2017 and XIX Steering Committee meeting was held on May 28, 2018 (about mid of the year). It is suggested that Steering Committee may be decided to be held in the end of each calendar year; this will help to keep calendar year-wise records of Technical Progress and Financial expenditure.

In view of the above situation described under Agenda Item # 10(ii) and to avoid multi-reporting of APCoAB progress, the Chairperson decided that another SC meeting will be held in end of the year before the Executive Committee meeting rather than having SC meetings twice in a year. In this meeting we can have quick business about prioritization of the activities for the year 2020 and consideration of above Agenda Item # 9 (i & ii) related to APCoAB

Coordinator. The Chairperson also decided that Executive Secretary may re-check the dates of next Executive Committee meeting as per availability of Chairperson and Vice Chairperson in the end of November or early December 2019.

(iii) Any other point of discussion shall be taken up with the permission of tenure of the Chair.

No other point was discussed.

#### **Agenda Item 11: Concluding Remarks**

In her closing remarks, Ms Mellissa Wood appreciated exceptionally ‘more work than can be done’ under the APCoAB. She suggested to (i) prioritize the activities to generate the needed information which are useful to make the decisions, (ii) increase the partnerships and involving more stakeholders, (iii) develop the strategies to enhance funding and (iv) consider M& E for impact analysis. Ms Wood cited the example of ACIAR, Canada's IDRC and FFAR who had joined forces to co-invest in a joint program on future food security. These types of partnerships serve to leverage funds, build economies of scale and access complementary skills sets. She recommended that the representatives from the Committee and APCoAB Coordinator to attend above meetings to get a range of perspectives of above programmes. She suggested to work collaboratively and not competitively with NARS of the member countries. Finally, she congratulated the APAARI team for doing excellent work and thanked Vice Chairperson and all the members for their participation and cooperation.

#### **Agenda Item 12: Vote of Thanks**

Dr Rishi Tyagi proposed a vote of thanks to the Chairperson, Vice Chairperson and all the members of the Steering Committee for their valuable guidance and suggestions. He also thanked all the special invitees, observers and APAARI staff members who participated in the meeting.

**XIX APCoAB STEERING COMMITTEE MEETING**  
**Bangkok, Thailand**  
**June 12, 2019**  
List of Participants

| S. No. | Name, designation and affiliation   | Email  | Representation       |
|--------|---|--|----------------------|
| 1.     | Ms Mellissa Wood<br>General Manager, Global Program<br>Australian Centre for International Agricultural<br>Research (ACIAR), PO Box 1571, Canberra<br>ACT 2601, <b>Australia</b>                        | mellissa.wood@aciar.gov.au   | Chairperson          |
| 2.     | Mr Vincent Lin<br>Deputy Director General<br>International Affairs Department<br>Council of Agriculture, 37 Nan Hai Road,<br>Taipei, <b>Taiwan</b>  | vincent@mail.coa.gov.tw  | Vice-<br>Chairperson |
| 3.     | Dr Taek-Ryoun Kwon<br>Director<br>International Technical Cooperation Centre,<br>Rural development Administration, Republic of<br>Korea   | trkwon@korea.kr  | Member               |
| 4.     | Dr DT Kingsley Bernard<br>Chairman<br>Sri Lanka Council of Agricultural<br>Research Policy, Colombo, <b>Sri Lanka</b>   | kingsleydigo@gmail.com   | Member               |
| 5.     | Dr Zongwen Zhang<br>Regional Representative for Southeast Asia<br>Biodiversity International – China Office<br><b>China</b>   | z.zhang@cgiar.org  | Member               |
| 6.     | Dr Huu-Sheng Lur<br>Dean<br>College of Bioresources and Agriculture<br>National Taiwan University, Taipei, <b>Taiwan</b>  | lurhs@ntu.edu.tw   | Member               |
| 7.     | Dr Ravi Khetarpal, Executive Secretary, Asia-<br>Pacific Association of Agricultural Research<br>Institutions (APAARI), FAO Annex Building,<br>202/1 Larn Luang Road, Bangkok 10100,<br><b>Thailand</b> | ravi.khetarpal@apaari.org  | Member               |
| 8.     | Dr Rishi Tyagi, Coordinator, APCoAB,<br>APAARI, FAO Annex Building, 202/1 Larn<br>Luang Road, Bangkok 10100, <b>Thailand</b>  | rishi.tyagi@apaari.org   | Member<br>Secretary  |
| 9.     | Dr Shivendra Bajaj<br>Executive Director<br>Federation of Seed Industry of India<br>New Delhi, <b>India</b>   | shivendra@agriinnovation.in  | Special Invitee      |
| 10.    | Mr Muhammad Ayub Chaudhry<br>Chairman<br>Pakistan Agricultural Research Council (PARC)#<br>20, Atta Turk Av. G-5/1 PO Box, 1031,<br>Islamabad, <b>Pakistan</b>  | chair@comsats.net.pk;<br>chairman@parc.gov.pk;<br>mayub_choadhry@yahoo.com | Special invitee      |

|     |   |                           |                 |
|-----|---|---------------------------|-----------------|
| 11. | Mr David S Kolitagane<br>Permanent Secretary for Agriculture, Ministry of Agriculture<br>Private Mail Bag, Raiwaqa, Republic of <b>Fiji</b>   | DKolitagane@govnet.gov.fj | Special invitee |
| 12. | Mr Boris CK Chang<br>Deputy Director<br>Taipei Economic and Cultural Office in Thailand, 20 <sup>th</sup> Floor, Empire Tower 1, South Sathorn Road, Bangkok 10120, <b>Thailand</b>                     | bckchang@mofa.gov.tw      | Observer        |
| 13. | Ms Yu-Chen (Janet) Shih<br>Secretary, Political Division<br>Taipei Economic and Cultural Office in Thailand, 20 <sup>th</sup> Floor, Empire Tower 1, South Sathorn Road, Bangkok 10120, <b>Thailand</b> | ycshih@mofa.gov.tw        | Observer        |
| 14. | Ms Li-Tzu Nien<br>Department of International Affairs, Council of Agriculture, 37 Nan Hai Road, Taipei, <b>Taiwan</b>   | liznien@mail.coa.gov.tw   | Observer        |
| 15. | Ms Wararat Sriprapat<br>Biotechnology Research & Development<br>Department of Agriculture<br>50 Paholyothin Road, Chatuchak<br>Bangkok, <b>Thailand</b>   | jankmutt@gmail.com        | Observer        |
| 16. | Dr Norah Omot<br>Coordinator, ASTI, APAARI<br>FAO Annex Building, 202/1 Larn Luang Road, Bangkok 10100, <b>Thailand</b>   | norah.omot@apaari.org     | Observer        |
| 17. | Ms Martina Spisiakova<br>Coordinator, Knowledge Management, APAARI<br>FAO Annex Building, 202/1 Larn Luang Road, Bangkok 10100, <b>Thailand</b>   | m.spisiakova@apaari.org   | Observer        |
| 18. | Ms Celilu Bitong<br>Knowledge Management Officer, APAARI<br>FAO Annex Building, 202/1 Larn Luang Road, Bangkok 10100, <b>Thailand</b>   | c.bitong@apaari.org       | Observer        |
| 19. | Dr Gisnan Linwattana<br>Consultant, APAARI<br>Floor, FAO Annex Building, 202/1 Larn Luang Road, Bangkok 10100, <b>Thailand</b>  | g.nemrod@apaari.org       | Observer        |



**ASIA-PACIFIC CONSORTIUM ON AGRICULTURAL  
BIOTECHNOLOGY AND BIORESOURCES (APCoAB)**

**XX STEERING COMMITTEE MEETING  
(2019)**

**June 12, 2019 (09.00-12:00 hrs)  
Bangkok, Thailand**

**ANNOTATED AGENDA**

**Agenda Item 1: Welcome and Introduction**

Dr Ravi Khetarpal, Executive Secretary, APAARI will welcome the members, special invitees and other participants of the Steering Committee meeting.

**Agenda Item 2: Opening Remarks**

Chairman, Steering Committee and APAARI will deliver her opening remarks highlighting the APCoAB program and key issues to be addressed.

**Agenda Item 3: Remarks by COA**

Vice Chairman, Steering Committee, Council of Agriculture, Taiwan, will give his remarks on achievements and expectations from APCoAB, being its major funding partner.

**Agenda Item 4: Final Approval of Minutes of XIX SC Meeting (Annex 1)**

Proceedings of the XIX Steering Committee held on May 28, 2018 in Bangkok, Thailand, were circulated to all the Steering Committee members and other participants of the meeting. No comments were received, as per available records. The then Chairman approved the proceedings.

The proceedings will be placed before the Steering Committee for formal approval.

**Agenda Item 5: APCoAB Program – Background and status (Annex 2), Action Taken Report (Annex 3) and Progress (Annex 4)**

Dr Rishi Tyagi, Coordinator, APCoAB, APAARI, will make a brief presentation on the mandate, program, Action Taken Report and progress of APCoAB (May 01 2018 to May 31, 2019) before the Steering Committee for formal approval. He will also elaborate on its current status.

**Agenda Item 6: APCoAB Program – Current Work Plan (January-Dec. 2019) (Annex 5)**

Coordinator, APCoAB, APAARI, will present the work plan for the period January-December 2019 for approval of Steering Committee.

**Agenda Item 7: Audited Financial Statement (January-December 2017) (Annex 6)**

The consolidated Audited Account statement of APAARI for January-December 2018 is appended in the agenda for consideration and approval of the Steering Committee. Summary

of income and expenditure for 2018 is given in Annex 7 and expected income and expenditure for 2019 are given in Annex 8 and will be presented by Coordinator, APCoAB.

**Agenda Item 8: General Discussion**

Discussion on progress made, future priorities and program of APCoAB, will be held. Members are welcome to suggest new initiatives within available resources and innovative mechanism to generate additional funds.

**Agenda Item 9: Review of Annual Performance, Salary benefits and Extension of Tenure of Coordinator, APCoAB**

(i) Coordinator, APCoAB joined APAARI on August 11, 2017. One of the key terms and conditions in appointment letter is - *“The salary, allowances and benefits of Dr Rishi Kumar Tyagi shall be reviewed and adjusted based on his performance, APAARI funding situation and the potential of the APCoAB Programme to contribute towards the development of the Asia-Pacific region”*. Since joining of Dr Tyagi from August 11, 2017 till today, the salary, allowances and benefits are the same as at the joining time. However, the additional activities on bioresources were added in the work plan of APCoAB along with existing activities related to biotechnology. The Steering Committee may review the performance and adjustments in salary structure of Coordinator, APCoAB.

(ii) The tenure of Coordinator APCoAB is up to August 10, 2020. The next Steering Committee will be held after one year i.e. June or July 2020 (1-2 months before ending of tenure). In view of the above situation, the Steering Committee may take decision about the extension of tenure of Coordinator, APCoAB.

**Agenda Item 10: Any other Matters**

- (i) A decision was taken by ACIAR (reference Steering Committee proceedings; October 31, 2016; Agenda Item 8(7) – “ACIAR-FAO project on regional consultation meetings on biotechnology is presently under discussion and APCoAB will also be involved in its implementation”. As such, no involvement of APCoAB is there in implementation of above project. ACIAR is expected to comment on it.
- (ii) Steering Committee meeting held once in a year. During 2017, no meeting of Steering Committee was held because Steering Committee tenure was over in 2017 and no Steering Committee was in place. After joining Coordinator, APCoAB the new Steering Committee was constituted in November 12, 2017 and XIX Steering Committee meeting was held on May 28, 2018 (about mid of the year). It is suggested that Steering Committee may be decided to be held in the end of each calendar year; this will help to keep calendar year-wise records of Technical Progress and Financial expenditure.
- (iii) Any other point of discussion shall be taken up with the permission of the Chair.

**Agenda Item 11: Concluding Remarks**

The Chairperson will deliver her closing remarks to the members of the Steering Committee based on the discussions and deliberations held about the progress and future work plan of APCoAB.

**Agenda Item 12: Vote of Thanks**

Dr Rishi Tyagi will present a formal Vote of Thanks to the Chairperson, Vice Chairman and Members and other participants of the Steering Committee meeting for their participation and valuable guidance.



**ASIA-PACIFIC CONSORTIUM**  
**on**  
**AGRICULTURAL BIOTECHNOLOGY AND BIORESOURCES (APCoAB)**

**XIX<sup>th</sup> STEERING COMMITTEE MEETING**  
**(2018)**

**May 28, 2018**  
**(08:30-10.30 hrs)**

**Canna 1, Rama Gardens Hotel, Bangkok, Thailand**

**PROCEEDINGS**

The XIX<sup>th</sup> Steering Committee (SC) Meeting of the Asia-Pacific Consortium on Agricultural Biotechnology and Bioresources (APCoAB) was held on May 28, 2018 at Rama Gardens Hotel, Bangkok, Thailand. The meeting was attended by 18 participants, comprising the Chairman, Vice Chairman, members of the SC, their representatives, special invitees and observers.



*Participants of the XIX<sup>th</sup> Steering Committee Meeting of APCoAB*

### **Agenda Item 1: Welcome and Introduction**

Dr Ravi Khetarpal, Executive Secretary, APAARI, welcomed the Chair, Vice-Chair, members, special invitees and observers of the SC meeting. He also gave brief introductory remarks about APAARI. He mentioned that through APCoAB, APAARI is addressing the issues related to the application of agricultural biotechnology and bioresources under thematic area of natural resources. He informed that Steering Committee meeting of APCoAB could not be organized during 2017, as the Coordinator, APCoAB joined in August 2017 and a new Steering Committee was constituted by the Executive Committee on November 12, 2017. Dr Khetarpal thanked the Chair, Vice-Chair, the members, special invitees and all participants for attending the meeting, as well as the major funding partner Council of Agriculture (COA) and Australian Centre for International Agricultural Research (ACIAR) for their generous support to APCoAB. This was followed by self-introduction by each participant.

### **Agenda Item 2: Opening Remarks**

Dr Yusuf Zafar, Chairman of the SC, welcomed all the participants and gave a brief background about APCoAB and its mandate. While emphasizing the importance of agricultural biotechnology, he stressed upon the importance of bioresources to work towards achieving the sustainable development goals. He mentioned that the mandate of APCoAB has been revised, now including bioresources activities in its program, as decided during the Executive Committee meeting held on November 12, 2017. Dr Zafar gave a brief account on the status of GM crops grown in Asian countries *e.g.* Bt cotton in Australia, India, Pakistan; Bt brinjal in Bangladesh; GM maize in the Philippines; canola in Australia, which have improved the production, productivity and income of the farmers. He mentioned that agricultural biotechnology plays a significant role in bioprospecting, effective conservation and sustainable use of bioresources. He stressed that in order to harness the full potential of biotechnology, capacity building in the above-mentioned areas is imperative for effective conservation and sustainable utilization of bioresources in Asia-Pacific region, which is very rich in biodiversity. Dr Zafar informed that before joining Dr Rishi Tyagi as Coordinator, the activities in APCoAB program was being carried out on ad-hoc basis through consultant. Dr Tyagi rejuvenated the program and in November 13-15, 2017, an Expert Consultation on Underutilized Crops for Food and Nutritional Security in Asia and the Pacific was organized successfully and another Expert Consultation on Agricultural Biotechnology – Scoping for the Partnership to Improve Livelihoods of Farmers in Asia-Pacific will be organized on May 29-31, 2018 in Bangkok. He invited all the members to participate in above Expert Consultation.

Dr Zafar expressed his satisfaction about the agenda of the Steering Committee meeting. He stated that after the new team joined in APAARI, the activities under APCoAB have been accelerated. Dr Zafar also placed on record APAARI's appreciation to Council of Agriculture (COA), Taiwan and Australian Centre for International Agricultural Research (ACIAR), Australia for extending financial support, the former being the major funding source to APCoAB.

Before moving to the Agenda items, the Chairman invited the members to make introductory remarks.

Dr Andrew Alford, Research Program Manager, Impact Assessment, ACIAR, informed that he was representing Ms Mellissa Wood, General Manager, Global Program, ACIAR. He reiterated that ACIAR is a strong partner of APAARI and take this partnership very seriously for research and development impacts in the Asia-Pacific region. There are challenges and opportunities for capacity development in agricultural biotechnology and bioresources in the region. ACIAR is committed to enhance its collaboration with APAARI in above areas.

### **Agenda Item 3: Remarks by COA**

**Dr Chung-Hsiu Hung**, Director General, International Affairs Department, COA, Taipei, Taiwan, expressed his happiness to participate in the SC meeting. He mentioned that COA has been providing uninterrupted funding support to APCoAB since 2008 and will continue to support its activities related to agricultural biotechnology and bioresources for the Asia-Pacific region. He stated that Taiwan has been regular member of APAARI since 1990. Dr Hung appreciated the inclusion of bioresources-related activities in the APCoAB program. He assured that COA's support to APCoAB will be continued for next term also. Dr Hung mentioned that a revised proposal needs to be submitted by APAARI-APCoAB for enhanced funding from 2019 onwards. Dr Hung informed that COA will be happy to organize a 2-3-day workshop/seminar on bioresources in Taiwan in 2018. Agenda of the above workshop/seminar will be prepared soon and shared with APAARI.

Dr Hung appreciated the significant contributions made by Drs Ravi Khetarpal and Rishi Tyagi and his full confidence in APAARI which is playing a key role in addressing the issues related to agriculture in general, and to agricultural biotechnology and bioresources in particular. He anticipated that with the help of collective wisdom and professional experts, the objectives of Steering Committee will be achieved successfully.

### **Agenda Item 4: Approval of Agenda for the XIX<sup>th</sup> SC meeting and Final Approval of the Minutes of the XVIII<sup>th</sup> SC Meeting**

The Agenda for the XIX<sup>th</sup> SC meeting was approved unanimously (Annex II). Participants were informed that the Proceedings of the XVIII<sup>th</sup> Steering Committee held on October 16, 2016 in Taichung City, Taiwan (Annex III) had been circulated to all the SC members and other participants of the meeting, on which no comments were received. The proceedings were placed before the Steering Committee for final approval and the same was approved unanimously.

### **Agenda Item 5: APCoAB Program - Background and Status, Action Taken Report and Progress Report**

#### **Background and Status**

Dr Rishi Tyagi made a brief presentation on the mandate, program, progress and current status of APCoAB. He mentioned about the genesis of APCoAB, which was founded in 2003 in response to the need expressed during APAARI and FAO meetings for a regional initiative to

promote the adoption of agricultural biotechnology for the benefit of the Asia-Pacific NARS and the farming community. The program has been funded, besides APAARI, by COA, ACIAR and other public and private organizations. COA has been the major supporter of APCoAB since 2008. In order to work towards the strategy plan of APAARI in the context of Sustainable Development Goals (SDGs), conservation and sustainable use of bioresources for sustainability of agri-food system, bioresources were included under the APCoAB program on November 12, 2017 by endorsement of APAARI's Executive Committee. Thereafter, it has been renamed as Asia-Pacific Consortium on Agricultural Biotechnology and Bioresources (APCoAB).

APCoAB, in collaboration with APAARI member organizations, carries out expert meetings in the areas of policy, technological advances, benefits and concerns related to agricultural biotechnology in its broad sense. It also organizes training programs on a diverse range of agricultural biotechnology related topics. APCoAB has brought out a large number of publications, including proceedings of expert meetings, success stories and status reports of technology adoption and regulation. The APCoAB website ([www.apcoab.org](http://www.apcoab.org); <http://www.apaari.org/web/our-projects/apcoab/>) provides up-to-date information about the program and its activities, and global developments in agricultural biotechnology and bioresources.

### **Action Taken Report**

The Action Taken Report regarding the recommendations made during the XVIII<sup>th</sup> SC meeting was presented by Dr Tyagi (Annex V).

### **Progress Report**

Dr Rishi Tyagi, Coordinator, presented the progress report. He informed that Steering Committee of APCoAB was not in place after November 2016 and also no regular Coordinator was working for APCoAB until July 2017. Dr Tyagi joined in August 2017 as Coordinator. Therefore, the APCoAB Progress Report was presented in two sections – (A) from November 2016 to July 2017 and (B) from August 2017 to April 2018 (for detail report see Annex VI). A summary of the progress report is given hereunder.

### **Expert Consultations/Symposium/Workshop**

**During November 2016 to July 2017**, an Expert Consultation on Best Practices in Agri-food Innovations in Asia and the Pacific was organized in partnership with the COA, ACIAR, the World Vegetable Center (WorldVeg), and the Asian Farmers Association (AFA), on November 1-3, 2016 at Taichung, Taiwan. Another workshop entitled “2017 Workshop on e-Business Modelling for Women Entrepreneurs” was organized in collaboration with COA, in cooperation with the Asian Productivity Organization (APO), on June 19, 2017 in Taipei, Taiwan. Participants from 16 countries: Afghanistan, Cambodia, India, Iran, Korea, Laos, Malaysia, Mongolia, Nepal, Pakistan, the Philippines, Samoa, Sri Lanka, Thailand, Vietnam, and Taiwan were present. Forty professionals, including 21 representatives from APO member countries, one APO program officer, 8 resource persons, and 9 representatives from

APAARI member countries, attended the workshop to discuss the successful models and share their experiences in the fields of agricultural e-commerce.

Detailed Proceedings and Recommendations of the Expert Consultation on Best Practices in Agri-food Innovations in Asia and the Pacific can be viewed at: [http://www.apaari.org/wp-content/uploads/2017/Expert%20Consultation%20Best%20Practices-Proceedings%20&%20Recommendations\\_2-6-2017.pdf](http://www.apaari.org/wp-content/uploads/2017/Expert%20Consultation%20Best%20Practices-Proceedings%20&%20Recommendations_2-6-2017.pdf)

**During the period from August 2017 to April 2018**, as per approved work plan for the year 2017, a multi-stakeholder “Regional Expert Consultation on Underutilized Crops for Food and Nutrition Security in Asia and the Pacific” was organized by APAARI-APCoAB and COA, in collaboration with WorldVeg, Crops for the Future (CFF), International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), International Centre for Agricultural Research in the Dry Areas (ICARDA), Bioversity International, and the Department of Agriculture (DOA), Thailand, during November 13-15, 2017 at Bangkok, Thailand. A total of 54 participants from 18 countries (Bangladesh, Bhutan, Fiji, Germany, India, Iran, Japan, Lao, Malaysia, Nepal, Pakistan, Philippines, PNG, Samoa, Sri Lanka, Taiwan, Thailand, Vietnam) deliberated on the topics and framed recommendations to be addressed by NARS, APAARI and others.

The Proceedings and Recommendations can be accessed at: <http://www.apaari.org/web/wp-content/uploads/downloads/2018/Regional%20Expert%20Consultation%20on%20UUC%20-%20Proceedings%20and%20Recommendations%20-%20Final.pdf>

The CryoSymp 2018 was organized jointly by Mahidol University and the International Society of Horticultural Science (ISHS), APAARI-APCoAB, the Thailand Institute of Scientific and Technological Research (TISTR) and DOA, Thailand, on March 26-28, 2018 at Bangkok, Thailand. A total of 110 participants from 25 countries attended the symposium. The program comprised three sessions – Session I: Research in Plant Cryopreservation, Session II: Cryobanking, and Session 3: Methods in Plant Cryopreservation. Three invited lectures, 32 oral presentations and 35 posters, related to various aspects of plant cryopreservation, were presented. APAARI-APCoAB sponsored three participants from Asia. Coordinator, APCoAB, made a presentation on “Does cryopreservation stress impacts genotype integrity? A case study with germplasm of *Musa* spp.”. He served as the member of (i) International Advisory Committee and (ii) Scientific Committee of CryoSymp 2018.

To assess the potential of APAARI biotechnology communication strategy and its adoption, a survey was conducted by email to obtain the feedback from the of participants who attended the workshop on “Development of Communication Strategies for Adoption of Agri-Biotechnology in the Asia-Pacific Region”, organized by APAARI-APCoAB on September 28-29, 2015. The majority of the participants expressed that the workshop was very useful to enhance their skills in communication in agricultural biotechnology and creating awareness in different stakeholders. Some participants mentioned that they should have been given an opportunity to develop networking during the workshop. They also suggested for capacity building in various areas of agricultural biotechnology and bioresource management.

## **Publications**

The Proceedings and Recommendations of (i) Expert Consultation on Best Practices in Agri-food Innovations in Asia and the Pacific, and (ii) Regional Expert Consultation on Underutilized Crops for Food and Nutrition Security in Asia and the Pacific, were published. The Third International Symposium on Plant Cryopreservation CryoSymp 2018 - Book of Abstract comprising oral and poster presentations were published comprising 32 abstracts of oral presentations by 32 speakers and 35 posters on various aspects of cryopreservation of plant genetic resources was published in collaboration with Mahidol University and others. Two Success Stories on Bt brinjal in Bangladesh, GM Maize in Philippines and one Status Paper on Rice Biotechnology in Asia-Pacific are in pipeline.

## **APCoAB Website**

Ms Geraldine Nemrod presented the progress regarding the new design and update of the APCoAB website.

The APCoAB website was redesigned and revitalized with updated contents. The website was merged with APAARI website but a separate domain ([www.apcoab.org](http://www.apcoab.org)) was maintained as recommended by the EC. A new menu and breadcrumb have been implemented on the 72 pages and subpages of the website. Several pages have been redesigned (Home page, Institutional database, Current news), and new pages have been created (Steering committee, Event proceedings, News archives, Upcoming and past events). The existing databases have been partially updated (Experts, Biosafety, Educational institutions, Event proceedings) or sometimes completely updated (Institutional database, International organizations, Seed companies, NGOs and Miscellaneous).

The Chairman appreciated the efforts to reinvigorate the APCoAB program; the progress report was accepted by all members.

## **Agenda Item 6: APCoAB Program – Current Work Plan**

Dr Rishi Tyagi presented a revised work plan for the period of January-December 2018 (Annex VII). In this revised work plan, all approved activities for the year 2018 (under APAARI-COA) were retained. In view of the expanded scope of APCoAB, bioresource-related activities were included. In addition to the already approved activities, two Symposium/Conference, one training, 4 publications on Proceedings and Recommendations, 3 Success Stories/Status Paper were proposed, and are subject to the availability of additional resources *i.e.* funds and manpower.

The Chairman and other members agreed that additional activities can be accomplished if additional resources are available. The work plan was approved by all the members.

## **Agenda Item 7: Audited Financial Statement (January-December 2017)**

Dr Tyagi presented the overall Audited Account statement of APAARI for January-December 2017 for consideration and approval from the Steering Committee (Annex VIII). Dr Tyagi mentioned that during January-December 2017 the total amount of receipt under APCoAB

was USD 143,279.56 and payments were USD 117,500.87. He also presented the expected income and expenditure for January-December 2018. The expected income was estimated at USD 180,778.69 and expected expenditure at USD 204,900.00 (USD -24,121.31). A summary of overall APAARI's income and expenditure for 2017 is given in Annex IX and the expected income and expenditure for 2018 can be found in Annex X.

The audited financial statement of APAARI including APCoAB was approved by the Steering Committee.

### **Agenda Item 8: Way Forward**

The following points were placed by the APCoAB Coordinator before the committee.

- (i) COA has agreed, in principle, to expand the scope of activities under APCoAB to include activities on effective conservation and sustainable use of bioresources. APAARI-APCoAB may submit a revised proposal for enhanced funding for consideration by COA. Dr Hung, Vice Chair of the SC and Director General, COA, was then requested to provide his guidance.

**Dr Hung** agreed that the scope of APCoAB should be expanded to include activities related to bioresources. He mentioned that COA will be happy to organize a 3-day workshop/seminar on bioresources in Taiwan during 2018; one and half day will be for workshop/seminar and one day will be for field visit. The agenda of the same will be submitted soon to APAARI for further discussion.

- (ii) A decision was taken by ACIAR (reference Steering Committee proceedings; October 31, 2016; Agenda Item 8(vii) – “*ACIAR-FAO project on regional consultation meetings on biotechnology is presently under discussion and APCoAB will also be involved in its implementation*”). At present, there is no involvement of APCoAB in the implementation of the above project. ACIAR was then requested to ensure the involvement of APCoAB in implementation of above project.

**Dr Alford** mentioned that he will discuss this matter with Ms Mellissa Wood and will ensure that APCoAB is effectively involved in the implementation of the ACIAR-FAO project. He informed that ACIAR raised such issues at various platform including Department of Foreign Affairs in a regional meeting in the end of 2017. Ms Mellissa Wood explained the role of APAARI particularly APCoAB to various stakeholders and has strong view about the importance of the role of APAARI particularly APCoAB in the above project.

The Chairman invited the members and special invitees to provide their suggestions for further improvement. Following suggestions/comments were made by the members and special invitees:

- (iii) **Dr Huu-Sheng Lur**, National Taiwan University, Taiwan, also mentioned about the organization of the event on bioresources in Taiwan and he was hopeful that similar events related to bioresources will be organized in the future also.

- (iv) **Dr Zongwen Zhang**, Bioversity International, mentioned that Bioversity International – South-East Asia Office in China, can contribute to organize the activities related to bioresources e.g. conservation and use and genebank management.
- (v) **Dr T Mohapatra**, Director General, Indian Council of Agricultural Research (ICAR) and Secretary, Department of Agricultural Research and Education (DARE) congratulated APAARI-APCoAB for rejuvenating and accelerating the activities in areas of agricultural biotechnologies and bioresources. He suggested the following activities, which may be taken up by APAARI:
- (a) India has expertise in bioresource management with one of the largest genebank conserving over 400,000 germplasm accessions, which requires huge efforts for conservation and utilization. India will be happy to share its expertise and experience for evaluation of germplasm to identify the trait-specific germplasm for utilization in breeding programs.
  - (b) A workshop/brainstorming meeting may be organized to share the expertise and experience of the institutions/countries involved in Big Data analyses in agricultural biotechnology.
  - (c) A workshop may be organized to develop and utilize the agrobiodiversity index in the region.
  - (d) A specific program should be continued to promote the underutilized bioresources and strategies to communicate their potential at regional level.
- (vi) **Dr Ravi Khetarpal**, Executive Secretary, APAARI, informed that a workshop on underutilized animal genetic resources will be organized at the Malaysian Agricultural Research and Development Institute (MARDI), Malaysia, in 2018 and on underutilized fish and marine bioresources at the Sri Lanka Council of Agricultural Research and Policy (SLCARP), Sri Lanka, in 2019. He also suggested that:
- (a) The agenda of agriculturally important microbial genetic resources should also be included as an activity under APCoAB. He requested Dr Mohapatra to organize a workshop/brainstorming on this subject by ICAR-NBAIM (National Bureau of Agriculturally Important Microorganisms). Dr Mohapatra kindly agreed about this proposal.
  - (b) Since APCoAB is a Consortium, it is proposed to bring in its fold all the related sub-regional bodies of Asia-Pacific region which are working on agricultural biotechnology and bioresources and also with the related private sector organizations as that would help in better determining the regional priorities of agricultural biotechnology and bioresources.
  - (c) Public awareness about agricultural biotechnology and sharing of information about basic knowledge of agricultural biotechnology in Asia-Pacific region is very important.
  - (d) Subjected to availability of funds, social biotechnology needs to be given attention, as it has been neglected so far. A policy brief on social biotechnology needs to be developed at regional level.

(iv) Dr Yusuf Zafar, Chairman, APAARI, mentioned bioresources are under serious threat due to natural and man-made factors. He cited the example of ICARDA genebank and appreciated the Svalbard Global Seed Vault facility where global collections are conserved for the welfare of humanity. Dr Zafar informed that efforts are being made to involve CropLife Asia in activities of APCoAB. Similarly, other private sector organizations should also be involved.

(v) Dr Gerry Jayawardena, Chairman, SLCARP, appreciated the efforts of APAARI to bring many experts of the region to develop the partnership in agricultural biotechnology in forthcoming Expert Consultation. He mentioned that it is high time to take a global/regional initiative for joint exploration and sharing the bioresources to address the issues related to climate change and food and nutritional security in the region. He underlined the importance of traditional varieties including underutilized animal resources which can mitigate the challenges posed by climate change.

(vi) Dr Marco Wopereis, Director General, WorldVeg, also congratulated APAARI for good progress in APCoAB. He stated that the recommendations on underutilized crops meeting included several good research ideas. Dr Wopereis mentioned that WorldVeg started working in a taskforce mode with two experts from each member country. He gave example of ASEAN Agricultural Research Network. WorldVeg is working with Taiwan knowledge institutions in three areas (i) indigenous vegetable resources and genebank management, (ii) biocontrol and biopesticide, and (iii) protected cultivation in task force mode. He urged APAARI to move into a kind of taskforce mode to make sure that member countries work together to achieve the mandated activities.

(vii) Dr Ravi Khetarpal appreciated the above suggestion and mentioned that if we have 2 experts from each country, we should have one person from a technical background, and one person from policy/managerial background. He also mentioned that capacity building in low- and high-tech biotechnology is very important, therefore, 'Centres of Excellence' in National Agricultural Research System of the member country(ies) for researchers should be identified/established.

(viii) Ms Martina Spisiakova, Consultant, APAARI, suggested to integrate APCoAB activities in Knowledge Management program of APAARI through webinar and online discussions to attract different stakeholders to join APCoAB.

(ix) Dr Rishi Tyagi, Coordinator, APCoAB, thanked all for providing valuable suggestions. He mentioned that the additional activities will be included in the revised work plan of APCoAB, along with additional resources in terms of funds and manpower.

**Agenda Item 9: Any other Matters**

No other matter was raised.

**Agenda Item 10: Concluding Remarks**

In his closing remarks, Dr Zafar expressed his satisfaction about the progress under APCoAB and mentioned that inclusion of bioresources on APCoAB was good decision of Executive Committee. However, he stressed that a balance needs to be maintained between both the activities i.e. agricultural biotechnology and bioresources. He also mentioned that for enhanced activities, availability of additional funds is also equally important. He congratulated the new team of APAARI and appreciated their hard work to successfully carry out the activities. He thanked Dr Hung, all members and special invitees for their participation and constructive suggestions to improve the work of APCoAB.

**Agenda Item 11: Vote of Thanks**

Dr Rishi Tyagi proposed a vote of thanks to the Chairman, Vice Chairman and members of the Steering Committee meeting. He also thanked all the special invitees, observers and APAARI staff members who participated in the meeting.

## APCoAB Program - Background and Status

**Introduction:** The Asia-Pacific Consortium on Agricultural Biotechnology (APCoAB) was established in 2003 under the umbrella of APAARI. Its genesis is linked to three meetings organized by APAARI during 2002-2003 to discuss the status of agricultural biotechnology in the Asia-Pacific region, and the need for a regional initiative to undertake and promote adoption of agricultural biotechnology for the benefit of NARS and the farming community. To work towards the revised vision of APAARI in the context of Sustainable Development Goals (SDGs), conservation and sustainable use of bioresources for sustainability of agri-food system, bioresources were included under the APCoAB program on November 12, 2017 by endorsement of APAARI's Executive Committee. Thereafter, it has been renamed as Asia-Pacific Consortium on Agricultural Biotechnology and Bioresources (APCoAB). The program is mainly funded by the Council of Agriculture, Taiwan (COA), the Australian Centre for International Agricultural Research (ACIAR) and from time to time by FAO, GFAR, Mahyco and others. Since 2008, COA has been a major fund supporter of APCoAB.

**Mission:** APCoAB's mission is "To harness the benefits of agricultural biotechnology and bioresources for human and animal welfare through the application of the latest scientific technologies, while safeguarding the environment for the advancement of society in the Asia-Pacific region".

### **Activities:**

**Policy Dialogues/Expert Consultations/Brain Storming Sessions:** In collaboration with APAARI member organizations, APCoAB organizes expert consultation meetings on contemporary issues of policy, technological advances, benefits, and concerns related to agricultural biotechnology and bioresources in its broad sense. The subjects covered so far include GM technology, biosafety, IPR, public-private partnership, molecular breeding, trans-boundary diseases, bioinformatics, food safety, regulatory issues, conservation of genetic resources and promotion of underutilized crops.

**Training Programs:** APCoAB, in collaboration with member organizations and other stakeholders, organizes training programs on a diverse range of agricultural biotechnology topics. On average, up to three training programs per year have been conducted in the past.

**Publications:** APCoAB has brought out a large number of publications, including proceedings of expert consultation meetings, success stories and status reports of technology adoption and regulation.

**APCoAB Website:** Complete information about APCoAB and its activities is available on the APCoAB website ([www.apcoab.org](http://www.apcoab.org)). Besides, it hosts databases on Asia-Pacific agricultural

biotechnology institutions and experts, and regulatory systems in the Asia-Pacific countries. The APCoAB website is redesigned and its databases are being updated.

**Current Status:** Since the resignation of the previous APCoAB Coordinator, during January 2016-July 2017, APCoAB activities were at low ebb. The previous Steering Committee term was over in December 2016, therefore, no Steering Committee Meeting could be held during 2017. After the new Coordinator joined APCoAB in August 2017, activities were taken up as proposed in the approved program for the year 2017, and progress up to October 2017 was presented in the previous Executive Committee meeting of APAARI on November 12, 2017. A work plan for the period of January-December 2018 has been developed and will be presented before the Steering Committee for approval.

## Action Taken Report with reference to the decisions of XIX Steering Committee

| S.No. | Decision  | Action taken  |
|-------|---|---|
| 1.    | APCoAB should be expanded to include activities related to bioresources.  | Revised APAARI-COA program (2019-2022) has been developed with inclusion of additional activities related to bioresources and submitted to COA with enhanced budget including for manpower. COA has agreed to the proposal and with justifications of additional activities and requirement of manpower, COA has increased the budget from USD 70,000 per annum to USD 170,000 per annum for 2019-2022. |
| 2.    | COA will be happy to organize a 3-day workshop/seminar on bioresources in Taiwan during 2018 under APCoAB as part of activities under COA-APAARI programme.   | International Seminar on Conservation and Prospecting of Bioresources in the Asia-Pacific Region was organized in collaboration with COA, Taiwan; Ministry of Foreign Affairs, Taiwan; National Taiwan University; and Academia Sinica, Taiwan on December 18-21, 2018 at Academia Sinica, Taipei.  |
| 3.    | India has expertise in bioresource management with one of the largest genebank conserving over 400,000 germplasm accessions, which requires huge efforts for conservation and utilization. India will be happy to share its expertise and experience for evaluation of germplasm to identify the trait-specific germplasm for utilization in breeding programs. | In revised APCoAB program (2019-2022), activities related to conservation, evaluation and utilization have been included in Work Plan. A training program on In vitro conservation and cryopreservation is being organized with ICAR-NBPGR, India, in November 5-19, 2019.  |
| 4.    | A workshop/brainstorming meeting may be organized to share the expertise and experience of the institutions/countries involved in Big Data analyses in agricultural biotechnology.  | An Expert Consultation on Big Data analytics has been included in revised APCoAB program (2019-2022).   |
| 5.    | A workshop may be organized to develop and utilize the agrobiodiversity index in the region.  | Possibility will be explored with Bioversity International to organize this workshop.   |
| 6.    | A specific program should be continued to promote the underutilized bioresources and strategies to communicate their potential at regional level.   | Expert Consultation on Underutilized crops and workshop on underutilized animals have been organized. The Proceedings and Country Status Reports (for underutilized crops and animal resources) have also been published and hard copies were distributed to all stakeholders and soft copies of the same uploaded on APCoAB and APAARI websites for open access.                                       |

|     |   |   |
|-----|---|---|
|     |   | Workshop on underutilized fish and marine resources will be held on July 10-12, 2019 in collaboration with Sri Lanka.   |
| 7.  | Since APCoAB is a Consortium, it is proposed to bring in its fold all the related sub-regional bodies of Asia-Pacific region which are working on agricultural biotechnology and bioresources and also with the related private sector organizations as that would help in better determining the regional priorities of agricultural biotechnology and bioresources. | During 2018, three MoUs have been signed with BCIL, India; ICGEB, Italy and ISAAA, Singapore to collaborate in activities related to agri-biotechnology. Two projects were also developed and submitted to ICDF, keeping the priorities of the region. Efforts are being made to approach private sector also. Federation of Seed Industry of India and CropLife Asia have been agreed to collaborate in pursuing the agri-biotechnology activities. For example, above private sector organization will be partner of Expert Consultation on Genome Editing in 2018. |
| 8.  | The agenda of agriculturally important microbial genetic resources should also be included as an activity under APCoAB. Dr Mohapatra was requested to organize a workshop/brainstorming on this subject by ICAR-NBAIM (National Bureau of Agriculturally Important Microorganisms). Dr Mohapatra kindly agreed about this proposal.                                   | Possibility will be explored to organize workshop on agriculturally important microorganisms, subjected to the availability of funds.   |
| 9.  | Subjected to availability of funds, social biotechnology needs to be given attention, as it has been neglected so far. A policy brief on social biotechnology needs to be developed at regional level.  | Subjected to availability of resources (financial and human), this activity will be taken up in future.   |
| 10. | Centre of Excellence in NARS of Member countries needs to be identified for capacity building in low- and high-tech biotechnology.  | Discussion are on for Centre of Excellence with ICAR, India and MARDI, Malaysia.  |

## Progress Report

(May 1, 2018 to May 31, 2019)

APAARI-COA collaborative program on biotechnology has been in operation since 2008 as the Asia-Pacific Consortium on Agricultural Biotechnology (APCoAB). Initially approved for three years (2008-2010) with a funding support of USD 35,000 per annum, the program was extended twice (2011-2013, 2014-2016) and funding raised to USD 50,000 per annum. In view of the excellent performance of this APAARI-COA collaboration in terms of the number and range of activities conducted and benefits brought to APAARI members and other participants by way of knowledge enhancement, development of practical experience, networking and opportunities for partnership development, it was decided by both APAARI and COA to continue the APCoAB program for another term. Therefore, the program was extended for 4 years i.e. from 2017 to 2020 with a total budget of USD 560,000 is to be shared equally (USD 280,000) by COA and APAARI and other partners. The commitment of COA to continue supporting this program was conveyed during the XVIII APCoAB Steering Committee Meeting, held on 31 October 2016 at Taichung City, Taiwan. As per recommendations of Executive Committee (EC; 2/2017) of APAARI, XIX Steering Committee of APCoAB and EC 1/2018 of APAARI, activities on conservation and sustainable use of bioresources were included. The program Asia-Pacific Consortium on Agricultural Biotechnology was renamed as 'Asia-Pacific Consortium on Agricultural Biotechnology and Bioresources' retaining the old acronym as 'APCoAB' and also the objectives of APCoAB were modified, which were approved in the meetings of XIX Steering Committee of APCoAB and EC (1/2018) of APAARI.



*Participants of Expert Consultation on Agricultural Biotechnology*

During XIX Steering Committee of APCoAB held on May 28, 2018 at Bangkok, COA committed to enhance the funding with effect from 2019 in view of inclusion of bioresources activities under APCoAB and suggested that a revised APAARI-COA collaborative proposal (APCoAB) should be submitted to COA. Consequently, a revised APAARI-COA proposal (2019-2022) was submitted to COA, which has been approved by COA with enhanced funding from USD 70,000 per annum to of USD 170,000 per annum for 2019-2022 with provision of salary of Technical Associate in APCoAB.

During the period of May 1, 2018 to May 31, 2019, following activities were carried out:

### **A. Expert Consultation/Conference/Workshop (5)**

#### **1. Regional Expert Consultation on Agricultural Biotechnology - Scoping Partnership to Improve Livelihoods of Farmers in Asia-Pacific**

Regional Expert Consultation on Agricultural Biotechnology - Scoping Partnership to Improve Livelihoods of Farmers in Asia-Pacific was organized by APAARI, APCoAB in collaboration with Council of Agriculture (COA), Taiwan and Department of Agriculture (DOA), Thailand), Australian Centre for International Agricultural Research (ACIAR),

Australia; Co-Sponsors - CGIAR Research Program - Grain Legumes and Dryland Cereals (CRP-GLDC), International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) and Technical Support Partner Biotech Consortium India Limited (BCIL) in Bangkok, Thailand, on May 29-31, 2018. The objectives of expert Consultation were to (i) provide a platform to explore initiatives and mechanisms of sustainable partnership and networking for capacity and institutional building, developing regulatory framework, communication strategies, enabling policies for application of biotechnologies including bioprospecting of bioresources at regional level; (ii) share technical knowledge, experiences and learn lessons from public-public, public-private, and private-private partnership to accelerate the application of agricultural biotechnologies and establish the mechanisms to ensure continued exchange of information on experiences with agricultural biotechnologies; and (iii) identify important areas of agricultural biotechnologies and scoping the new and innovative ways of making investments to improve the livelihoods of farmers in Asia-Pacific region. Dr Chung-Hsiu Hung, Director General, Department of International Affairs, COA, Taiwan, for delivering the inaugural address of the meeting and setting the tone of the deliberations. A total of 64 participants from 22 countries (Australia, Bangladesh, Bhutan, China, Fiji, Ghana, India, Iran, Italy, Lao PDR, Malaysia, Myanmar, Pakistan, Philippines, PNG, Samoa, Singapore, Sri Lanka, Taiwan, Thailand, USA, Vietnam) participated and deliberated on the issues related to funding and partnerships in agricultural biotechnology to improve the livelihoods of farmers in Asia-Pacific. The regional consultation is organized comprising six sessions that cover scoping global partnerships and investments; public private partnerships; country status reports; a world cafe discussion that cover priorities of research, capacity building, public awareness, policy advocacy and possible partnerships; a panel discussion to highlight partnerships for innovative funding mechanisms and the plenary session to refine and consolidate the recommendations.

The deliberations held during 3-day Expert Consultation brought forth many important issues for immediate attention in the region to promote agricultural biotechnology. Out of discussion, major recommendations emerged out which can be categorized as (i) Priority research areas, (ii) capacity development, (ii) Infrastructure development and investment, (iii) public awareness, (v) Policy advocacy, and (vi) possible partnerships.

Following action points for APAARI were also identified:

- Mapping the needs in agricultural biotechnology in the region and expertise available in the region as well as in world to promote agricultural biotechnology.
- In collaboration with other organizations, focused capacity building modules may be developed directed to all levels of stakeholders including for policy makers. Develop biotechnology policy briefs particularly for beginners (PNG and Samoa) and for organic oriented countries (Nepal and Bhutan) in association with member countries.
- To promote better understanding of regulatory architecture, study impact assessment to dispel negative effects of agri-biotech and bring out publications relevant to share experiences to promote South-South cooperation.
- Technical and professional assistance be extended to the member countries for follow up meetings, based on request to promote agricultural biotechnology.
- Facilitate workshop/meetings to promote partnerships/networks with private sector and related to international funding opportunities for promoting agricultural biotechnology in the region.

- Facilitate studies on impact assessment of successful technologies and document the same to promote use of agricultural biotechnologies to contribute in achieving SDGs in the APR.

Participants appreciated the role of APAARI-APCoAB to organize the Expert Consultation and also entrusted APAARI-APCoAB to play proactive role in developing the partnerships and collaborative projects on agricultural biotechnology.



**2. 6<sup>th</sup> Annual South Asia Biosafety Conference (SABC)** was organized under The South Asia Biosafety Program, ILSI Research Foundation, and Biotech Consortium India Limited (BCIL) on September 15-17, 2018 in Dhaka, Bangladesh. Amongst others, APAARI and APCoAB were also co-organizers of the Conference. A total of about 160 participants belonging to academia, government and public sector from 8 South Asian countries participated in the Conference. Of the total participants, 36% were women researchers or students of biotechnology.



**3. International Seminar on Conservation and Prospecting of Bioresources in the Asia-Pacific Region** was organized in collaboration with COA, Taiwan; Ministry of Foreign Affairs, Taiwan; National Taiwan University; and Academia Sinica, Taiwan on December 18-21, 2018 at Academia Sinica, Taipei. A total of 134 participants from 11 countries (Bangladesh, Fiji, India, Iran, Malaysia, New Caledonia, Samoa, Singapore, Sri Lanka, Taiwan and Thailand) of Asia-Pacific participated in the seminar. APAARI sponsored 10 speakers/panelists to participate in the seminar.



International Seminar on Conservation and Prospecting of Bioresources in the Asia-Pacific Region  
December 18-20, 2018 Taipei, Taiwan

Opening remarks were presented by Dr James C. Liao, President, Academia Sinica, Taiwan; Dr Junne-Jih Chen, Director General, Taiwan; Agricultural Research Institute, COA, Taiwan; Mr Cheng-Maw Shih, Minister of Department of International Organizations, Ministry of Foreign Affairs (MOFA), Taiwan; Dr Ta-De Lin, Vice President, National Taiwan University, Taiwan; Dr Ravi Khetarpal, Executive Secretary, AP AARI, Thailand. Total six sessions, two panel discussions and one technical tour were organized. Sessions included Keynote Lectures (4 presentations), Policies and Regulation of Bioresources in APR (6 presentations), Prospecting and Application of Bioresources in the APR (4 presentations), Application of CRISPER/Cas9 in Bioresources (2 presentations), Towards Successful Commercialization of Bioresources in Taiwan (4 presentations). In addition, two panel discussion on the above

subject and a technical tour to Tea Research Station, Taoyua, Taiwan and Agricultural Technology Research Institute, HsinChu, Taiwan were also organized.

**4. 13<sup>th</sup> International Conference on Development of Drylands** was organized by ICAR-Central Arid Zone Research Institute, Jodhpur, India and Arid Zone Research Association of India (AZRAI), Jodhpur, India, at Jodhpur, from February 11-14, 2019. APAARI and APCoAB were also the co-organizers of 13<sup>th</sup> ICDD. The Conference was inaugurated by Shri



Satellite Symposium on Dryland Agrobiodiversity for Adaptation to Climate Change

Gajendra Singh Shekhawat, Minister of State for Agriculture and Farmers Welfare (Govt of India) on February 11, 2019. The conference was attended by 379 participants, researchers and policy makers including 91 foreign delegates from 37 countries covering five continents. In this conference, 5 plenary sessions having 17 lectures from global experts were organized, in addition to two evening lectures from highly reputed international experts. A total 55 theme-wise oral lectures and 242 e-posters presentations were organized concurrently in 11 technical sessions. Likewise, five half-day satellite symposia (as concurrent sessions) were also organized on topics of contemporary importance in drylands.

Of the above, a satellite symposium on ‘Dryland Agrobiodiversity for Adaptation to Climate Change’, was also co-hosted by the Indian Society of Plant Genetic Resources (ISPGR), New Delhi, India, Bioversity International (BI), New Delhi, India and APAARI, Bangkok, Thailand with support from United Nations Environment Programme (UNEP) and APCoAB. The symposium was organized during the 13<sup>th</sup> ICDD. Dr Rishi Tyagi, APCoAB Coordinator, participated and Co-Chaired a technical session the main ICDD.

#### **5. Regional Workshop on Underutilized Animal Genetic Resources and their Amelioration**

The Regional Workshop on Underutilized Animal Genetic Resources and their Amelioration was held on March 4-6, 2019 at MARDI Headquarters in Serdang, Malaysia. The workshop was organized by the Asia-Pacific Association of Agricultural Research Institutions (APAARI), Malaysian Agricultural Research and Development Institute (MARDI), Asia-Pacific Consortium on Agricultural Biotechnology and Bioresources (APCoAB), Council of Agriculture (COA), Taiwan, and Australian Centre for International Agricultural Research (ACIAR) in collaboration with Department of Veterinary Services (DVS) Malaysia, Department of Wildlife and National Parks (WILDLIFE) Malaysia and Ministry of Agriculture and Agro-based Industry (MOA) Malaysia. Dr Zunika Bt Mohamed, Deputy Secretary General (Policy), Ministry of Agriculture and Agro-based Industry, Malaysia, inaugurated the Workshop. Opening remarks were presented by Dr Roff, Director General, MARDI, Dr Hung, Director General, COA and Dr Khetarpal, Executive Secretary, APAARI.

The objectives of the workshop were to assess the current status of underutilized AnGR at sub-regional level and R&D status of priority native breeds that are needed to promote the use of underutilized AnGR in the Asia-Pacific region, to identify the knowledge gaps and way forward in defining regional priorities concerning underutilized AnGR, to create awareness on the role and value of underutilized AnGR that have potential for diversification of the food basket and to formulate strategies to strengthen the institutional, legal and policy framework for sustainable utilization of underutilized AnGR.



Invited guests, organizing committee members and participants of Workshop

A total of 63 participants from 14 countries in the Asia-Pacific region (Bangladesh, Bhutan, China, India, Iran, Kenya, Laos, Malaysia, Nepal, Philippines, Pakistan, Sri Lanka, Taiwan and Thailand) attended the workshop. The participants were from a number of national organizations such as research institutes, universities and research councils dealing with the management and conservation of underutilized AnGR.

The workshop comprised of presentations from 15 invited speakers who provided the background and status of underutilized AnGR in the region as well as presently available technologies in enhancing the management and breeding of underutilized AnGR. The presentations were delivered in three sessions: Technical Session I on The Status of Underutilized AnGR for Food and Agriculture at Sub-regional Level, Technical Session II on Thematic Presentations of Underutilized AnGR and Technical Session III on Strategies for Conservation and Utilization of Underutilized AnGR followed by Technical Session IV on World Café Discussion – Regional Priorities for Underutilized AnGR in five key areas: (1) conservation, improvement and utilization; 2) value addition, marketing and export; (3) partnership and capacity development, biotechnology for enhancing utilization; (4) biotechnology for enhancing utilization and (5) regional information sharing system and focal points for the conservation and utilization of AnGR and Technical Session V on Panel Discussion on Legal and Policy Framework Support to Promote Utilization on Underutilized Animal Genetic Resources.



Launching of Book

During the Plenary Session, a publication on Regional Expert Consultation on Agricultural Biotechnology - Scoping Partnership to Improve Livelihoods of Farmers in Asia-Pacific – Strategic Papers and Country Status Reports, was also launched by Dr Mohamad Roff Mohd Nor, Director General, MARDI, Malaysia

The **Major Recommendations** arising from the workshop are:

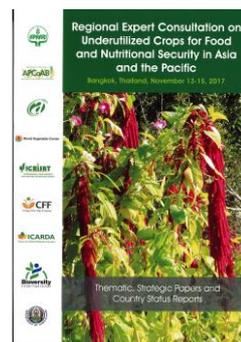
- (i) On **conservation, improvement and use** of underutilized AnGR, each country within the Asia-Pacific region is recommended to have in place an enabling policy to protect and conserve AnGR. The assessment of underutilized AnGR has to be carried out at national level to gather information on geographical distribution, population dynamics, risk status, and indigenous knowledge and experience in the management of underutilized AnGR. The rights of smallholder farmers owning these underutilized AnGR are to be safeguarded through filing of their intellectual property rights and agreement on sharing of benefits.
- (ii) On **value addition, marketing and export**, that improvement of technology, facility, training and education on value-added products of indigenous AnGR are highly recommended. Farmers engaged in keeping underutilized species should be provided with enhanced skill and knowledge to enable them to develop and commercialize these value-added products. Steps should be taken to initiate and develop branding and national certification to promote products derived from indigenous species. The public should be exposed to these products through awareness campaign to promote these products. The governments of APAARI member countries are recommended to provide the legal provisions to protect the originality and exclusivity of indigenous animal products. The marketing of products from indigenous animals should be enhanced and their production be made more consistent and their high quality maintained through R&D and training modules.
- (iii) On **partnership and capacity development**, it is recognized that many stakeholders of special groups, NGOs, entrepreneurs, farmers and research institutions are to be included in the management of underutilized AnGR. To ensure sustainable partnership, the stakeholders need to be identified and engaged at national and regional levels based on priorities identified on underutilized AnGR. To build partnership, a networking of interest groups and institutions could be initiated to collaborate on selected key issues such as expertise development, methods/technologies, deliverables and budget, and identify areas of common interest or current challenges of underutilized AnGR. Sharing of data and knowledge in specific areas of AnGR management including food security, is recommended to be strengthened through involvement of country personnel in workshops, seminars and training courses. A centralized data bank, also acting as repository of contributed information on AnGR, could provide easy access to member countries. Exchange of genetic materials of indigenous breeds is very crucial and should be given priority. For capacity building, awareness on the importance of status, risk issues and conservation methods of AnGR should be shared through seminars and workshops and hands-on trainings on modern biotechnologies. Selected advanced technologies in the preservation of genetic materials and multiplication of breeding animals may assist in the sustainable management of underutilized AnGR in member countries.
- (iv) On **biotechnology for enhancing utilization**, the issues constraining the use of biotechnological methods in livestock production are lack of expertise, data, financial support and facilities. It is highly recommended that an Asia-Pacific Regional Genebank for gametes and embryos to facilitate regional sharing of genetic materials and enhance the mechanism for intra-regional exchange of AnGR be formed. A consortium for Asia-Pacific for underutilized AnGR is recommended as a common platform for regional collaboration and networking in underutilized AnGR.

Collaborative projects among countries in the Asia-Pacific region are proposed on specific areas such as breed characterization, genomic profiling, sexing and cryo-preservation of gametes and value-added products of underutilized AnGR. Hands-on training for researchers, extension agents and farmers should be organized to upgrade their skills and knowledge in the multiplication and management of AnGR. Knowledge in management of AnGR could also be imparted through conferences, seminars and newsletters. Awareness programs could be conducted to expose farmers to easy-to-do biotechnological methods in the identification and breeding of underutilized AnGR. APAARI may facilitate the scoping for partners and fund providers from public and private sectors for financial support through regional-wide proposals in the conservation and utilization of underutilized AnGR.

- (v) On **regional information sharing system and focal points**, there is a need to tailor the AnGR information system to meet each country's specific attributes. A regional information system should have defined objectives (kinds of data to share, end users and involvement of local communities), be user friendly in its usage and promote public awareness to educate the local community on AnGR. It is recommended that an Asia Pacific AnGR information system which meets the regional requirements be set up. The information system is suggested to be linked to DAD-IS and DAGRIS to facilitate the systematic gathering of AnGR information in the region.

## B. Publications (9)

(i) **Thematic, Strategic Papers and Country Status Reports presented during Regional Expert Consultation on Underutilized Crops for Food and Nutritional Security in Asia and the Pacific**, held on November 13-15, 2017 has been published. (ISBN 978-616-7101-10-1). This volume contains 9 Thematic Papers, 7 Strategic Papers, and Status Reports of Underutilized Crops of 16 countries of Asia and the Pacific Papers. Publication can be accessed on APAARI website: <http://www.apaari.org/web/wp-content/uploads/2018/06/Regional-Expert-Consultation-Underutilized-Crops-Papers-and-Country-Reports.pdf>

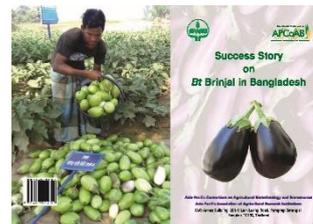


Tyagi RK, A Pandey, A Agrawal, KS Varaprasad, RS Paroda and RK Khetarpal (2018) Regional Expert Consultation on Underutilized Crops for Food and Nutritional Security in Asia and the Pacific – Thematic, Strategic Papers and Country Status Reports. Asia-Pacific Association for Agricultural Research Institutions (APAARI), Bangkok, Thailand, November 13-15, 2017, X+349 p.

(ii) **Asia-Pacific Consortium of Agricultural Biotechnology and Bioresources (APCoAB) Brochure** is published. Brochure contains the concise information on mission, genesis, revised objectives, organization structure and steering committee, recent activities and publications and supporters and facilitators of APCoAB. The brochure was distributed to all concerned stakeholders and can be accessed on: <http://www.apaari.org/web/wp-content/uploads/2018/08/2018-APCoAB-Brochure.pdf>



**(iii) Success Story on Bt Brinjal in Bangladesh** has been documented and published. It comprised of 10 chapters on Introduction, Agricultural Biotechnology in Bangladesh, Regulatory Process in Bangladesh, Releasing Process of Bt Brinjal in Bangladesh, Inception and Generation Advancement of *Bt* Brinjal Genotypes at BARI, Commercialization of *Bt* Brinjal, Farmers' Interview, Consumers' Perception, Conclusions, and References. The soft copy of the document was distributed to all concerned stakeholders and can be accessed on: <http://www.apaari.org/web/wp-content/uploads/downloads/2018/Bt%20Brinjal%20in%20Bangladesh%20final.pdf>



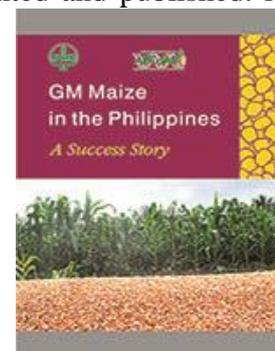
APAARI (2018) Success Story on *Bt* Brinjal in Bangladesh. Asia-Pacific Association of Agricultural Research Institutions, Bangkok, Thailand. xvii+39 p. (ISBN 978-616-7101-12-5)

**(iv) Proceedings of APCoAB Steering Committee Meeting, held at Bangkok, Thailand, (2018), 35p.** The APCoAB Steering Committee Meeting was held on May 28, 2018 at Bangkok. The Proceedings contains agenda of meeting, Action taken report, progress report under APCoAB (Nov 2016 to April 2018), and revised work plan of 2018. It can accessed through APCoAB website: [http://www.apaari.org/web/wp-](http://www.apaari.org/web/wp-content/uploads/downloads/2018/Proceeding%20of%20XIX%20APCoAB%20Steering%20Committee%20Meeting%202018.pdf)



[content/uploads/downloads/2018/Proceeding%20of%20XIX%20APCoAB%20Steering%20Committee%20Meeting%202018.pdf](http://www.apaari.org/web/wp-content/uploads/downloads/2018/Proceeding%20of%20XIX%20APCoAB%20Steering%20Committee%20Meeting%202018.pdf)

**(v) GM Maize in Philippines – A Success Story** was documented and published. it comprised 11 chapters – Introduction, Laying the Foundations for Modern Agricultural Biotechnology, An Evolving Regulatory System for Modern Biotechnology, The First GM Crop: MON810 Maize, GM Maize: On the Farm and in the Market, Public Perception and Media Monitoring, Trend of GM Maize Cultivation, Economic Impacts of GM Maize, Science-based Policy Support for Prolonging benefits of GM technology through Insect Resistance Management, Lessons Learned and Looking Forward and References. The soft copy of the document was distributed to all concerned stakeholders and can be accessed on:

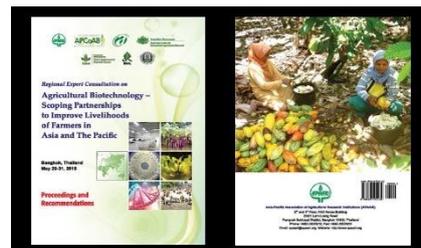


[http://www.apaari.org/web/wp-content/uploads/downloads/2019/GM%20Maize%20in%20Phillippines-Success%20Story\\_28-3-2019.pdf](http://www.apaari.org/web/wp-content/uploads/downloads/2019/GM%20Maize%20in%20Phillippines-Success%20Story_28-3-2019.pdf)

APAARI (2019) GM Maize in Philippines – A Success Story. Asia-Pacific Association of Agricultural Research Institutions, Bangkok, Thailand. xx+79 p. (ISBN : 978-616-7101-15-6)

(vi) **Proceedings and Recommendations of Regional Expert Consultation on Agricultural Biotechnology - Scoping Partnership to Improve Livelihoods of Farmers in Asia-Pacific**, held on May 29-31, 2018 have been prepared and is in press. This includes the Executive Summary, the proceedings of Opening Session, 5 Technical Sessions, and a Plenary Session. major recommendations emerged out which can be categorized as (i) Priority research areas, (ii) capacity development, (ii) Infrastructure development and investment, (iii) public awareness, (v) Policy advocacy, and (vi) possible partnerships. This can be accessed on:

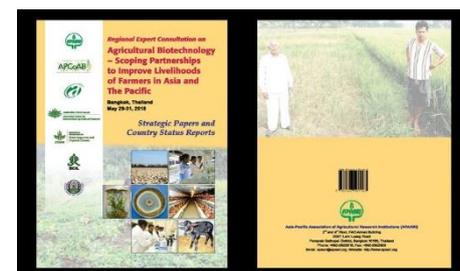
[http://www.apaari.org/web/wp-content/uploads/downloads/2018/Agricultural%20Biotechnology%20Scoping%20Proceedings%20&%20Recommendations\\_8-1-2019.pdf](http://www.apaari.org/web/wp-content/uploads/downloads/2018/Agricultural%20Biotechnology%20Scoping%20Proceedings%20&%20Recommendations_8-1-2019.pdf)



[Tyagi, RK, Anuradha Agrawal, Anitha Kodaru, KS Varaprasad, and RK Khetarpal (2018) Regional Expert Consultation on Agricultural Biotechnology – Scoping Partnerships to Improve Livelihoods of Farmers in Asia and the Pacific - Proceedings and Recommendations. Asia-Pacific Association for Agricultural Research Institutions (APAARI), Bangkok, Thailand; May 29-31, 2018, ISBN: 978-616-7101-13-2].

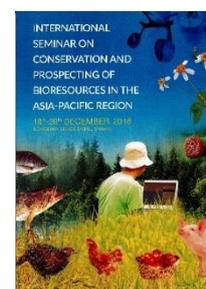
(vii) **Strategic Papers and Country Status Reports presented during Regional Expert Consultation on Agricultural Biotechnology - Scoping Partnership to Improve Livelihoods of Farmers in Asia-Pacific**, held on May 29-31, 2018 have been prepared and is in press. This document comprises of seventeen global experts delivered the talks on biotechnology strategies covering the areas of crops, aquaculture and livestock to promote partnerships within and across the globe, review the status of long-term investments in biotechnology, highlight efforts of relevant CGIAR institutes, success story of public private partnership park in the region, individual success stories of technology in select countries, funding opportunities and private industry perspective in globalization of advanced technologies and status of agricultural biotechnology 15 countries in the Asia-Pacific region. This can be accessed on:

[http://www.apaari.org/web/wp-content/uploads/downloads/2019/RegionalExpertConsultation\\_StrategicandCountryStatus\\_Report\\_26\\_2\\_2019\\_FINAL.pdf](http://www.apaari.org/web/wp-content/uploads/downloads/2019/RegionalExpertConsultation_StrategicandCountryStatus_Report_26_2_2019_FINAL.pdf)



[Tyagi RK, K Anitha, A Agrawal, KS Varaprasad and RK Khetarpal (2018) Regional Expert Consultation on Agricultural Biotechnology - Scoping Partnership to Improve Livelihoods of Farmers in Asia-Pacific – Strategic Papers and Country Status Reports. Asia-Pacific Association for Agricultural Research Institutions (APAARI), Bangkok, Thailand, May 29-31, 2018, ISBN: 978-616-7101-16-3].

(viii) **International Seminar on Conservation and Prospecting of Bioresources in the Asia-pacific Region – Biography and Abstracts**, pp 59. This publication was made by Academia Sinica



containing biography of the speakers and the abstracts of the papers presented during the Seminar, Technical Program, and other logistic details.

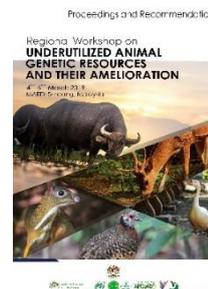
**(ix) Proceedings of the III International Symposium on Plant Cryopreservation.**

APAARI and APCoAB were the co-organizers of the above symposium. Selected contributed paper presented during symposium were reviewed by the Editorial Board and published as above proceedings (ISBN: 0567-7572). Dr Rishi Tyagi was member of the Scientific Committee, International Advisory Committee of symposium and Editorial board of this volume of Acta Horticulturae (1234). <https://www.actahort.org/books/1234/>



**Publications in Press/under preparation (5)**

1. Proceedings and Recommendations - Regional Workshop on Underutilized Animal Genetic Resources and their Amelioration, held in Kuala Lumpur, Malaysia, Thailand, March 4-6, 2019 (in Press).
2. Strategic Papers and Country Status Reports presented during Regional Workshop on Underutilized Animal Genetic Resources and their Amelioration, held in Kuala Lumpur, Malaysia, Thailand, March 4-6, 2019 (under preparation).
3. Success Story on Banana Tissue Culture in India (under preparation)
4. Status Paper on Rice Biotechnology in Asia-Pacific (under preparation)
5. Proceedings and Recommendations - Satellite Symposium on ‘Dryland Agrobiodiversity for Adaptation to Climate Change’ organized during the IDCC, Jodhpur, India, Feb 13, 2019 (under preparation)



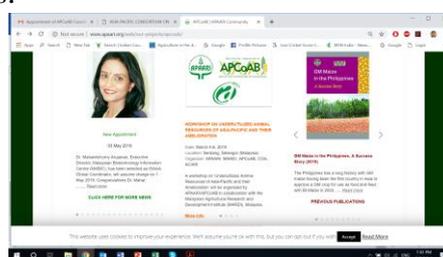
**C. APCoAB Website**

**(i) Content update of databases**

- (a) Institutional database: 57 new institutions from 12 countries (total: 376 institutions)
- (b) Educational Institutions: 142 new institutions from 12 countries (total 142 institutions)
- (c) Experts database: 103 new contacts from 13 different countries (total 138 experts)

**(ii) Regular update**

News, events, announcements and publications, event proceedings updates, with content from partner websites and random websites.



**D. Participation/Visits of Coordinator, APCoAB in Meetings Organized by Other Organizations (13)**

- (i) Brainstorming on ‘Harnessing the Intellectual Property Rights for Agricultural Growth, New Delhi, India, July 27, 2018.

- (ii) Presented a paper on ‘Current Status of Agricultural Biotechnology in the APEC Economies’, in APEC High Level Policy Dialogue on Agricultural Biotechnology (APEC HLPDAB), Port Moresby, Papua New Guinea, August 5, 2018.
- (iii) 22<sup>nd</sup> Agricultural Technical Cooperation Working Group (ATCWG) Meeting, Port Moresby, Papua New Guinea, August 6, 2018.
- (iv) ABAC Food Security Symposium, Port Moresby, Papua New Guinea, August 6, 2018.



5<sup>th</sup> International Rice Congress



APEC HLPDAB



6<sup>th</sup> South Asia Biosafety Conference

- (iv) Chaired a Plenary Session I: Biosafety Regulation and Capacity Building Initiatives in South Asia, in 6<sup>th</sup> Annual Biosafety Conference, Dhaka, Bangladesh, September 5-8, 2018.
- (v) Participated in 5<sup>th</sup> International Rice Congress 2018, organized by IRRI, FAO, AVA and others, Singapore, October 15-17, 2018.
- (vi) Co-organized and Moderator, Panel Discussion on **Prospecting and Application of Bioresources in Asia Pacific Regions during International seminar on Conservation and Prospecting Bioresources in Asia-Pacific, held at Academia Sinica, Taipei**, December 18-20, 2019.
- (vii) Visited ILRI, Hanoi, Vietnam, to discuss about future collaboration between APAARI and ILRI with regard to animal science activities of common mandate, January 21, 2019.
- (viii) Visited CIAT-Asia, Hanoi, Vietnam, to participate in Steering Committee meeting of Common Platform of Microbial Biotechnology (CPMB); made presentation to be partner of CPMB, January 22-23, 2019.
- (ix) Co-organized, Co-chaired a session and participated in 13<sup>th</sup> International Conference on Development of Drylands (13<sup>th</sup> ICDD) at Jodhpur, India, from February 11-15, 2019.



APAARI delegation at MARDI, Malaysia



Discussion at PCAARRD, Philippines



APAARI delegation at CFF, Malaysia

- (x) Co-organized and delivered a talk on Dryland Agrobiodiversity for Adaptation to Climate Change: Role of Regional Organizations, in Satellite Symposium on Dryland Agrobiodiversity for Adaptation to Climate Change, to be held during the 13<sup>th</sup> ICDD in Jodhpur, India, February 13, 2019.
- (xi) Visited MARDI, for organization of Regional Workshop on Underutilized AnGR at MARDI, Malaysia, March 3-7, 2019.
- (xii) Invited by MARDI for delivering a talk during MARDI Colloquium on Genome Editing for Crop Improvement: Recent Advances in Agriculture and 16<sup>th</sup> Meeting of the ASEAN Genetically Modified Food Testing Network, MARDI, Malaysia, April 23-25, 2019.
- (xiii) Participated in 25<sup>th</sup> Session of the ICGEB Board of Governors, held at Trieste, May 21-22, 2019

## E. Networking and Partnerships

- (i) Discussion with officials from Bioersivity International, ISAAA, SPC, ICRISAT, NACA, ICGEB, USAID, SLCARP, MARDI, ABRC, Green Innovation Biotechnology and BCIL for possible collaboration in future activities, May 30-June 1, 2018.
- (ii) USAID – Bangkok office along with USAID – Washington official for future collaboration, June 5, 2018.
- (iii) Kasetsart University and to DOA regarding organization of Regional Conference on soil and Plant Health, June 2018.
- (iv) MARDI, Selengor, Malaysia with regard to finalization of the arrangements of the ‘Workshop on Underutilized Animal Resources and their Amelioration’, July 17, 2018.
- (v) Crops for Future (CFF), Selangor, Malaysia, to discuss about the collaboration to develop database of underutilized crops and to develop a project on Centre of Excellence for Underutilized Crops, July 17, 2018.
- (vi) Human Life advancement Foundation (HLAF), Kuala Lumpur, Malaysia, to explore the possible collaboration between APAARI and HLAF, July 18, 2018.

- (vii) CABI to discuss about the organization of the regional conference on plant and soil health in 2018 at Bangkok, July 17-18, 2018.
- (viii) BCIL to discuss about the collaborative activities with BCIL and Biosafety Conference in Dhaka to be held on 15-17 September 2018 and finalization of MoU between APAARI and BCIL, India, July 24, 2018.
- (ix) Director General, Research and Innovation System (RIS) for Developing Countries, India, for future South-South collaboration in agri-biotechnology, New Delhi, India, July 25, 2018.
- (x) Advisor, Department of Biotechnology, India; Executive Director, Alliance for Agri Innovations, India, July 27, 2018.
- (xi) President Bioseed South East Asia, for possible collaboration in agri-biotechnology, New Delhi, India, July 27, 2018.
- (xii) Discussed about collaborative projects with senior officials of NARI, PNG and SPC, Fiji, Port Moresby, Papua New Guinea, August 10, 2018.



Visit to ILRI-Vietnam, Hanoi



Visit to CIAT-Asia, Hanoi to participate in CPMB



Visit to MARDI, Malaysia to deliver a talk in 16th ASEAN GMFNet Meet

- (xiii) Executive Director and Council of Directors of PCAARRD, Los Banos, Philippines, August 14, 2018.
- (xiv) Director and scientists of National Institute of Molecular Biology and Biotechnology Institute about biofertilizers and biopesticides, August 14, 2018.
- (xv) Officials of SEARCA-BIC for developing MoU and other activities related to agribiotechnology, August 14, 2018.

**Memorandum of Understanding (MoU):** Three MoUs were signed between APAARI and (i) International Centre for Genetic Engineering and Biotechnology, Italy, (ii) Biotech Consortium India Limited, India, and International Service for the Acquisition of Agri-biotech Applications (ISAAA), Singapore to collaborate for capacity building and knowledge management in areas of agricultural biotechnology.

**APAARI Membership Pursued and Secured**

- (i) Mahidol University, Bangkok, Thailand (Affiliate Member)

(ii) Federation of Seed Industry of India (FSII), India (Associate Member)

## **F. Project Proposal Developed**

### **Approved**

(i) Revised APAARI-COA collaborative program (APCoAB) was approved by COA, Taiwan (USD 960,000) for 2019-2022.

### **Submitted**

(ii) Capacity enhancement in agricultural biotechnologies and their applications for conservation and use of bioresources for sustainable agri-food system in the Pacific and submitted to ICDF (USD 2,468,260)

(iii) Capacity Building in Commercial Plant Tissue Culture Sector for Addressing the Need of Quality Planting Materials of Horticultural Crops in Least Developed Countries (LDCs) of South Asia and submitted to ICDF (USD 1,737,363)

## Work Plan of APCoAB for 2019

| Area  | Activities   |
|---|--|
| Expert Consultation/ High Level Policy Dialogue           | <ul style="list-style-type: none"> <li>• Regional Expert Consultation: New genome manipulation technologies and their implications on biosafety regulation<br/>Co-organizer: PCAARRD/ICRISAT/ACIAR (April 2019)</li> </ul>   |
| Symposia/trainings/workshops                              | <ul style="list-style-type: none"> <li>• Underutilized animal resources of Asia-Pacific and their amelioration (Workshop) (March 4-6, 2019)<br/>Co-organizer: MARDI/COA</li> <li>• Underutilized fish and marine resources of Asia-Pacific and their amelioration (Workshop) (July 10-12, 2019)<br/>Co-organizer: SLCARP/COA</li> <li>• Gene editing technologies for crop and animal improvement (Training) (Sep-Oct 2019)<br/>Co-organizer: ICRISAT/RDA/JIRCAS</li> <li>• In vitro conservation and cryopreservation of crop germplasm (Training) (Nov 5-19, 2019)<br/>Co-organizers: ICAR/COA/Bioversity International</li> <li>• The First International Symposium on Botanical Gardens and Landscapes (BGL 2019) (December 2019)<br/>Co-organizers: Mahidol University, ISHS</li> </ul> |
| Steering Committee of APCoAB                              | <ul style="list-style-type: none"> <li>• Steering Committee Meeting of APCoAB (June 12, 2019)</li> </ul>   |
| Publication of proceedings/status reports/success stories | <ul style="list-style-type: none"> <li>• Publications on training manual (2), Proceedings of Expert Consultation and Workshops (4-5) (March-December 2019)</li> <li>• Three Status report/success stories are targeted - (GM Maize in Philippines, Rice Biotechnology in Asia-Pacific, Banana Tissue Culture in India) (March-December 2019)</li> </ul>  |
| APCoAB website  | <ul style="list-style-type: none"> <li>• Regular updates on agricultural biotechnology and bioresources developments, news and events of specific relevance to Asia-Pacific</li> </ul>   |

|                                  |   |
|----------------------------------|---|
|                                  | <ul style="list-style-type: none"> <li>Update of existing databases. Regular updates of other content and additional databases</li> </ul> |
| One activity as suggested by COA | Workshop on Innovations in Agribusiness for Young Entrepreneurs, Taipei, Taiwan (July 1-5, 2019)<br>Co-organizer: COA, APO                |

In view of expanded scope of APCoAB, two Workshops/Trainings, 4 publications, in addition to already approved activities have been planned for the year 2019, subject to the availability of resources (finance and technical staff) as proposed under revised APAARI-COA collaborative program.

## INDEPENDENT AUDITOR'S REPORT

To the Executive Committee of **Asia-Pacific Association of Agricultural Research Institutions (APAARI)**,

Report on the Audit of the Financial Statements

### Opinion

We have audited the financial statements of **Asia-Pacific Association of Agricultural Research Institutions (APAARI)**, which comprise the statement of financial position as at December 31, 2018, and the statement of income then ended, and notes to the financial statements, including a summary of significant accounting policies.

In our opinion, the accompanying financial statement present fairly, in all material respects, the financial position of **Asia-Pacific Association of Agricultural Research Institutions (APAARI)**, as at December 31, 2018, and its financial performance for the year then ended in accordance with Thai Financial Reporting Standards (TFRSs) for Non-Publicly Accountable Entities (NPAEs).

### Basis for Opinion

We conducted our audit in accordance with Thai Standards on Auditing (TSAs). Our responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of the Financial Statements section of our report. We are independent of **Asia-Pacific Association of Agricultural Research Institutions (APAARI)**, in accordance with Federation Accounting Profession (FAP) under H.M. patronage, and we have fulfilled our other ethical responsibilities in accordance with the other Code. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

### Responsibilities of Management for the Financial Statements

Management is responsible for the preparation and fair presentation of the financial statements in accordance with Thai Financial Reporting Standards (TFRSs) for Non-Publicly Accountable Entities (NPAEs), and for such internal control as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error. In preparing the consolidated financial statements, management is responsible for assessing the company's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the company or to cease operations, or have no realistic alternative but to do so.

### Auditor's Responsibilities for the auditing of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Thai Standards on Auditing will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

As part of an audit in accordance with Standards on Auditing, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:



We exercise professional judgment and maintain professional skepticism throughout the audit. We also identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.

► Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.

► Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Group's internal control.

► Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.

► Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the consolidated financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Group to cease to continue as a going concern.

► Evaluate the overall presentation, structure and content of the consolidated financial statements, including the disclosures, and whether the consolidated financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

We communicate with the management regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.



(Mr. Pramual Kotcharat)

Certified Public Accountant (Thailand)

Registration No.7823

Office Pual Auditing Co., Ltd.

289/125 Ratchapattana road, Ratchapattana, Saparnsueng, Bangkok

Date February 15, 2019

**Asia Pacific Association of Agricultural Research**  
**Note of financial statements**  
**For the year. Ended December 31, 2018 and 2017**

1) Basic information

The Asia-Pacific Association of Agricultural Research Institutions (APAARI) was established in 1990 at the initiative of Food and Agriculture Organization of the United Nations (FAO) and most of the National Agricultural Research Systems (NARS) of the Asia-Pacific region and a voluntary, membership-based, apolitical and multi-stakeholder regional organization. It is bridging national, regional and global stakeholders to bring about collective change in agri-food systems of Asia and the Pacific. APAARI's wide network of members and partners comprises of national agricultural research institutes (NARIs) and national agricultural research organizations (NAROs), CG centres, Association of International Research and Development Centers for Agriculture (AIRCA), universities, extension service providers, civil society organizations, (farmers' organizations – FOs and non-governmental organizations – NGOs), international development organizations and the private sector. The close links and collaboration with these stakeholders are instrumental in strengthening agri-food research and innovation systems towards more sustainable development in Asia and the Pacific region.

2. Basic of financial presentation

The financial statement is prepared in Thai by Accounting Act C.E.2000 according to General Accepted Accounting Principle. The accounting principle was announced by Federal Accounting of Profession. However, the juristic person is not the Publicly Accountable Entities : PAEs. The juristic person has to conduct according to the announcement of Federal Accounting of Profession no. 20/2011 "Standard of Financial Reporting for Non-Publicly Accountable Entities NPAEs as announced in Royal Gazette dated May 6, 2011 including Announcement of Federal Accounting of Profession No. 28/2011 "Description regarding to conducting to the announcement of the financial reporting for Non-Publicly Accountable Entities:NPAEs. If the juristic person does not require to follow with this financial reporting, the juristic person has to conduct the financial statements based on Thai Financial Reporting Standard (TFRSs). Moreover, these financial reports are also conducted with the announcement of Department of Business Development "Abbreviation items as required in the financial reports dated September 28, 2011" as mandated with the financial reports starting from January 1, 2011

Certified that true and correct



Dr. Ravi Khetarapi  
Executive Secretary

## Asia Pacific Association of Agricultural Research

### Note of financial statements

For the year. Ended December 31, 2018 and 2017

#### 2. Basic of financial presentation (Cont.)

The preparation of financial statements in conformity with NPAs requires management to make judgements, estimates and assumptions that affect the application of policies and reported amounts of assets, liabilities, income and expenses. The actual results may differ from estimates. However, the estimation and underlying assumption are reviewed on an ongoing basis. Revisions to accounting estimates are recognised in the year in which estimates are revised and in any future periods affected.

#### 3. Accounting Policies

##### 3.1) Income recognition

Income is recognized to the extent it is certain that economic benefits will flow to the organization. Members Subscriptions are recognized over the period of subscription. Project income has been recognized based on stage of completion. Grants are recognized based on the period as per agreement.

##### 3.2) Revenue expenditure

Revenue expenditure is recognized on accrual basis and provision is made for all known losses and liabilities

##### 3.3) Cash at Bank and in-hand

Cash in hand and bank in THB (Thai Baht) is revalued at the closing rate to USD on the reporting date.

##### 3.4) Receivable

Trade and other receivables are recognized based on invoice value or amount recoverable.

##### 3.5) Property, plant and equipment - net

Fixed assets are depreciated in straight line method evenly over the estimated life of the asset.

##### 3.6) Income in advance

Income received to the extent work will be done in the following period has been classified as a current liability at the reporting date.

##### 3.7) Taxation

APPARI is affiliated to the United Nations and hence income not taxable.

Certified that true and correct



Dr. Ravi Khetarapl  
Executive Secretary

**Asia Pacific Association of Agricultural Research**  
**Statement of financial position**  
**As at December 31, 2018 and 2017**

|  |      | Unit : USD   |              |
|--|------|--------------|--------------|
|  | Note | 2018         | 2017         |
| <b><u>Assets</u></b>                   |      |              |              |
| <u>Current assets</u>                  |      |              |              |
| Cash on hand and cash at bank          | 4    | 982,418.45   | 995,409.95   |
| Receivable trade & other               | 5    | 82,768.35    | -            |
| Total current assets                   |      | 1,065,186.80 | 995,409.95   |
| <u>Non current assets</u>              |      |              |              |
| Property, plant & equipment            | 6    | 3,143.42     | -            |
| Total non current assets               |      | 3,143.42     | -            |
| Total assets                           |      | 1,068,330.22 | 995,409.95   |
| <b><u>Liabilities and equity</u></b>   |      |              |              |
| <u>Current liabilities</u>             |      |              |              |
| Payable trad & other                   | 7    | 189,212.65   | -            |
| Total current liabilities              |      | 189,212.65   | -            |
| Total liabilities                      |      | 189,212.65   | -            |
| <u>Equity</u>                          |      |              |              |
| Capital fund - brought forward         |      | 995,409.95   | 1,140,129.05 |
| <u>Plus</u> Profit (loss) for the year |      | (116,292.38) | (144,719.10) |
| Total equity                           |      | 879,117.57   | 995,409.95   |
| Total liabilities and equity           |      | 1,068,330.22 | 995,409.95   |

Certified that true and correct



Dr. Ravi Khetarapl  
Executive Secretary

**Asia Pacific Association of Agricultural Research**  
**Statement of income**  
**For the year. Ended December 31, 2018 and 2017**

|                                   |      | Unit : USD          |                     |
|-----------------------------------|------|---------------------|---------------------|
|                                   | Note | 2018                | 2017                |
| <b><u>Income</u></b>              |      |                     |                     |
| Membership & subscription         |      | 351,000.00          | 266,000.00          |
| Grants and donation               |      | 98,274.92           | 40,894.37           |
| Project income                    |      | 379,728.86          | 63,218.09           |
| Interest income                   |      | 4,221.85            | 4,426.46            |
| Unutilised Budget brought forward |      | -                   | -                   |
| Miscellaneous income              |      | 12,413.18           | -                   |
| <b>Total income</b>               |      | <b>845,638.81</b>   | <b>374,538.92</b>   |
| <b><u>Expenses</u></b>            |      |                     |                     |
| <b><u>Direct cost</u></b>         |      |                     |                     |
| Members                           |      | 292,277.84          | 83,304.55           |
| Grants and Donations              |      | 76,068.08           | -                   |
| Staff Costs-Projects              |      | 151,162.72          | 52,926.64           |
| Direct Costs - Projects           |      | 253,605.89          | 116,200.73          |
| Publications                      |      | -                   | -                   |
| <b>Total direct cost</b>          |      | <b>773,114.53</b>   | <b>252,431.93</b>   |
| <b>Gross profit</b>               |      | <b>72,524.28</b>    | <b>122,106.99</b>   |
| <b><u>Indirect costs</u></b>      |      |                     |                     |
| Directorate                       |      | 119,852.91          | 108,048.03          |
| Technical Staff                   |      | 3,221.79            | 81,507.52           |
| Administration and Finance        |      | 4,583.05            | 29,623.57           |
| Facilities                        |      | 58,673.92           | 47,646.97           |
| Depreciation                      |      | 2,484.99            | -                   |
| <b>Total indirect cost</b>        |      | <b>188,816.66</b>   | <b>266,826.09</b>   |
| <b>Net profit (loss)</b>          |      | <b>(116,292.38)</b> | <b>(144,719.10)</b> |

Certified that true and correct



Dr. Ravi Khetarapl  
Executive Secretary

**Asia Pacific Association of Agricultural Research**  
**Note of financial statements**  
**For the year. Ended December 31, 2018 and 2017**

|   |       | Unit : USD |            |
|---|-------|------------|------------|
|   |       | 2018       | 2017       |
| 4) Cash at bank and cash in hand consisted of |       |            |            |
| Cash in hand                                  |       | 21,102.11  | 1,048.14   |
| Cash at Bank -Saving account (USD)            |       | 27,903.90  | 1,646.96   |
| Cash at Bank -Saving account (THB)            |       | 1,017.16   | 14.31      |
| Cash at Bank -Current account (THB)           |       | 12,117.67  | 958.97     |
| Cash at Bank -Fixed account (THB)             |       | 920,277.61 | 991,741.57 |
|   | Total | 982,418.45 | 995,409.95 |

|  |       |           |   |
|--|-------|-----------|---|
| 5) Receivable trade & other consisted of |       |           |   |
| Receivable trade                         |       | 76,585.35 | - |
| Receivable other                         |       |           |   |
| Security deposit                         |       | 2,621.09  | - |
| Staff advance                            |       | 1,761.91  | - |
| Prepayment expenses                      |       | 1,800.00  | - |
|  | Total | 82,768.35 | - |

|  |          |            |           |            |
|--|----------|------------|-----------|------------|
| 6) Property, plant & equipments consisted of |          |            |           |            |
| Unit : USD                                   |          |            |           |            |
|  | 1/1/2018 | Increased  | Decreased | 31/12/2018 |
| Historical cost                              |          |            |           |            |
| Furniture                                    | -        | 1,075.59   | -         | 1,075.59   |
| Office equipment                             | -        | 811.58     | -         | 811.58     |
| Computer hardware & soft                     | -        | 3,741.24   | -         | 3,741.24   |
| Total historical cost                        | -        | 5,628.41   | -         | 5,628.41   |
| Accumulated depreciation                     | -        | (2,484.99) | -         | (2,484.99) |
| Property, plant & equipments - net           | -        | 3,143.42   | -         | 3,143.42   |

Certified that true and correct



Dr. Ravi Khetarapl  
Executive Secretary

**Asia Pacific Association of Agricultural Research**  
**Note of financial statements**  
**For the year. Ended December 31, 2018 and 2017**

|                                       |       | Unit : USD        |          |
|---------------------------------------|-------|-------------------|----------|
|                                       |       | 2018              | 2017     |
| 5) Payable trade & other consisted of |       |                   |          |
| Payable trade                         |       | 90,120.35         | -        |
| Payable other                         |       |                   |          |
| Membership subscription in advance    |       | 3,000.00          | -        |
| Income in advance                     |       | 96,092.30         | -        |
|                                       | Total | <u>189,212.65</u> | <u>-</u> |

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Certified that true and correct



Dr. Ravi Khetarapl  
Executive Secretary

**Annex IX**

**Summary of Account Statement of APCoAB (January 1, 2018-December 31, 2018)**

|   |           | (in USD)          |
|---|-----------|-------------------|
| <b>Receipts</b>                         |           |                   |
| <b>COA, Taiwan</b>                      |           | 70,000.00         |
| <b>APAARI and Partner Contribution</b>  |           |                   |
| Balance brought forward APAARI (APCoAB) | 25,779.00 |                   |
| ACIAR contribution                      | 15,000.00 |                   |
| Sponsorship by ICRISAT                  | 5,000.00  |                   |
| APAARI contribution                     | 57,689.23 | 103,468.23        |
|   |           |                   |
| <b>Total</b>                            |           | <b>173,438.23</b> |
|   |           |                   |
| <b>Payments</b>                         |           |                   |
| <b>Salary costs</b>                     |           | 74,040.13         |
| <b>Other Direct Costs</b>               |           |                   |
| Meetings/Trainings/Workshop             | 53,026.72 |                   |
| Consultancy                             | 10,820.00 |                   |
| Telephone                               | 500.69    |                   |
| General communication                   | 230.18    |                   |
| Computer Hardware and Software          | 188.62    |                   |
| Sponsorship                             | 7,000.00  |                   |
| Courier                                 | 1,420.34  |                   |
| Hospitality                             | 643.70    |                   |
| Publications                            | 10,856.60 |                   |
| Promotional Material                    | 186.56    |                   |
| Miscellaneous Charges                   | 801.72    |                   |
| Facilities from Secretariat             | 13,752.98 | 99,428.10         |
|   |           |                   |
| <b>Total</b>                            |           | <b>173,438.23</b> |

**Summary of Expected Income and Expected Expenditure for the APCoAB activities during January 1, 2019-December 31, 2019**

|  | USD               |
|--|-------------------|
| <b>Receipts</b>  |                   |
|  |                   |
| <b>COA, Taiwan</b>   | 70,000.00         |
| <b>APAARI contribution</b>   |                   |
| ACIAR  | 15,000.00         |
| APAARI   | 70,000.00         |
| Expected Sponsorship   | 20,000.00         |
| <b>Total</b>   | <b>175,000.00</b> |
|  |                   |
| <b>Payments</b>  |                   |
| <b>Coordinator Salary costs</b>  | 76,400.00         |
|  |                   |
| <b>Other direct costs</b>  |                   |
| Meetings/Trainings/Workshop  | 100,000.00        |
| Publications/printing etc.   | 20,000.00         |
| Consultancy and APCoAB technical staff salary  | 35,000.00         |
| Telephone and other communication  | 1000.00           |
| Travel   | 7,000.00          |
| Computer hardware and software - Laptop  | 2,500.00          |
| Facilities from Secretariat  | 15,000.00         |
| Miscellaneous  | 4,000.00          |
| <b>Total</b>   | <b>260,900.00</b> |
| <b>*Difference between Expected Income and Expected Expenditure (Additional budget required)</b> | <b>85,900.00</b>  |

\*Difference is expected to be met by additional budget granted by COA and sponsorship during 2019