**Agricultural Technical Cooperation Working Group (ATCWG)**

**Proposed Work Plan for 2021**

**Introduction**

In 2021, the Agricultural Technical Cooperation Working Group (ATCWG) will continue to conduct its activities to enhance the capacity of agriculture and its related industries to contribute to economic growth, food security, social well-being, and recovery from the impact of COVID-19 on the agri-food systems in the region. This is in line with the APEC Putrajaya Vision 2040 of “*an open, dynamic, resilient and peaceful Asia-Pacific community by 2040, for the prosperity of all our people and future generations*”.

The ATCWG will also strengthen their cooperation on the innovation and extension of agricultural technologies and the facilitation of agricultural trade and investment in the region, aligning with the priorities for APEC 2021 New Zealand, which are “*Economic and Trade Policies that Strengthen Recovery*, *Increasing Inclusion and Sustainability for Recovery*, and *Pursuing Innovation and a Digitally-Enabled Recovery”*. Simultaneously, it is mandatory for the ATCWG to keep track to the guidance of the ATCWG Strategic Plan for 2021-2025.

Furthermore, the ATCWG will seek to support the implementation of “La Serena Roadmap for Women and Inclusive Growth” in conducting its activities. To realize the Roadmap, the ATCWG aims to achieve Key Action Areas particularly in “Empowering women through access to capital and markets”, “Support women’s education, training and skills development and access in a changing world of work” and “Advancing women’s economic empowerment through data collection and analysis”.

1. **Governance in 2021**

The ATCWG expects to review its mandates and Terms of Reference (ToR), which also need to be approved by the Steering Committee on Economic and Technical Cooperation (SCE), and a recommendation on renewal put to Senior Officials’ for approval. The Group will also conduct a Lead Shepherd selection in 2021. Moreover, the ATCWG will prepare its annual fora report for endorsement by the Group and SCE in December 2021.

1. **Expected Outcomes/Deliverables for 2021**
	1. **Hold the 25th ATCWG Annual Meeting** **(Hosted by Chinese Taipei**)

Due to the COVID-19 pandemic, the 25th ATCWG Annual Meeting is scheduled to be held virtually in 2021. The exact date is yet to be confirmed.

In this meeting, member economies are expected to share their previous outcome of the projects they conducted starting from 2020, as well as the latest agricultural innovations and policies.

The Group will also endorse its updated ToR and decide its Lead Shepherd for the next term during this meeting.

* 1. **Hold the APEC-GRA Virtual Farm Study Tour (Hosted by New Zealand)**

To increase farmers’ understanding and engagement on agricultural greenhouse gas (GHG) research and environmental management practices that support sustainable productivity, New Zealand will hold the APEC-GRA Virtual Farm Study Tour in April, 2021.

This study tour seeks to build farmers’ technical capacity and knowledge of sustainable food systems and increase awareness and understanding among policymakers and researchers that supports them in the development of agricultural production policy and programs.

It will include 4-5 video recordings looking at New Zealand agricultural production systems (livestock, arable, horticultural, Māori agribusiness, Dairy) released each day over a week, and end with a live wrap-up session with a panel of host farmers/researchers.

* 1. **Hold the APEC-GRA Joint Workshop on Enhancing Livestock GHG Inventory Methodology (Hosted by New Zealand)**

In order to share knowledge on the latest practices and technologies for livestock GHG inventories, and promote the positive role that increasing agricultural productivity can have on reducing GHG emissions; New Zealand will hold the APEC-GRA Joint Workshop on Enhancing Livestock GHG Inventory in September, 2021.

This workshop aims to build capacity in measuring and quantifying livestock GHG emissions. The workshop will: 1) introduce recent advancements in livestock GHG inventory methodologies; 2) facilitate discussion on livestock production system development and on the climate change challenges they face; 3) demonstrate the role of robust science to support countries to track progress toward meeting their Nationally Determined Contributions; and 4) identify steps to build regional and national capacity.

Overall, this workshop will increase the ability of economies to capture livestock inventories to more accurately reflect national circumstances and farm production systems, and improvements gained through better management practices, improved genetics and breeding technologies and innovative mitigation technologies.

* 1. **Hold the APEC Workshop on Practices and Promotion of Circular Agriculture (Hosted by Chinese Taipei)**

The APEC region is densely populated with a huge and increasing demand for food; however it is relatively deficient in sustainable use of natural resources. The practices of circular agriculture through the recycling and reusing of agricultural residues and byproducts could reduce production costs, bring added value and help protect against natural resource exhaustion. Circular agriculture approaches could also reduce GHGs emission and contribute to reductions in food loss and waste.

In this connection, Chinese Taipei will develop a survey and conduct an APEC-funded workshop on member economies’ relevant policies and practices on sustainable food systems and circular agriculture approaches in 2021. Through the survey and workshop, Chinese Taipei expects to share knowledge and increase understanding of circular agriculture and sustainable food systems amongst APEC member economies.

* 1. **Hold the Reducing Food Loss and Waste along the Food Value Chain in APEC During and Post COVID-19 Pandemic** **(Hosted by Chinese Taipei**)

The COVID-19 pandemic has created an unprecedented massive disruption in the food value chain. Therefore, Chinese Taipei is hosting an APEC-funded three-day workshop sharing best practices from the private and public sectors on reducing food loss and waste (FLW) as part of capacity development for sustainable and resilient food systems responding to the pandemic from 30 June to 2 July, 2021.

 Adoption of new digital technologies such as the Internet of Things (IoT), Artificial Intelligence (AI), big data, blockchain, infrastructure and equipment investment, cooperation and coordination throughout the food value chains will be applied to this project. Such new technologies will be beneficial to micro, small, and medium enterprises (MSMEs), especially in advancing their systems.

This project aims to provide a forum for both the public and private sectors of APEC member economies to share their experience and best practices on reducing FLW facing the challenges brought by the COVID-19 pandemic.

**2.6 Hold the APEC Seminar on Cooperation in Agricultural Production and Regional Economic Integration after the COVID-19 Pandemic (Hosted by China)**

The “APEC Seminar on Cooperation in Agricultural Production and Regional Economic Integration after the COVID-19 Pandemic” will be held in October or November in 2021 online and on site. The objective of the seminar is to carry out exchanges and cooperation in the field of scientific and technological innovation to promote sustainable agricultural development after the COVID-19 pandemic. At the APEC Agricultural Technical Cooperation Working Group (ATCWG), PPFS and other relevant fora, we will promote concrete and practical cooperation among APEC members in the field of scientific and technological innovation, focusing on post-pandemic agricultural production cooperation and regional integration.

 The specific topics of the seminar are as follows: the connotation and related theories of agricultural production cooperation and regional economic integration; and analysis of typical cases of agricultural production cooperation and regional economic integration. In this seminar, APEC members will focus on examples of agricultural production cooperation and regional economic integration, experience sharing and cooperation paths; as well as best practices in the promotion of successful cases of agricultural production cooperation and regional economic integration, and encouraging the extensive participation of enterprises and farmers to improve agricultural productivity.

**2.7 Hold the** **Workshop on Sustainable Rural Development and Human Development Enhanced by Informatization under the COVID-19 Pandemic (Hosted by China**)

 The COVID-19 pandemic not only brings tremendous challenges to the sustainable food system especially food value chain development, but also encourages information technology innovation which leads to new agriculture business model. In the process of informatization in agri-food value chain, vulnerable groups including women and youth group require special support in their inclusive agriculture value chain participation. This project aims at discussing and sharing the good practices of informatization in sustainable value chain development, especially on vulnerable groups’ participation and capacity building and human development among members in the region. The specific goals include: 1) To research and evaluate the status quo of food system especially the food value chain development under the shock of COVID-19 pandemic; 2) To analyze the mechanism and impact of the informatization in maintaining sustainable food system under the pandemic and share good practices among members in the region; 3) To research and share good practices in women empowerment and youth capacity building with information technology innovation towards inclusive participation in food value chain and human development; 4) To discuss rural governance enhanced with informatization for rural development and share good practices among members in the region.

**2.8 Conduct a research and guideline for high-altitude farming under global warming model (Hosted by Thailand**)

The concept of this project was constructed to support economic growth, development and social well-being of the APEC member economies, especially for the coffee beans producing economies such as Mexico, Indonesia, Viet Nam and Thailand. This project empowers scientific collaborations as well as cross-border policy making among the APEC community based on mutual interests in agriculture and climate change. This project is expected to produce informative guidance books and summary reports to share with relevant working groups.

1. **Itemized Work Plans for 2021**

| **Title** | **Summary of Specific Plans** | **Mandate**(Leaders/Ministers/SOM/SCE Priorities and Decisions, Strategic Plans and to ABAC recommendations) | **ECOTECH Priorities and/or Host Year Priorities** | **Cross-fora collaboration**(within APEC and beyond APEC) |
| --- | --- | --- | --- | --- |
| 25th ATCWG Annual Meeting | 1. Review 2020 ATCWG activities
2. Discuss possible ATCWG activities aligning with the 2021 APEC priority themes of the New Zealand year
3. Economies to brief the meeting on projects which were implemented in 2020 and those have been planned to apply in the future
4. Review ATCWG’s mandate and ToR
5. Selection of the Lead Shepherd
 | * The APEC Putrajaya Vision 2040 of “an open, dynamic, resilient and peaceful Asia-Pacific community by 2040, for the prosperity of all our people and future generations”.
* The ATCWG’s ToR updated in 2018
 | * Tech-Innovation/ Inclusive Growth/ Regional Economic Integration/Sustainable Growth
* The priorities of APEC 2021: Economic and Trade Policies that Strengthen Recovery/ Increasing Inclusion and Sustainability for Recovery/ Pursuing Innovation and a Digitally-Enabled Recovery
 | PPFS |
| APEC-GRA Virtual Farm Study Tour (ATC 02 2020S) | 1. Recording 4-5 videos looking at New Zealand agricultural production systems (livestock, arable, horticultural, Māori agribusiness, dairy)
2. Conduct a live wrap-up session with a panel of host farmers/researchers
3. Build farmers, scientists and policymakers technical capacity and knowledge of sustainable food systems
4. Promote awareness and understanding of sustainable production practices contributing to the reduction of greenhouse gas emissions
 | * The Fifth Food Security Ministerial Meeting, regarding climate change on the development of agriculture
* The ATCWG Strategic Plan for 2021-2025
* The APEC Putrajaya Vision 2040
 | * Tech-Innovation/ Inclusive Growth/ Regional Economic Integration/Sustainable Growth
* The priorities of APEC 2021: Economic and Trade Policies that Strengthen Recovery/ Increasing Inclusion and Sustainability for Recovery/ Pursuing Innovation and a Digitally-Enabled Recovery
 | PPFS/GRA |
| APEC-GRA Joint Workshop on Enhancing Livestock GHG Inventory Methodology(ATC 01 2020S) | 1. Hold a workshop on enhancing livestock GHG inventory
2. The expected themes of the seminar/workshop are,

(1) introduce recent advancements in livestock GHG inventory methodologies; 2) facilitate discussion on livestock production system development and on the climate change challenges they face; 3) demonstrate the role of robust science to support countries to track progress toward meeting their Nationally Determined Contributions;4) identify steps to build regional and national capacity. | * The Fifth Food Security Ministerial Meeting, regarding climate change on the development of agriculture
* The ATCWG Strategic Plan for 2021-2025
* The APEC Putrajaya Vision 2040
 | * Tech-Innovation/ Inclusive Growth/ Regional Economic Integration/Sustainable Growth
* The priorities of APEC 2021: Economic and Trade Policies that Strengthen Recovery/ Increasing Inclusion and Sustainability for Recovery/ Pursuing Innovation and a Digitally-Enabled Recovery
 | GRA |
| APEC Workshop on Practices and Promotion of Circular Agriculture | 1. A virtual workshop will be held for economies to share their viewpoints on the application, challenges, promotion, and opportunities of circular agriculture
2. To share the recent trends and achievements in the application and development of circular agriculture among the public and private sectors of APEC member economies
3. To identify barriers and opportunities faced by APEC economies in the promotion of circular agriculture
4. To develop recommendations for policy settings and capacity building activities that address issues of improved access to the benefits of circular agriculture
 | * APEC Food Security Roadmap toward 2020: ensuring sustainable management of natural resources
* The ATCWG Strategic Plan for 2021-2025
* The APEC Putrajaya Vision 2040
 | * Tech-Innovation/ Inclusive Growth/ Regional Economic Integration/Sustainable Growth
* The priorities of APEC 2021: Economic and Trade Policies that Strengthen Recovery/ Increasing Inclusion and Sustainability for Recovery/ Pursuing Innovation and a Digitally-Enabled Recovery
 | PPFS/OFWG/PPSTI |
| Reducing Food Loss and Waste along the Food Value Chain in APEC During and Post COVID-19 Pandemic(PPFS 03 2020) | 1. Conduct a review of current relevant academic research, regulatory frameworks as well as the APEC relevant projects to highlight best practices and lessons for sharing.
2. A virtual workshop will be held to exchange viewpoints on challenges and opportunities of reducing FLW during and post COVID-19 pandemic by using ICT technologies and innovative ideas to enhance coordination along food value chains across APEC.
 | * The instruction of the 5th APEC Ministerial Meeting on Food Security: embracing innovation, emerging technologies and digital opportunities
* APEC Food Security Roadmap toward 2020: reducing food loss and waste by 10% in 2020
* The ATCWG Strategic Plan for 2021-2025
* The APEC Putrajaya Vision 2040
 | * Tech-Innovation/ Inclusive Growth/ Regional Economic Integration/Sustainable Growth
* The priorities of APEC 2021: Economic and Trade Policies that Strengthen Recovery/ Increasing Inclusion and Sustainability for Recovery/ Pursuing Innovation and a Digitally-Enabled Recovery
 | PPFS |
| APEC Seminar on Cooperation in Agricultural Production and Regional Economic Integration after the COVID-19 Pandemic | 1. A seminar will be held for economies to carry out exchanges and cooperation in the field of scientific and technological innovation and cooperation to promote sustainable agricultural development after the COVID-19 pandemic.
2. The topics of the seminar include:
3. the connotation and related theories of agricultural production cooperation and regional economic integration; and
4. analysis of typical cases of agricultural production cooperation and regional economic integration.
 | * The Fifth Food Security Ministerial Meeting, regarding embracing innovation, emerging technologies.
* The ATCWG Strategic Plan for 2021-2025
* The APEC Putrajaya Vision 2040
 | * Tech-Innovation/ Inclusive Growth/ Regional Economic Integration/Sustainable Growth
* The priorities of APEC 2021: Economic and Trade Policies that Strengthen Recovery/ Increasing Inclusion and Sustainability for Recovery/ Pursuing Innovation and a Digitally-Enabled Recovery
 | PPFS |
| Workshop on Sustainable Rural Development and Human Development Enhanced by Informatization under the COVID-19 pandemic  | 1. To organize an online and on spot workshop for economies;
2. To research and evaluate the status quo of food system especially the food value chain development under the shock of COVID-19 pandemic;
3. To analyse the mechanism and impact of informatization in maintaining sustainable food system under the pandemic and share good practices among members in the region;
4. To discuss and share good practices in women empowerment and youth capacity building with informational technology innovation towards inclusive participation in food value chain and human development; and
5. To discuss rural governance enhanced with informatization for rural development and share good practices among the region.
 | * The instruction of the 5th APEC Ministerial Meeting on Food Security: embracing innovation, emerging technologies and digital opportunities
* The La Serena Roadmap for Women and Inclusive Growth (2019-2030) Ensuring the greater integration and empowerment of women in the Asia Pacific region
* The ATCWG Strategic Plan for 2021-2025
* The APEC Putrajaya Vision 2040
 | * Tech-Innovation/ Inclusive Growth/ Regional Economic Integration/Sustainable Growth
* The priorities of APEC 2021: Economic and Trade Policies that Strengthen Recovery/ Increasing Inclusion and Sustainability for Recovery/ Pursuing Innovation and a Digitally-Enabled Recovery
 | PPFS |
| A research and guideline for high-altitude farming under global warming model | 1. To support the APEC Putrajaya Vision 2040 and the ATCWG Strategic Plan for 2021-2025, Thailand aims to produce a guidance book and reports about high-altitude farming using coffee plant as a model;
2. There is a urgent need to understand the elevation-dependent effects on genetics behind morphological and physiological traits of coffee plants in the tropical altitude zone; and
3. A coffee plant will be used as a model to study during cropping season from 2021-2022 in Northern Thailand.
 | * The ATCWG Strategic Plan for 2021-2025
* The APEC Putrajaya Vision 2040
 | * Tech-Innovation/ Inclusive Growth/ Regional Economic Integration/Sustainable Growth
* The priorities of APEC 2021: Economic and Trade Policies that Strengthen Recovery/ Increasing Inclusion and Sustainability for Recovery/ Pursuing Innovation and a Digitally-Enabled Recovery
 | PPFS/PPSTI/HLPDAB |