APEC GIFTS A+

POLICY TOOLKIT

on Promoting Gender Inclusion in Smart Agriculture

"GIFTS" stands for

***G**endered*
***I**nnovations*
***F**or*
***T**echnology and*
***S**cience*

How Was the Policy Toolkit Developed?

The drafting process of the policy toolkit was done through a cross–fora, cross-economy partnership with input from an experts group formed with Chile, the Philippines and Chinese Taipei. Chinese Taipei hosted a Seminar on Promoting Gendered Inclusion in Smart Agriculture on 22nd – 24th Oct., 2018 to gather ideas and suggestions from APEC economies on the challenges and opportunities women face when entering smart agriculture industry.

A set of data and practices collection was then made in cooperation with ATCWG, PPFS and PPWE economy members. Development of the policy toolkit was informed by the results of a literature review undertaken by Chinese Taipei, with APEC economies' involvement, which include Canada, Chile, Japan, Korea, Malaysia, Mexico, New Zealand, Papua New Guinea, the Philippines, Thailand, United States and Vietnam.

Why a Policy Toolkit

This paper will show that women's economic empowerment is critical to inclusive growth.

The female share of agricultural labor force in Eastern and Southeastern Asia is around 50 percent (FAO, 2010). Smart agriculture which is defined as utilizing new technology in agricultural production to reduce the labor burden of women in agriculture. Smart agriculture will improve women's access to productive resources, financial capital, information, as well as market opportunities outside their locality.

This policy toolkit has been created to encourage more women to participate in and to address the digital divide within the smart agricultural industry, which will allow public and private sector decision makers to utilize gendered innovation approaches to create an enabling environment for women.

Smart agriculture can also assist governments through digital platforms to gather data so that public services can be delivered more effectively to poor, marginalized, or geographically-isolated women. However, technical innovations are not always designed with women's needs in mind.

Whether smart agriculture reduces occupational segregation and income differences, or whether it instead creates a digital divide that exacerbates existing inequalities, will depend on policies and institutional changes governments make today. (FAO, 2010).

"New Thinking" is needed in the agricultural sector to encourage women's utilization of agricultural technology as well as their participation in green economies.

Smart agriculture can create innovative jobs and provide a more flexible environment for women to join the workforce (World Bank, 2009).

Women could also benefit from smart agriculture in the changing forms of work

Linkage between Gendered Innovations and Smart Agriculture

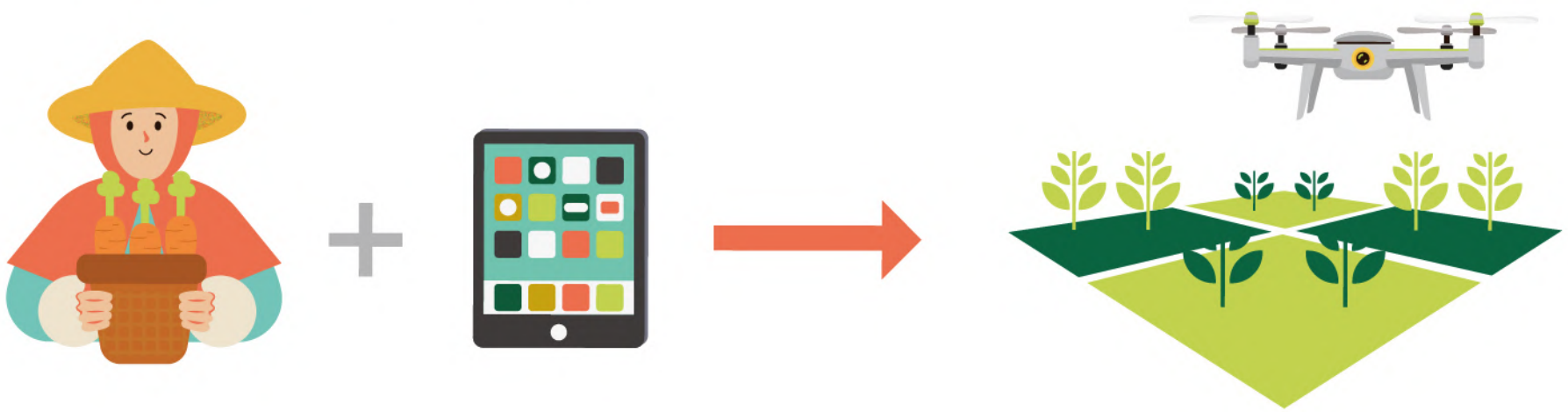
Gender issues in agricultural technology adoption have been investigated for a long time. The engagement of women towards new technologies is found to be a key element for adoption to occur, along with cultural, economic, technological and institutional factors.

Women could also benefit from smart agriculture in the changing forms of work, and improve their employment conditions as well as quality of life within households, or even as an individual.

However, several factors hinder women's potential to utilize smart agriculture technology: (1) lack of awareness of ICT; (2) lack of financial resources to access technology; (3) lack of access to information and resources. It is necessary for us to look deeper into the root causes embedded in the legal and social environment, education system, or simply the design of smart agriculture equipment itself.

The smart agriculture industry will never be gender neutral without sufficient sex-disaggregated data and analysis that identifies the difference between men and women in the agricultural value chain. Gendered Innovation Approaches are aimed at utilizing gender analysis method to create new opportunities of reviewing the social aspects of the smart agriculture system, and to identify and address the fundamental issues that are restricting women from participating in the agricultural value chain.

By adopting modern systems and digitized tools, less manual labor is necessary in order to carry out agricultural work. Women could therefore save more time doing productive work or can spend such saved time tending to their other roles.



Enabling Environment

An **Enabling Environment** starts with a fundamental influence of culture, on which a legal, education system and community is built. Education carries the great responsibility of providing quality STEM and ICT education to all, including women and girls.

When adopting smart agriculture technologies, it is also necessary that governments and legal systems support women or women-entrepreneurs for their specific needs, and ensure the accessibility of all the resources and information.

This cluster will focus on the transformation of (1) Culture, and women's opportunities of access to (2) Quality Education, (3) Government, Legal and Policy Support, and (4) Information and Resources that could ease the burden of women's participation in smart agriculture.

Recognizing that the smart technologies are reshaping farm economies and food system in the APEC region, women cannot be excluded from the opportunities offered by the emerging technologies offer. Actions to consider include:

1. Address female farmer's barriers in smart agriculture industry, such as gender stereotype, digital division or lack of access to resources and information .

2. Strengthen the capacity and funding to provide quality education and vocational training programs for enhancing the digital inclusion of women.

3. Evaluate related laws, policies and program to see if it covers the need of female farmers and develop appropriate guidance on integrating a gender-responsive perspectives.

4. Ensure the information and resources from governments are available to all female farmers in accessible format.

Inclusive and Sustainable Development

Inclusive and sustainable development is an approach that benefit all stakeholders - including marginalized groups - in addressing social and economic development issues. It promotes transparency and accountability, and enhances development cooperation outcomes through collaboration between civil society, governments and private sectors. This cluster provides the guidance of (1) identifying different needs of women with intersectional identity and (2) integrating gender perspective into climate-smart agriculture.

As climate change exacerbates the impacts of disasters, its effects on agricultural productivities often leads to the threats to farmers' livelihoods, especially to marginalized group of women. By incorporating gender perspective in agriculture and climate change, we are not only eliminating the disproportionate vulnerability of women, rather we are also empowering them to become effective agents of change and ultimately drive the agriculture sector towards growth and development. Approaches must be taken to benefit all stakeholders to ensure inclusive and sustainable development, actions to consider include:

1. Encourage APEC members to conduct sound research to identify the needs of female farmers, especially those with intersectional identity.
2. Encourage public-private partnerships to design gender- and age-responsive initiatives of smart agriculture, and ensure the initiatives are accessible for the target audienc.
3. Increase female farmers' participation in rural and developing communities and networks to ensure they can benefit equitably by adopting smart agriculture technology.
4. Work with APEC's Emergency Preparedness Working Group and promote disaster education and training programs to equip female farmers with knowledge on emergency response.

Inclusive Development

- Need to identify women's specific needs
- Need of projects for women

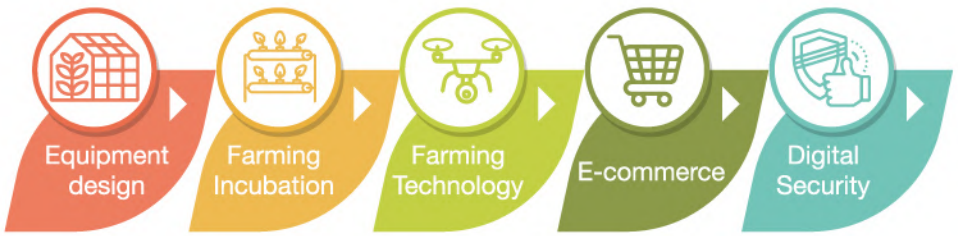
Sustainable Development

- Need for gender-sensitive response to climate change
- Need to integrate female farmers into Climate-Smart Agriculture(CSA) Initiatives

Technology Innovation

To achieve **technology innovation** that includes women, it is necessary to understand their different needs and barriers. Not only sex and gender should be prioritized before designing programs and/ or products, also gender analysis bring us innovation which benefits both women and men.

This cluster follows the concept of gendered innovations and will introduce several approaches that could engender the production chain of smart agriculture, which include equipment design, farming incubation, farming technology, e-commerce and digital security.



The value chain of smart agriculture

Technology innovation will not only lessen the risk of agricultural production and distribution, but also effectively reduce the labor cost in the agriculture industry, which at the same time will provide female farmers with more flexibility.

Actions to consider include:

1. Promote the awareness of smart agriculture technology and its importance for women to adopt within families and communities.

2. Encourage enterprises to recognize that gender bias is embedded in technologies during the process of designing and producing agricultural equipment.

3. Encourage APEC members to invest in infrastructure in order to provide female farmers access to education, training, social services and financial services.

4. Encourage research institutions to consider "Gendered Innovations" to design smart equipment and infrastructure that facilitates women's participation in e-commerce and digital security.

5. Encourage agri-businesses to consider e-commerce and multiple marketing channel while selling products.

APEC

Asia-Pacific
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APEC GIFTS A+ Working Group

Chile, the Philippines, Chinese Taipei

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The Philippines, Viet Nam