



Food and Agriculture
Organization of the
United Nations



Youth in motion for climate action!

A compilation of youth initiatives
in agriculture to address
the impacts of climate change

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Contents

Acknowledgements	v
Introduction	1
Perspectives from YOUNGO on youth and the climate-food nexus	3
Timeline of youth-related climate action	5

E-Agriculture, innovation and technology **11**

FAO #HackAgainstHunger in Africa brings innovation to Zambia	11
Department of Agriculture-Philippine Rice Research Institute (DA-PhilRice) and the CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS) Infomediary Campaign in the Philippines	13

Youth employment **17**

FAO private and public partnership (PPP) model for youth employment in agriculture in the Zanzibar archipelago	18
International Labour Organization (ILO), United Nations Industrial Development Organization (UNIDO) and the United Nations Development Programme (UNDP) programme to tackle youth unemployment in Egypt's Nile Delta region	20

Capacity development **23**

Upgrading the technical agriculture education system in Lebanon	24
The Pacific Organic and Ethical Trade Community (POETCom), the Secretariat of the Pacific Community (SPC) and the Technical Centre for Agricultural and Rural Co-operation (CTA) 'Youth Leading Learning in climate-resilient value chains in the Pacific' project in Pacific Island States	26

Contents

Entrepreneurship	29
FAO Integrated Country Approach (ICA) for promoting decent rural employment in Guatemala	30
El Camino – microagroecosistema familiar in Mexico	32
Alliances and networks	35
FAO and the Youth and United Nations Global Alliance (YUNGA) global flagship educational series	36
Green Savers Association in Dhaka, Bangladesh	38
Conclusion	41
FAO Youth publications	42
FAO Youth e-learning	43
Additional readings	45
References	47

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Introduction

The number of people between the ages of 15 and 24 has reached 1.8 billion. According to the *International Panel on Climate Change (IPCC) special report on the impacts of global warming of 1.5 degrees Celsius above pre-industrial levels*, if current practices do not change, these young people will be living in a climate that will reach 1.5 degrees Celsius between 2030 and 2052 (IPCC, 2018). It is crucial that the voices of young people are heard, and that their ideas are respected and nurtured. Within the next 50 years, some of today's youth will become the community leaders, policy makers and decision makers that will determine our planet's future. Education, training, capacity building, investments in technology and creating youth employment opportunities are key components in establishing an enabling environment in which young people can contribute to building a sustainable future.

According to recent FAO reports on the State of Food Security and Nutrition in the World, 821 million people live in food insecure conditions, even though there is more than enough food being produced to feed everyone. To address this situation, the global community has committed itself to achieving the ambitious Sustainable Development Goals (SDGs). FAO works with governments and partners to promote sustainable agricultural practices to ensure food security, improve nutrition, and promote sustainable agriculture for millions of people around the world.

The impacts of climate change are threatening crop and livestock production, forestry, fisheries and aquaculture. Impacts on the agriculture sectors include increased water and land scarcity, soil and land degradation, loss of biodiversity and more frequent and severe weather events resulting in droughts and floods. These changes will perpetuate food insecurity for smallholder farmers, vulnerable communities and rural youth. Climate change can trigger rural migration and intensifies other socio-economic factors, such as rural poverty and food insecurity, which drive young people away from farming communities. By creating projects, programmes and initiatives that are focused on youth, or by investing in and supporting youth-driven initiatives and projects, the global community can help ensure that the next generation is in a stronger position to engage in sustainable agriculture and is more resilient to change.

The world's young people are agents of change. They are eager to engage in dialogue and want to take action. One of the most important avenues for where young people can creating change is the implementation of the Doha work programme on Article 6 of the Convention, which was adopted in 2012 at COP 18 of the UNFCCC.¹ Article 6, which focuses on education, training, public awareness, public participation, public access to information and international cooperation, requires initiatives that are diverse, innovative and make the best use of available resources. These initiatives can include practical action in formal and informal education and training and may cut across different types of learning, from preschooler classes and seminar rooms of universities, to vocational training and lifelong learning.

FAO and partner agencies are working with governments, institutions and programmes to put the focus on youth in their policies and projects to achieve food security, improve nutrition and promote sustainable agricultural practices. Young people are often more willing to adopt new technologies and practices, test new strategies, and take risks. They can act as bridge between traditional farming techniques and new technologies and digital tools that can help make a shift to more sustainable food and agriculture systems and support climate change adaptation and mitigation. The tools and approaches to support vulnerable rural youth include junior farmer field and life schools (JFFLS) that provide agricultural and business training to vulnerable rural young people and develop their life skills. Cash transfers and voucher programmes are other potential options for supporting rural youth.

This publication highlights various access points for projects and initiatives that engage and mobilize young people. It focuses on climate-resilient capacity development, agricultural education, and entrepreneurial guidance to promote decent rural employment in agriculture, and platforms that create alliances and networks for stimulating climate action and exchanging information. It presents activities that have successfully reached youth. These activities include competitions, such as 'hackathons' and flagship educational products that support everyday climate action. The projects and initiatives presented

Introduction

here also emphasize the key role partnerships among governments, the private sector, other international organizations and local cooperatives play in achieving successful outcomes.

This publication is a compilation of ten successful youth-focused or youth-led initiatives in agriculture that address the impacts of climate change. The highlighted initiatives can serve as a promotional tool for youth networks, practitioners and programme managers who are interested in supporting youth in the agriculture sectors under a changing climate.

The case studies are organized under five themes: E-agriculture, innovation and technology; youth employment; capacity development; entrepreneurship; and Alliances and Networks. For each theme one FAO-led initiative and one non-FAO initiative is showcased to provide a broad picture of the activities being implemented around the world at various levels. FAO and other institutions believe that partnerships and collaboration on youth-focused projects, programmes and initiatives produce stronger results on the ground. This publication highlights these multi-organizational, collaborative efforts.

Perspectives from YOUNGO on youth and the climate-food nexus

Today's young generation occupies a unique point in history. The 2018 IPCC Special Report, which has clearly indicated the urgent need to shift to low-emission pathways, has called for the global community to mobilize USD 40 trillion for climate finance by 2030 in order to limit global average temperature rise below 1.5 degrees Celsius. Immediate actions and the commitment of financial resources are necessary to prevent existential damage to the planet and ensure the survival and prosperity for future generations. Young people around the world are actively engaged in efforts to address climate change. They are leading and participating in many initiatives at the local, sub-national, national, and international levels. Their strong commitment to working on this issue has also motivated them to participate at international climate negotiations under the United Nations Framework Convention on Climate Change (UNFCCC).

FAO, UNICEF and the UNFCCC have advocated for giving youth organizations observers status in UNFCCC negotiations. In 2009, these efforts contributed to the formal recognition of YOUNGO as the official children and youth constituency to the UNFCCC. YOUNGO is a self-organized umbrella network (often referred to as the 'International Youth Climate Movement') that works with the broader UN system on climate change processes. With a membership of more than 200 youth-led, youth-focused non-governmental organizations (NGOs), YOUNGO has over 20 policy working groups that are empowering young people and building the next generation of climate advocates in various fields and spaces of operation.

The passion, skills, and hopes for a better future that young people have make them an indispensable force in the fight against climate change. It is young people who are the most affected by the impacts of climate change, including the consequences changing climatic conditions will have for food and agriculture sectors. For many years, despite the challenges and limitations they encounter, young people have been constantly carrying out climate actions related to agriculture and food security at different levels. Young farmers are well positioned to safeguard the future of global food security and create resilient sustainable food and agriculture systems. This is especially true in developing countries where aging

smallholder producers are responsible for most of the food production. Youth engagement will be needed to transform the agriculture sectors from a contributor to climate change, and create opportunities to shift toward a paradigm of a 'Just Transition' in keeping with the Just Transition Declaration proclaimed during the 24th Conference of the Parties (COP24) of the UNFCCC in 2018. The agriculture sectors offer the possibility of providing fair and decent rural employment and improving livelihoods. The sectors can play a key role in reducing or removing greenhouse gas emissions and are the cornerstone of sustainable food security.

The diversity of groups and projects showcased in this publication demonstrate how complex climate action is, especially in the agriculture sectors. They also show that a range of different responses are needed, and that attention must be given to the coordination and linkages between these different responses. To create climate-resilient and low-carbon agricultural ecosystems capable of safeguarding global food security, everyone must be encouraged to join the fight: young and old, women and men, the disabled and non-disabled, migrants and non-migrants. Governments, indigenous peoples and the private sector, including smallholder farmers and other people working in the agriculture value chain, need to work together to ensure that everyone's knowledge and skills are respected and used effectively.

It is hoped that this publication will be useful for anyone who is concerned about climate action; that the collaborative youth actions it highlights will motivate readers to work toward building enduring partnerships. Both UN-led and youth-led initiatives can teach us important lessons. They can inspire us and reignite our commitment and dedication to meaningful climate action. They can encourage decision-making bodies and organizations to work with young people, consult with them and include their perspectives and ideas when setting agendas and making policies in the agriculture and climate sectors.

YOUNGO would like to take this opportunity to express its gratitude to the young people all over the world who have worked tirelessly in the past, are working tirelessly now, and who will continue to work tirelessly in the future to combat climate change and address

Perspectives from YOUNGO on youth and the climate-food nexus

its impacts in agriculture and in all aspects of our lives.
Every day, they are changing the world for the better.

*Alix Ruhlmann, Yugratna Srivastava, Pramisha Thapaliya,
Domenico Vito, Maria Auma, Fatou Jeng, Neekhil Prasad,
Deon Shekuza, Krishnee Appadoo and Sajith Wijesuriya.*

With compliments from YOUNGO!



Timeline of youth-related climate action

Young people are becoming an increasingly vocal advocacy group pushing for urgent changes in existing climate policies and legislation. The timeline presented here is an inventory youth-led events related to climate action that took place in 2018 and 2019 in countries around the world and on various platforms. It does not provide a comprehensive list of events. The timeline offers an at-a-glance view of some of the international work being done to implement the Doha work programme on Article 6 of the Convention, which was adopted at COP18 of the UNFCCC in 2012. This timeline of youth-related events for climate action illustrates the power of partnerships between international stakeholders and young people, and shows what can be achieved when the voice of the world's young people is given an elevated platform.

April 2018

May 2018

June 2018

July 2018

August 2018

September 2018

October 2018

November 2018

December 2018

January 2019

February 2019

March 2019

April 2018

ACTION FOR CLIMATE EMPOWERMENT (ACE) YOUTH FORUM



The ACE Forum was organized by YOUNGO and the COP23 Fiji Presidency and launched before the start of the Bonn Climate Change Conference. Youth delegates from 70 countries proposed many suggestions, which were integrated into the Paris Agreement Work Programme.

Several recommendations were developed by the 110 participants, including integrating ACE elements into Nationally Determined Contributions and national adaptation plans, and increasing financial support for youth-led projects.

May 2018

PRESS CONFERENCE AT THE BONN CLIMATE CHANGE CONFERENCE

During a press conference held on 5 May 2018, members of YOUNGO emphasized the need for capacity building for young farmers and farmer organizations to help them access climate finance. They highlighted the importance of engaging young people in the discussion and transfer of new technologies, especially within the opportunities created by the Koronivia Joint Work on Agriculture (KJWA).

The 2nd YOUTH AGRO ENTREPRENEURSHIP SYMPOSIUM 2018



The symposium was organized by 4-H Nepal, in collaboration with its partners. Young people from all over Nepal gathered in Kathmandu to share their experiences, visions and innovations. The symposium established a network and developed platforms and mechanisms for youth entrepreneurship.

June 2018

WORLD ENVIRONMENT DAY



India hosted the 2018 World Environment Day. The theme was 'Beat Plastic Pollution!' UN Environment put together a world map of events that allowed young people to find global events and activities near them. More than 3 000 events and activities were held, including a campaign by students in Lebanon to help clean up the Mediterranean.

FAO AG-LAB INNOVATION INCUBATION EVENT LAUNCHED IN BEIJING



More than 60 participants from UN agencies, financial institutions, NGOs, academia and the private sector gathered to learn about innovative solutions developed by Tsinghua University students that addressed challenges facing the agricultural sector. The precarious situation of poor smallholder farmers, their lack of connectivity and access to markets, and the overuse of pesticides were among the topics the students dealt with.

July 2018

August 2018

September 2018

ACTIVITY BOOK: WORKING FOR ZERO HUNGER



The Zero Hunger Goal (#ZeroHunger) is a central objective of the SDGs. The activity book teaches the importance of working towards Zero Hunger to children in a playful way.

YOUTH CLIMATE LEADERS PROGRAMME



Selected youth climate leaders for 2018 gathered the first time in July in Paris. The four-week immersion programme started with a discussion and reflection of climate problems in the participants' countries of origin, before meeting with leading international figures working on climate action.

CONFERENCE ON YOUTH EMPLOYMENT IN AGRICULTURE AS A PATHWAY TO ENDING HUNGER AND POVERTY IN AFRICA



Through a hackathon, young innovators developed solutions for youth employment in the food and agriculture sectors in Africa. The FAO Director-General stressed the need to create more jobs for youth and build the capacity of rural communities to use digital technologies.

YOUTH LEADERSHIP PROGRAMME AT THE GLOBAL LANDSCAPE FORUM (GLF) NAIROBI



A community of young leaders was established to contribute to sustainable development in Africa. These young leaders have the power to promote peace, prosperity, collaboration and the integrated management of resources in Africa.

STUDENTS IN SWEDEN STRIKE ON FRIDAYS



Greta Thunberg announced her intention to strike every Friday until Sweden aligns with the Paris Agreement. Her action triggered a global student movement that organized similar strikes around the world under the motto 'Fridays for Future'.



October 2018

YOUTH CLIMATE SUMMIT 2018

The two-day summit was held in the United States of America to train young people and teachers on environmental stewardship. Titles of some of the workshops were: Understanding Solar, Geoengineering the Planet, How Mushrooms Will Save the World, Theater Art Survival Camp, Sustainable Bedroom Furniture, Home Heating, Composting Big and Small, and What's Your Climate Story?

COMMITTEE ON WORLD FOOD SECURITY (CFS) 45 SIDE EVENT - CHALLENGES AND OPPORTUNITIES FOR YOUTH IN AGRICULTURE: PERSPECTIVES FROM FUTURE LEADERS



The side event brought together young agricultural leaders from emerging economies to share experiences and discuss possible support mechanisms that would enable the next generation to reap the benefits of sustainable agriculture. Key findings were the need for dialogue between the private sector and policy makers and the ongoing need to involve young people.

November 2018

YOUTH AS DRIVERS FOR INNOVATION



This symposium's interactive session, co-organized with Young Professionals for Agricultural Development (YARD), identified and communicated key messages on the role of agricultural innovation in shaping young people's future and achieving their aspirations.

PLANT-FOR-THE-PLANET ACADEMY IN JHANKAT, INDIA



Eighty children from 10 different schools attended the academy, which was free of charge. By playing games and watching simple presentations, they learned about topics such as sources of carbon dioxide, the greenhouse effect, global warming, photosynthesis, the climate crisis, and global justice.

Plant-for-the-Planet gives children around the world a platform to act against climate change.

December 2018

14th CONFERENCE OF YOUTH (COY14) KATOWICE



The annual assembly of YOUNGO brought together more than 600 young people from over 70 countries, the UNFCCC Executive Secretary, the COP24 Presidency and the President of General Assembly. It focused on three key areas: capacity building in lead up to COP24 on different aspects for the climate change processes, knowledge sharing, and network building. The outcomes of COY14 were recorded in a collective policy paper that was shared during COP24 negotiations.

YOUTH AT THE UN CLIMATE CHANGE CONFERENCE (COP24)



Youth delegates from around the world participated in the conference. They spoke for their right to demand action and stressed that young people will be the ones who will live with the outcomes of climate action negotiations.

The intergenerational inquiry was organized by YOUNGO and UNFCCC. It was designed to give young delegates opportunities to engage in UNFCCC processes.

January 2019

CONGRESS OF THE FUTURE



At the conference, which was held in Santiago, Chile, students presented their projects to more than 500 participants. They discussed climate action strategies that are either being planned or implemented at the community level. The congress raises awareness about future global challenges, especially in relation to climate change, artificial intelligence, ocean care and resilience.

INAUGURATION OF THE AFRICAN CENTRE FOR CLIMATE AND SUSTAINABLE DEVELOPMENT



FAO Director-General José Graziano da Silva stressed that it will not be possible to modernize African agriculture if rural youth are not given alternatives to migration. "We need young people in rural areas, we need rural development, and we can't have that without facing the challenges of climate change" he said. The African Centre For Climate And Sustainable Development will facilitate the exchange of information and increase coordination to build synergies to scale up innovative solutions for sustainable development.

February 2019

BELGIAN YOUTH CLIMATE STRIKES



In Belgium, more than 30 000 young protesters marched to push politicians to take more active measures to combat climate change. The protesters stressed that the youth of today will be more directly affected by the impacts of climate change than the older men and women who currently occupy decision-making positions. By taking action now, the protesters want to contribute to safeguarding their future.

March 2019

YOUTH PARTICIPATION AT THE HIGH-LEVEL MEETING ON CLIMATE CHANGE AT UN GENERAL ASSEMBLY (UNGA) AND YOUTH CLIMATE FORUM



More than 70 young people from over 50 countries participated at the UNGA, which was convened by the President of UNGA. The following day a Youth Climate and Sustainability Forum was organized by YOUNGO.



High Level Meeting on
Climate and Sustainable Development for All

FRIDAYS FOR FUTURE

An estimated 1.4 million young people in 125 countries skipped school on Friday 15 March to demand stronger climate policies.



E-Agriculture, innovation and technology

CASE STUDIES

Theme 1

FAO #HackAgainstHunger in Africa brings innovation to Zambia: A regional innovation challenge for young African entrepreneurs leads to a web and mobile phone-based service that helps farmers prevent and respond to plant pest and disease outbreaks, and gives them access to climate information and weather forecasts.

Pag. 12

Department of Agriculture-Philippine Rice Research Institute (DA-PhilRice) and the CGIAR Research Program on Climate Change, Agriculture and Food Security (CAAFS) Infomediary Campaign in the Philippines: An initiative to mobilize young people to serve as infomediaries (information providers) on rice production technologies and practices that can help farmers cope with the impacts of climate change.

Pag. 14

Innovation and technology can bring revolutionary change to the agriculture sectors. E-Agriculture is a global community of practice that facilitates dialogue, the exchange of information and the sharing of ideas related to the use of information and communication technologies (ICTs) for sustainable agriculture and rural development.

Digital technology, connectivity and innovative solutions in agriculture can help improve agricultural producers' resilience to climate shocks, for example, by providing timely weather forecasts, compiling satellite mapping, facilitating data collection, building pest and plant identification applications and fostering online forums between communities.

FAO believes that the world's youth are an important demographic group for mobilizing change. When young people are provided with agriculture knowledge and skills, they can chart a pathway to a sustainable future. Youth are the agents of change who are the best equipped to lead in innovation and technology, not only in the agriculture sectors, but in other sectors as well. Their generation is the most 'connected' and has a particularly creative perspective on how to apply e-agriculture to meet the challenges their communities are facing.

FAO #HackAgainstHunger in Africa brings innovation to Zambia:

A regional innovation challenge for young African entrepreneurs leads to a web and mobile phone-based service that helps farmers prevent and respond to plant pest and disease outbreaks, and gives them access to climate information and weather forecasts.

CLIMATE CHANGE IMPACTS ON AGRICULTURE IN ZAMBIA:

Seventy-five percent of the farming population in Zambia live in rural areas and rely on rainfall for crop production. Zambia has had a series of severe seasonal droughts in the early 1990s and 2000s, which have had significant negative impacts on crop and livestock yields and food security (FAO, 2015). The impact of climate change on crop production in Zambia is not limited to potential droughts. Climate change will also have an impact on rainfall distribution. Early rainfalls could lead farmers to plant their crops earlier in the season and subsequent dry-spells could cause crops to fail. The effects of in-season dry spells are evident on drought-sensitive crops such as maize, which is Zambia's most important staple crop. Over half of the calories consumed in Zambia are from maize, although this proportion is decreasing (FAO, 2015).

Drought-induced crop failures in Zambia are not the only threat climate change poses to the country's maize production. In 2016, the fall armyworm, a species of insect pest, was first detected in Central and West Africa. It has caused significant crop damage. The fall armyworm feeds on more than 80 species of crops, including rice, sorghum, millet, sugarcane and vegetable crops, but its preference for maize is particularly disastrous in Zambia. According to the FAO Fall Armyworm Monitoring and Early Warning System

(FAMEWS) Zambia's current level of infestation is less than 25 percent.² In Zambia, FAMEWS has detected fall armyworm on 95 756 plants – the highest number of all countries currently infected.

INITIATIVE PROFILE:

In 2018, FAO hosted a regional conference, 'Youth Employment in Agriculture as a Solid Solution to ending Hunger and Poverty in Africa' in Kigali, Rwanda. In partnership with Rwanda's ICT Chamber, FAO organized a youth-focused 'Hack against Hunger' innovation challenge to provide a platform for teams of young African innovators to refine and pitch their creative uses of digital technologies and solutions to help address challenges in the agriculture sectors and increase youth employment. At ICT Chamber's KLab, participants received mentorship and advice from FAO staff and international and national public and private experts. The conference culminated with a pitch event.

The Hackathon brought together 24 young entrepreneurs, 8 teams from 7 countries in Africa (Benin, Uganda, Zambia, Cameroon, Nigeria, Senegal and Rwanda), to apply ICTs to transform food and agriculture systems, generate economic growth and create youth employment opportunities. The Hackathon was a powerful platform for young African entrepreneurs to identify practical interventions and approaches that would address urgent issues for smallholder farmers, tackle youth unemployment and combat climate change.

The winner of the 'Hack against Hunger' was AgriPredict, a small four-person start-up company from Zambia.³ Founded in 2016 at another hackathon called AgriHack, AgriPredict won seed funding, which served as the foundation for a data company that is committed to addressing climate change. The pilot project started with 22 000 farmers in Zambia's Eastern Province. The project included training sessions and site visits, and encouraged feedback from farmers to continuously improve its development.

WHAT ARE THE IMPACTS OF THE INITIATIVE?

At the 'Hack against Hunger', AgriPredict pitched a web and mobile phone-based agriculture risk-management platform that uses artificial intelligence and machine learning to predict adverse weather patterns such as drought, floods and cold fronts and other conditions that favour fall armyworm outbreaks. AgriPredict provides farmers with critical information on how to prevent and respond to plant pest and disease outbreaks, and gives them access to climate information and weather forecasts. A farmer can simply take a picture of the suspected diseased plant and the system will provide a real-time diagnosis, suggest options for treatment (if required) and locate the nearest dealer of agricultural supplies. Farmers can access the service on a smart phone application, through social media (Twitter, Facebook and WhatsApp). For farmers that may not have a smart phone, the service is available through a USSD⁴ platform. AgriPredict is working to develop both voice and visual features to overcome digital literacy barriers and make the service available to persons with disabilities.



Pest infestations and droughts on agricultural production have affected national and regional food security. Small-scale farmers do not have the necessary tools (e.g. early warning systems) to mitigate the impacts of these threats. Current methods for disseminating information are costly, extremely slow and at times ineffective. The control of agricultural pests is critical to for achieving sustainable agricultural development and eradicating hunger.

The solution, proposed by AgriPredict, responds to the challenges faced by smallholder farmers in preventing and treating pest outbreaks and provides real-time information to support data-driven decision-making. AgriPredict has also launched a campaign on social media called #coolfarmers to attract young people in Zambia to the agriculture sectors through the digitalization of agricultural best practices.

For more **information** about FAO work on E-Agriculture, please visit the website: <http://www.fao.org/e-agriculture/e-agriculture>

Department of Agriculture-Philippine Rice Research Institute (DA-PhilRice) and the CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS) Infomediary Campaign in the Philippines:

An initiative to mobilize young people to serve as infomediaries (information providers) on rice production technologies and practices that can help farmers cope with the impacts of climate change.

CLIMATE CHANGE IMPACTS ON AGRICULTURE IN THE PHILIPPINES:

The Philippines is considered to be one of the most vulnerable countries to the impacts of climate change. This heightened vulnerability is attributed to three factors: the country's geography, its limited resources, and low adaptive capacity (The Climate Reality Project, 2016). The archipelago is composed of more than 7100 islands and located in the increasingly warm waters of the western Pacific Ocean. The country is dealing with more frequent and intense 'super' typhoons. It lacks natural barriers, and the strong winds and flooding accompanying these storms are extremely destructive to people, their livelihoods, and the nation's vast agricultural production systems (Cruz *et al.*, 2017).

Rice is a staple food in the Philippines. In recent years, the country has seen significant declines in yield due to extreme weather events, such as droughts and floods that are associated with climate change (World Bank, 2011). Much like other areas around the world where agriculture is the main source of livelihoods, rural communities in the Philippines have to cope with increased risks to production and uncertainty over crop yields and income. As a result younger people

are moving to the cities, which is creating a human resource gap in the agriculture sectors (Manalo and van de Fliert, 2013).

INITIATIVE PROFILE:

The Infomediary Campaign was launched in 2012 in the Philippines and continues to operate in 2019.⁵ In 2015, the Campaign was among the featured youth engagement in agriculture projects worldwide in the 42nd session of the UN Committee on World Food Security. The main rationale behind the Campaign is to help create a mechanism that can bring information to farmers in remote areas. Providing services to rice farmers in remote communities in the Philippines has been a persistent challenge. Information poverty is widespread in the countryside. The Campaign is a collaboration between the Technical Vocational unit of the Department of Education (DepEd) and DA-PhilRice. From 2014 to 2016, an additional partnership agreement was signed between DA-PhilRice and CCAFS. The Infomediary Campaign recognizes the important role that young people can play in improving rice production and supporting agricultural development in general. Infomediaries use ICTs and other technologies. In this initiative, high school students were mobilized to serve as infomediaries, providing information on rice production technologies and practices that can help farmers cope with the impacts of climate change to their parents and other farmers in their communities. The Campaign has worked with more than 200 high schools, mostly technical and vocational high schools (CCAFS, 2016).

The Infomediary Campaign has three main objectives:

- i) create alternative communication pathways in agricultural extension;
- ii) restore enthusiasm for rice farming among young people; and
- iii) promote agriculture as a viable career option (Manolo *et al.*, 2016).

WHAT ARE THE IMPACTS OF THE INITIATIVE?

The Campaign mobilizes high school students to seek out and share information on climate-smart rice production in their communities. Engaging youth as infomediaries delivers a number of co-benefits. It enables young people to work with the farmers in their community and creates avenues to indirectly engage young people in the agricultural sectors.

Through the mobilization of students, the Campaign adopted a strategy with three key components: 'Read', 'Surf' and 'Text'.

- **Read:** The students were given printed reading materials, which were available from their school libraries. This is an important component as some of the participating schools are located in areas with no electricity and cannot use ICTs. For this reason, the Campaign makes the best use of both electronic and non-electronic approaches for engaging the students.
- **Surf:** The Campaign provided the students with electricity and internet access, so they could consult the 'Pinoy Rice Knowledge Bank', an information portal on rice.⁶ The offline version of this website was also made available to the participating schools. However, reliable internet access remains a constant issue in the Philippines, especially in the rural areas.
- **Text:** The students were introduced to the PhilRice Text Centre, an SMS facility that responds to all questions on rice production (Joven, 2016). The Pinoy Rice Knowledge Bank and the PhilRice Text Centre are platforms developed under the auspices of the Open Academy for Philippine Agriculture. These platforms are now being maintained by PhilRice (CCAFS, 2016).

Participating schools have set up rice gardens that serve as a practice plots for students. To meet its objectives, the Campaign also carries out 'edutainment' activities, such as Infomediary Quiz Bees and study tours.

Several positive outcomes have been reported since the Infomediary Campaign was launched. The Campaign has directly reached approximately 9 000 students. Through its school activities it has indirectly reached more than 200 000 students (PhilRice, 2017). More than 12 000 students who are acting as infomediaries for their parents and community members, have sent queries about the impacts of climate change on rice production and related issues to the PhilRice Text Centre. Farming parents trust the information conveyed by the students. There is also ample evidence that technology has been adopted as a result of the work done by the infomediaries (Manolo *et al.*, 2016).

As of 2017, 75 teachers reported that they had integrated lessons from the Campaign in their curriculum (Manolo *et al.*, 2016).

The teachers trained under the Campaign have also carried out agricultural extension activities. Some teachers have been invited to speak on rice production technologies that can help farmers cope with the impacts of climate change (CCAFS, 2016). The Infomediary Campaign has also made presentations in national 'writeshops' organized by the Department of Education to draft the curriculum for rural farm schools. The presentations focused on lessons learned from the Campaign.

For more **information** on the Department of Agriculture, PhilRice and CCAFS Infomediary Campaign in the Philippines, please visit the website: <http://www.infomediary4d.com>

Youth employment

CASE STUDIES

Theme 2

FAO private and public partnership (PPP) model for youth employment in agriculture in the Zanzibar archipelago: An integrated approach to link young people to climate-friendly agribusiness markets.

Pag. 18

The International Labour Organization (ILO), the United Nations Industrial Development Organization (UNIDO) and the United Nations Development Programme (UNDP) programme to tackle youth unemployment in Egypt's Nile Delta region: Providing a reason for young people to stay.

Pag. 20

Youth employment in agriculture is a major area of work for FAO and its partner organizations. It is critical for sustainably enhancing agricultural productivity, boosting rural economies and ensuring food and nutrition security.

Young people account for a large percentage of the rural population. However, they are often unemployed or underemployed, and face many hurdles in trying to earn a living. Much of the work young people find in the agricultural sectors is informal. They are employed as family workers, subsistence farmers, home-based micro-entrepreneurs or unskilled workers. The wages are low, labour arrangements may be limited to seasonal work, and working conditions are sometimes unsafe. For these reasons, young people often choose to migrate to urban areas in search of better employment.

FAO and partner agencies are implementing a number of projects and programmes at the country level to encourage young people to become the next generation of farmers and agricultural entrepreneurs. FAO is working to develop a strong enabling environment in which young people can thrive and seize opportunities for decent rural employment. The Organization is also supporting the transition to climate-resilient agricultural systems that can support the livelihoods of young people in rural areas and prepare the next generation for the challenges that climate change will pose to agricultural communities.

FAO private and public partnership (PPP) model for youth employment in agriculture in the Zanzibar archipelago: An integrated approach to link young people to climate-friendly agribusiness markets.

THE IMPACTS OF CLIMATE CHANGE ON AGRICULTURE IN THE ZANZIBAR ARCHIPELAGO:

In the United Republic of Tanzania, the coastline and coastal vegetation in the Zanzibar archipelago has been receding due to climate change. The beaches now require regular thorough cleanings because of the increase in stronger waves and winds along the coastline. In the Zanzibar archipelago tourism is one of the main contributors to the economy. Agricultural production and tourism have already felt the impacts of climate change. These impacts may further increase young people's doubts about pursuing a career in agriculture. To overcome these misgivings, specific training geared to young people on how to mitigate the impacts of climate change is considered to be essential.

INITIATIVE PROFILE:

The FAO PPP model follows an integrated approach to respond to the specific needs of rural youth in the agriculture sectors. It creates employment opportunities for young people and broadens their access to wider agribusiness markets. This model was first piloted in three projects: one in Malawi, and two in the United Republic of Tanzania, one on the mainland and another in the Zanzibar archipelago.⁷ This case study focuses on the activities and outcomes from the

Zanzibar archipelago pilot project. The FAO PPP model was initiated in 2011 and remains operative in 2019.

Activities undertaken in model were targeted towards private and public partnerships. The goal was to sustainably integrate these activities into the national strategies and programmes and reduce youth unemployment in rural areas. With partners from the private and public sectors, the model helps young men and women overcome the main constraints to agricultural development.

FAO provided the first round of training sessions for young people using the Junior Farmer Field and Life Schools (JFFLS) methodology. A strong emphasis was placed on agribusinesses and integrating a climate perspective into investment. The young people trained by FAO carried out a second round of JFFLS training sessions with unemployed young people in their districts. The FAO PPP model contributed to the implementation of gender- and age-sensitive employment-centered agriculture activities. These activities included providing support to:

- young people in accessing markets and modern value chains;
- youth-led micro, small and medium enterprises in the agribusiness and marketing sectors to access markets, training, financial services and other productive assets;
- vocational education and training programmes that teach employment-related technical and business skills that are adapted to rural people's needs; and,
- employment-centered livelihood diversification as a strategy for coping with risk in emergency prevention and post-crisis recovery.

Zanzibar has a young population. Around 36 percent of the population is between 15 and 35 years old. Half of these people have reported changes in productivity due to climate variability in the archipelago (FAO, 2014a). Consequently, young producers have diversified their production or changed their agriculture techniques. Similar patterns were noted among young women and men. Experiences from Zanzibar have also shown

that most of the agricultural activities undertaken by trained young people are climate-friendly. The trend is moving towards organic and ecological agriculture practices that use natural pesticides, such as neem tree seeds.

WHAT ARE THE IMPACTS OF THE INITIATIVE?

Following an assessment after the first round of training activities, the young people who had received FAO training mobilized and trained another 150 peers in the district. The spillover effect led to approximately 20 more young people being trained for each young person that had taken part in the first round of training. The assessments also highlighted that young people, when trained using youth-friendly and gender-sensitive methodologies adapted to rural contexts, had a more positive perception of agriculture in comparison to non-trained youth.

The young people that had received training also approached agriculture with enthusiasm. They brought innovation to the sector and were open and eager to undertake agriculture not only for profit, but also in ways that are climate-smart and helps preserve the surrounding environment and natural resources. In terms of economic returns, the young people reported an increase of approximately 60 percent (FAO, 2014a).

The pilot project's assessments confirmed that fostering an enabling environment was pivotal for systematically reducing youth unemployment, rejuvenating the agricultural sector and giving real opportunities for young people that can enable them to remain in rural areas.

The FAO PPP model established partnerships with governments and private sector actors that supported the inclusion of rural youth in the process.

Zanzibar has developed the Promotion of Youth Involvement in Agriculture Strategy, and FAO activities have made a direct contribution to realizing the goals of this strategy. In Zanzibar, FAO collaborated with private sector groups,⁸ such as the Cooperative Union of Zanzibar (CUZA). CUZA's main goal is to increase its members' entrepreneurial potential and maintain its democratic governance. Its overall objective is to achieve sustainable development and eradicate poverty in the islands. For public sector collaboration, FAO created a partnership with the President Office Regional Administration and Local Government (PO-RALG) and with all agriculture and labour line ministries in the archipelago.⁹

For more **information** about the FAO PPP model, please visit the following website: <http://www.fao.org/e-agriculture/stub-11>

International Labour Organization (ILO), United Nations Industrial Development Organization (UNIDO) and the United Nations Development Programme (UNDP) programme to tackle youth unemployment in Egypt's Nile Delta region: Providing a reason for young people to stay.

CLIMATE CHANGE IMPACTS ON AGRICULTURE IN EGYPT:

The Nile Delta region is home to almost half of Egypt's population (43 percent). The region contains most of the country's arable land and accounts for two-thirds of national agricultural production. The region remains predominantly rural, but it also has many industries. The Nile Delta is facing serious environmental threats. The most serious of these threats is the rising sea water level. Continuing urban expansion into agricultural land is also reducing access to the productive assets in the region. The increase in urban waste and the lack of sufficient land suited for landfill is exacerbating problems related to waste disposal in the Delta. Surface and groundwater bodies are severely polluted due to the lack of or inefficient wastewater treatment and industrial waste disposal.

Stretching 4 180 miles in length, the Nile is the longest river in the world. For people living near the Nile, the river is their main source of water. By 2100, the IPCC (2018) projects the sea level could rise by between 26 to 77 centimeters (relative to 1986–2005) with 1.5°C of global warming. Even by the most conservative estimate, rising sea levels would destroy 12.5 percent of Egypt's cultivated areas and displace about 8 million people, nearly ten percent of the country's population (McGrath, 2014). Confronted with rising sea levels and increased salinity, many farmers have abandoned their

land or switched to fish farming. Others have resorted to adding sand or soil to their fields to keep them above the brackish water.

INITIATIVE PROFILE:

The ILO is leading a youth employment initiative called 'Employment for Youth in Egypt' (EYE). EYE seeks to tackle unemployment in Egypt by increasing decent employment opportunities for young women and men and providing Egyptian youth with skills to increase their employability and improve their access to the labour market.

EYE has different projects to deal with youth unemployment from different angles. One of its programmes is 'EYE: providing a reason to stay'.¹⁰ The programme, which focuses on economic insecurity and addresses the root causes of migration, works to increase decent employment opportunities for young women and men, especially vulnerable groups, and maximize the role of the government and private sector in employment creation. The programme also will address human security, social and environmental threats from an economic angle by promoting social entrepreneurship and good agricultural practices.

'EYE: providing a reason to stay' is planned to run from 2017-2020 in partnership with two other implementing agencies, UNIDO and UNDP. It is being carried out in two regions of Egypt: Menoufia, which is located along the Nile River and has a traditionally agriculture-based rural economy; and Qalyoubia, which is one of the considerably greener regions of Cairo and is known for its established industries.

The programme will create a dialogue platform among youth on the issues of human security in the two regions. It has adopted a two-tiered approach that involves:

1. increasing the capacities of local labour market institutions and social partners to design policies and deliver services for fostering youth employment with a focus on agriculture; and

2. reducing the vulnerability of youth in the labour market through activities that increase young people's employability and stimulate job creation in Qalyoubia and Menoufia.



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A participatory needs assessment and planning is undertaken before the implementation of each activity. This assessment helps ensure that target groups are consulted and participate in the design of programme interventions. Through multisectorial and integrated activities, the programme seeks to address the issues of poverty, unemployment and environmental degradation. These issues are seen as the root causes of insecurity and consequently migration. For example,

the promotion of agro-industries in combination with improved and environmentally friendly agricultural practices will eventually create sustainable jobs in both sectors. These solutions will be tailored to each locality, but when possible, they will also be replicable in other communities. This approach ensures that the tools that have been adopted to improve human security are comprehensive and people-centered. Most of the foreseen interventions are prevention-oriented. They place a strong emphasis on raising the awareness of the local population about more sustainable practices.

WHAT ARE THE IMPACTS OF THE INITIATIVE?

The ultimate beneficiaries of the programme are the unemployed and under-employed men and women between the ages 15 and 35 in the Nile Delta. The majority of the irregular migrants from Egypt, and unemployed returnees to Egypt are included in this group and fall within this age range. It is estimated that the programme will benefit approximately 18 500 young women and men. It will target young people with few skills and those who have remained unemployed for longer durations, including socially underprivileged youth, especially women. Its primary goal is to foster decent jobs within the local economies. The young people will also benefit from improved business registration and licensing processes, and from services to enhance marketing and small business development.

'EYE: providing a reason to stay' draws on lessons learned from numerous ILO, UNDP and UNIDO youth employment initiatives in Egypt and in other countries. It focuses on multidimensional interventions for youth employment that integrate the supply and demand side of the labour market, and enhance capacities and stimulate partnerships for employment creation at the local level. To achieve its outputs, the programme's work is based on four main pillars:

1. strengthening of national institutions for the development of small and medium enterprises;

2. promoting local employment and economic development in Qalyoubia and Menoufia;

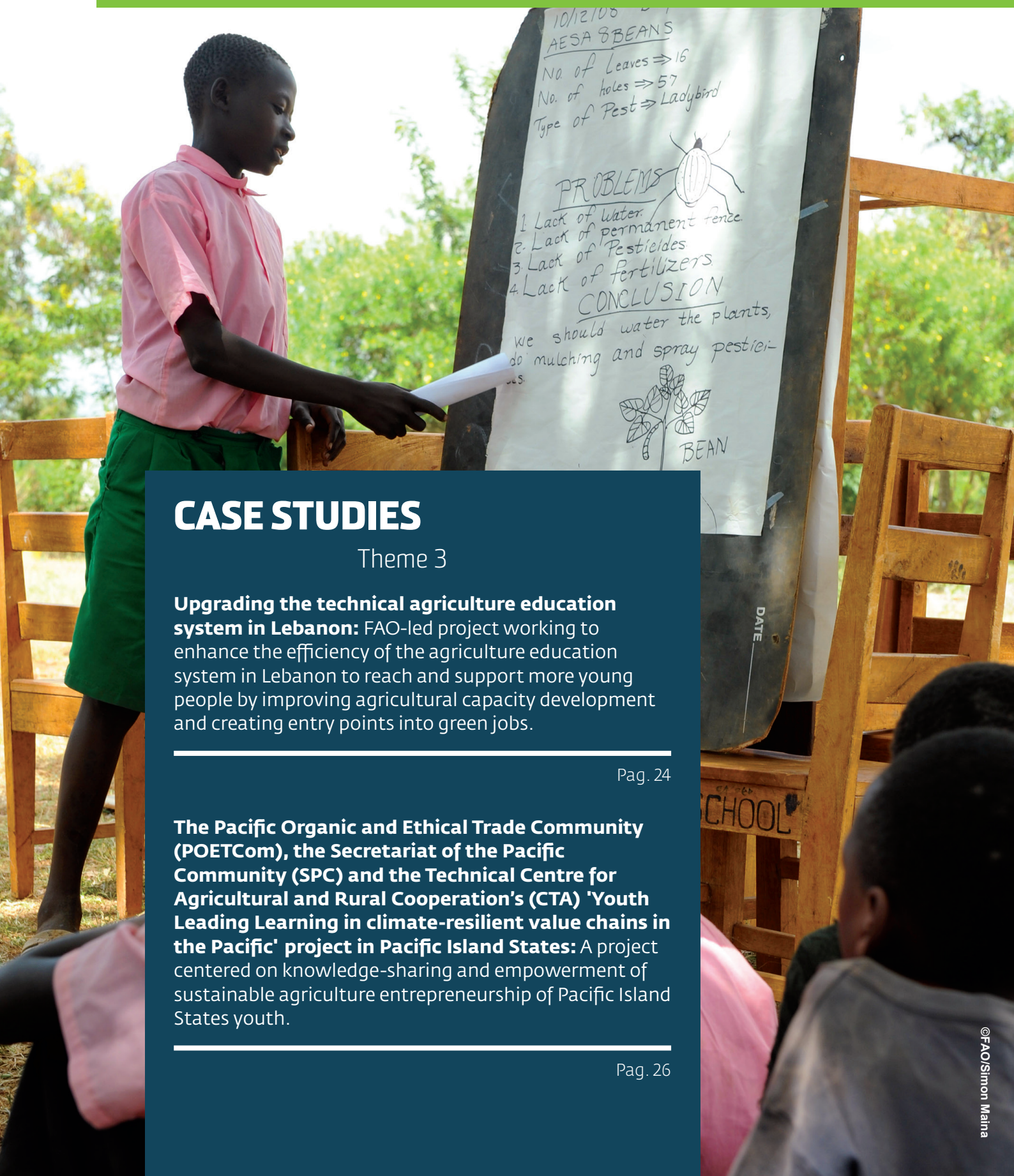
3. reducing the economic vulnerability of young women and men in migration-prone areas in Nile Delta by increasing the number of decent employment opportunities and improving their quality; and

4. enhancing local development through the active participation and engagement of young women and men in their communities, and ensuring that young people have a better understanding of their potential and play an active social role.

As of April 2019, 'EYE: providing a reason to stay' had already created 250 new jobs (UNIDO, 2019).

For more **information** on the ILO 'EYE: providing a reason to stay' project, please visit the following website: https://www.ilo.org/africa/technical-cooperation/WCMS_699935/lang--en/index.htm

Capacity development



CASE STUDIES

Theme 3

Upgrading the technical agriculture education system in Lebanon: FAO-led project working to enhance the efficiency of the agriculture education system in Lebanon to reach and support more young people by improving agricultural capacity development and creating entry points into green jobs.

Pag. 24

The Pacific Organic and Ethical Trade Community (POETCom), the Secretariat of the Pacific Community (SPC) and the Technical Centre for Agricultural and Rural Cooperation's (CTA) 'Youth Leading Learning in climate-resilient value chains in the Pacific' project in Pacific Island States: A project centered on knowledge-sharing and empowerment of sustainable agriculture entrepreneurship of Pacific Island States youth.

Pag. 26

The term capacity development is used for activities and processes that allow individuals, organizations and societies to acquire, improve and sustain skills and knowledge that will enable and empower them to set and accomplish their own development objectives. FAO and other organizations build their strategies around capacity development, as it is imperative for ensuring the sustainability and longevity of development projects and programmes. Because young men and women will become the climate-smart leaders of tomorrow, current capacity development activities are often focused on, or are spearheaded by, youth and youth organizations.

Capacity development can take place at local, regional and national levels. It includes training and the training of trainers, coaching and mentoring, organizational development, support to informal networks, and support to national training institutes and universities in expanding their curricula. To achieve the sustainable and effective uptake of capacity development, activities must be geared to the local context. FAO seeks to ensure that its capacity development efforts are driven by the knowledge and skills of local and national actors, are consistent with national priorities, and are anchored in national systems and expertise.¹¹

Upgrading the technical agriculture education system in Lebanon:

FAO-led project working to enhance the efficiency of the agriculture education system in Lebanon to reach and support more young people by improving agricultural capacity development and creating entry points into green jobs.

CLIMATE CHANGE IMPACTS ON AGRICULTURE IN LEBANON:

Lebanon is situated on the eastern basin of the Mediterranean. The country consists mainly of mountainous areas with an extended coastline where most of the cities are situated in this highly urbanized nation. As is common for countries in arid and semi-arid climates in the Mediterranean, Lebanon experiences mainly hot and dry summers with cool and rainy winters. However, since 1960 climatic changes have been observed. There has been a noted increase in temperatures, a decrease in precipitation, a greater frequency of extreme weather events, rising sea levels and an increase in sea surface temperature (Ministry of Foreign Affairs of the Netherlands, 2018). Regional climate projections suggest these trends will continue (ESCWA, 2017).

These climatic changes have already had significant impacts. One notable example is the intrusion of saltwater in coastal aquifers. The continued rising of sea levels, reduced precipitation, higher temperatures and diminished snowfall, which is an important water source for Lebanon, will further affect water quality and the amount of water available for both consumption and irrigation. Reduced precipitation and with higher surface temperatures, which increase evapotranspiration, have resulted in a decrease in soil

moisture and greater aridity in this already arid and semi-arid country. These factors make the agriculture sectors in Lebanon among the most vulnerable sectors to climate change.

In addition to these climatic pressures on the agriculture sectors, there is a lack of capacity, especially adaptive capacity, insufficient financial resources and inadequate infrastructure for agricultural production in Lebanon. The Lebanese government has now recognized the potential of the agriculture sectors to provide employment and income opportunities for both young displaced Syrians and unskilled Lebanese youth.

INITIATIVE PROFILE:

This project 'Upgrading the technical agriculture education system in Lebanon' was initiated in 2016 and is set to run through to 2020. It is a FAO-led project carried out in partnership with the Ministry of Agriculture's Education and Extension Services, UNICEF, ILO, AVSI (a non-profit Italian organization focusing on development cooperation and humanitarian aid), and WARD (a non-profit Lebanese organization focusing on research and development in education in Lebanon and the Middle East North Africa region). The project is funded by the Dutch Government and focuses on local unemployed Lebanese youth and displaced Syrians in Lebanon. With the support and technical expertise of FAO and its implementing partners, the project works to give these groups better access to the job market (in Lebanon and, for the displaced Syrian youth, in Syria in the future) by giving them the chance to obtain technical qualifications and official diplomas. The project does so by offering the young men and women access to improved technical agriculture vocational training, and opportunities to enroll in the Lebanese public 3-year secondary-level technical degree programme of the Baccalauréat Technique in Agriculture.

The project focuses on agricultural areas in Lebanon and seeks to reach 525 students, ages 15-20, for enrolment in the 3-year agricultural programme;

1 848 students, ages 14-25, for the short-term vocational training courses, and; 100 teachers for refresher training courses for agricultural technical trainers. In addition to vocational training, the curriculum provides competency-based training and promotes decent work.

The aim of the project is to enhance the efficiency and quality of the agriculture education system in Lebanon to reach and support more young people by improving agricultural capacity development and to create entry points into green jobs. It seeks to achieve the following concrete objectives:

- revise the National Agriculture Technical Programme and curricula;
- upgrade and adequately equip seven agriculture technical schools;
- enhance the management and teaching capacity of the agriculture technical schools;
- increase the enrolment of Lebanese and Syrian students;
- establish a twinning programme between agriculture technical schools in Lebanon and their counterparts in other parts of the world; and
- create linkages between the agricultural schools and potential employers.

WHAT ARE THE IMPACTS OF THE INITIATIVE?

The project, which is set to run for at least another year, has already made significant achievements. It has analysed the linkages between the private sector and education sector to better align curricula to the demands of the labour market. The project has revised, updated, elaborated and validated many aspects of the curriculum of the agriculture technical school. It has also developed new vocational training modules and textbooks on technical agriculture topics. To date the project has:

- provided non-formal short training to 1 577 students in 2017 and 2018;
- enrolled 155 students in Ministry of Agriculture schools through their outreach programme;
- provided training of trainers to 60 teachers on agriculture and technical topics;
- trained and coached 60 teachers on curriculum development following competency-based training; and
- provide ILO training to 29 teachers on competency-based training.

Future project activities will focus on supporting agriculture technical schools, including the procurement of additional and improved technical facilities and other laboratory materials to allow students to engage in laboratory work and field practice. The project will also put in place operational modalities for work-based learning in consultation with the potential employers and project partners, and draw up a set of policy recommendations for the Lebanese government.

For more **information** on FAO ongoing projects and initiatives in Lebanon, including upgrading the technical agriculture education system, please visit the website: <http://www.fao.org/lebanon/programmes-and-projects/project-list/en/>

The Pacific Organic and Ethical Trade Community (POETCom), the Secretariat of the Pacific Community (SPC) and the Technical Centre for Agricultural and Rural Co-operation (CTA) 'Youth Leading Learning in climate-resilient value chains in the Pacific' project in Pacific Island States:

Agriculture project centered on knowledge sharing and empowerment of sustainable agriculture entrepreneurship of Pacific Island States' youth.

CLIMATE CHANGE IMPACTS IN AGRICULTURE IN PACIFIC ISLAND STATES:

Small Island Developing States (SIDS) are located in the Atlantic, Pacific and Indian Oceans, the Mediterranean, the Caribbean and the South China Sea. SIDS have unique, distinct vulnerabilities and face particular challenges specifically relating to climate change. They are among the most vulnerable nations when it comes to environmental threats and the impacts of climate change, such as increased droughts, extreme high tides, intense winds and storm surges. All of these impacts pose severe threats to food security and food systems.

In the Pacific region, many SIDS have cleared large portions of forestland to produce monoculture crops for export. Due to the lack of diversity in agricultural production, declining production and limited food options in general, Pacific Island States import between 60 percent to over 80 percent of their food (FAO, 2017). Some rural areas are still dependent on subsistence food production and fisheries. Agricultural production on these islands, whether for subsistence or export, is highly vulnerable under current climate

change scenarios. Tropical Cyclone Heta in Niue cost the island approximately 25 percent of its gross domestic product (FAO, 2008). Fisheries, which are vital to food production systems on the islands, are also vulnerable to the impacts of climate change, particularly increases in seawater temperature and ocean acidification.

The Pacific Islands have a high rate of youth unemployment. According to CTA figures, youth unemployment currently stands at 25 percent. The high numbers of unemployed youth places a range of social and economic strains on the region. An estimated 16 000 highly skilled people leave the Pacific Islands each year for to seek employment elsewhere (CTA, 2017).

INITIATIVE PROFILE:

In 2015, POETCom, for which the SPC serves as the secretariat, launched the YLLP project after the organization won a call for proposals made by CTA. The CTA call for proposals was part of its project, 'Agriculture, Rural Development and Youth in the Information Society' (ARDYIS). Initiated in 2010, ARDYIS promotes the innovative use of digital technologies to bring youth into the agriculture sectors. CTA believes that digital technologies can make it easier for young people to engage in agriculture, and youth activities and digitalization are strategic areas of intervention for CTA. Agricultural production systems that have been improved through the application of digital technologies have greater potential to attract young people and provide them with employment opportunities. Young innovators contribute to the transformation of the agrifood industry by working on digital solutions to persistent problems, and through these activities they become better positioned to find employment.

The YLLP project was one of the initiatives selected in the framework of the CTA call for proposals. The project builds upon activities of International Fund for Agricultural Development (IFAD) Capacity building programme for resilient agriculture in the Pacific

(CBRAP), which was implemented by POETCom. Through capacity building activities, the CBRAP project supported young farmers working with producer organization in three Pacific countries to adopt climate-resilient agricultural practices. The YLLP project works to solidify young people's knowledge about these practices by adding marketing techniques to increase business opportunities for young farmers. The project provides an entry point for young producers in the Pacific Island States to obtain new sources of incomes, which will help reduce youth unemployment and stem the rural exodus. The project operates in the Pacific region, working in the Cook Islands, Niue and the Marshall Islands.

The YLLP project is structured around four key capacity building objectives, mainly centered on ICTs;

- train young people to provide technical production and marketing support to young farmers using social media and other ICT tools;
- support young farmers to document and disseminate best farming practices for enhancing climate-resilience, including improved traditional practices, using ICTs, social media and networks of young farmers;
- facilitate the development of ICT marketing tools by young people to promote the products of each producer organization; and
- develop a shared social media platform on Facebook for youth members of each producer organization to share information and lesson learned on climate-resilient agriculture and agricultural entrepreneurship.

To achieve its objectives, the YLLP project has undertaken several activities in multiple Pacific Island States. The project organizes workshops and adopts a training of trainers approach.

- **Workshops:** The first YLLP workshop focused on building the capacities of participants to use Web 2.0 tools, such as Facebook and YouTube and expand the young farmers' options for knowledge sharing about climate-resilient agriculture practices. This

was followed by a regional learning exchange workshop to enable the peer-to-peer transfer of knowledge and skills among the young farmers and empower them to apply their new insights to climate-resilient agriculture. The workshop also included sessions on market branding and outreach to help the participants appreciate their products' unique selling points and reach their target customer groups more effectively.

- **Training of trainers:** To improve and expand support in technical production and marketing to young farmers, 50 youth employees from three leading producer organizations in the Cook Islands, Niue and the Marshall Islands, participated in capacity building training. These 50 young people then went on to provide guidance to 400 young farmers about online and offline marketing tools, the value of social media marketing, and how to produce low-cost marketing tools, such as fliers and brochures.
- **Reporting opportunities:** The YLLP project also offered the participants the opportunity to report on field trials of the impact of organic practices on key indicators for climate-resilience. The participants strengthened their communication and presentation skills by preparing fact sheets, how-to videos and storyboards.

WHAT ARE THE IMPACTS OF THE INITIATIVE?

The project, which was implemented in the Cook Islands, Niue and the Marshall Islands, was geared toward young people. This was seen as way to address the social and economic concerns of rural households with insufficient incomes. These households often cannot supply enough food for their families and increasingly rely on the out-migration of family members, especially young unemployed family members, for cash remittances. By placing its focus on young people and equipping them with skills and knowledge to improve their farm production and

marketing, the project enabled the young participants to earn income for themselves, produce food for their families, and offered them an alternative to migration.

The YLLP project has helped young people in Pacific Island States develop critical computer skills, including the ability to use 2.0 web tools, the capacity to promote and advertise themselves through social media and the skills needed to make effective presentations. Young people from the three countries are continuing to learn from each other by sharing resilient organic production methods and practices through social media. The network created by the YLLP has allowed young agricultural entrepreneurs to connect and come together to organize activities and generate new income streams. An example of these activities is the establishment of an organic night market in Niue, which has increased social capital by fostering strong ongoing community engagement. Other examples are direct marketing to supermarkets in the Marshall Islands, and stronger linkages between the agriculture and tourism sectors in the Cook Islands. The YLLP has also ensured that these young farmers have greater access to support for technical production and marketing now and in the future.

For more **information** on the CTA YLLP project please visit the website: <https://www.cta.int/en/youth/article/pacific-youth-share-lessons-on-climate-resilience-sidodod97d14-bc61-4195-8a6d-fee743fd80ab>

Entrepreneurship

CASE STUDIES

Theme 4

FAO Integrated Country Approach (ICA) for promoting decent rural employment in Guatemala: *La Factoría*, a business laboratory for rural youth, and *ChispaRural.gt*, a digital platform to connect rural young people.

Pag. 30

El Camino – microagroecosistema familiar in Mexico: An initiative built around a family farm that promotes sustainable production methods among local youth to re-establish agricultural practices and achieve the Sustainable Development Goals.

Pag. 32

Entrepreneurship is the process of conceiving, establishing and managing a new business. These businesses are often small start-up ventures that begin simply as an idea but have the potential to grow and become a mainstream business model. Often entrepreneurship is made possible through employment opportunities or programmes that make use of innovative approaches in the agriculture sectors and provide young people with adequate knowledge and resources to support their own new business ventures.

FAO and other agencies and organizations are working to help young people assess local markets, build alliances and formulate financially viable project proposals. Providing young people with training on entrepreneurial skills, developing Junior Farmer Field and Life Schools (JFFLS), promoting other educational opportunities, and increasing access to seed funding are some of the ways to foster youth entrepreneurship in the agriculture sectors. JFFLS teach young people about agriculture, climate change and business operations, and link this teaching to general life lessons and skills.

FAO Integrated Country Approach (ICA) for promoting decent rural employment in Guatemala:

La Factoría, a business laboratory for rural youth, and *ChispaRural.gt*, a digital platform to connect rural young people.

CLIMATE CHANGE IMPACTS ON AGRICULTURE IN GUATEMALA:

In Guatemala, 45.9 percent of the rural population between 15 and 29 years old are engaged in agriculture, livestock, hunting or forestry. They face precarious and insecure working conditions, and receive wages well below the national minimum wage (FAO, 2018a). Consequently, these young people are increasingly forced to migrate to urban areas or abroad. The impacts of climate change in Guatemala include more frequent and heavier rains and violent storms and prolonged droughts. All of these impacts pose serious threats to the country's agriculture sectors. Guatemala's geographical location makes the country more vulnerable to the impacts of climate change. Other socioeconomic factors, including unemployment, poor housing, and lack of land planning contribute to make the country's inhabitants more vulnerable to the impacts of climate change. Indigenous communities and smallholder agricultural producers are among the most vulnerable and affected groups.

Guatemala, along with El Salvador, Honduras and Nicaragua, is located in the Central American ecoregion, known as the Dry Corridor. In 2018, FAO and the World Food Programme (WFP) expressed concern over the impacts of the prolonged drought in Central America. It caused major crop losses (around 280 000 hectares of beans and maize were lost) in the Dry Corridor, and more than 2 million people became food insecure. In June and July of 2018, rainfall was lower

than average in Central America, which affected the first crop cycle (FAO, 2018b).

INITIATIVE PROFILE:

FAO developed the ICA programme to promote entrepreneurial opportunities for decent rural employment.¹² The approach leverages a set of FAO core functions: policy and strategy advice, technical support and capacity development, knowledge generation, partnerships, and advocacy and communication. The programme facilitates the collaboration between FAO and other UN agencies. Gender equality and environmental sustainability are mainstreamed in all its activities as crosscutting issues. At the national level, it aims to enhance employment-related components of national strategies, policies and programmes for agriculture and rural development in order to improve the quantity and quality of rural jobs. The ICA programme has been implemented in three phases in sub-Saharan Africa and Central America.¹³ In Guatemala, the programme targeted the migration-prone western departments of San Marcos, Huehuetenango, Totonicapán and Quetzaltenango. Its main purpose was to increase young people's knowledge about employment in the region and enhance their contribution to the local economy. The second phase of the programme delivered two successful youth-oriented services.

Among the strategies the ICA programme implemented to support youth engagement in sustainable agricultural development, two were particularly successful:

1. The promotion of the use of ICTs, especially social media and mobile applications, to increase exchanges among young people about agricultural practices, commercial networks and entrepreneurial opportunities. This was achieved through a digital platform to connect rural young people, called ChispaRural.gt.
2. The promotion of social entrepreneurship in rural areas through a collaborative economy approach

that supported young people in designing and starting up multisector productive initiatives (mini-clusters) in their communities. This was achieved through a business laboratory for rural youth, called *La Factoria*.

WHAT ARE THE IMPACTS OF THE INITIATIVE?

1. ChispaRural.gt, a digital platform to connect rural youth

To create youth-oriented services, increase exchanges among young people about sustainable agriculture practices and reach a new generation of Guatemalan family farmers, ICA programme designed and launched a pilot digital service, ChispaRural.gt.¹⁴ The service was successfully piloted from 2015 to 2017. During this phase important lessons were learned and feedback was received from potential users. The service will be further strengthened and fully operationalized during the ICA programme's current phase (2019-20). ChispaRural.gt is a virtual platform accessible online, via web and mobile phone, where rural youth can access up-to-date information on sustainable agriculture and employment in rural areas. Information provided through the platform includes details on training and funding opportunities offered by different organizations, and practical tools, tips and success stories from young agricultural entrepreneurs in their community. The platform integrates social networks, group discussions, webinars and instant messaging to maximize its reach and usability among young rural farmers, specialists and technical advisors. Prospective services include supporting young entrepreneurs with crowdfunding campaigns and displaying their products or new business ideas. The ultimate goal is to leverage the widespread use of mobile phones to enable young people from remote rural communities to easily demand, receive and share customized information that can be used to improve their productive, associative and marketing activities. The platform was developed through a user-centered participatory process. It has responded to the expressed needs of

more than 150 young people and rural service providers, mainly from the department of San Marcos.

2. La Factoría, a business laboratory for rural youth

The ICA programme established the *Factoría del emprendimiento*, a business laboratory that follows a territorial development approach to help the youth start-up community. Its focus is on small and medium enterprises. The initiative, in partnership with the local NGO *Grupo Enlace*, provided a 3-month training course on entrepreneurial skills and local development to 75 men and women, between 20 and 30 years of age from the departments of Quetzaltenango, San Marcos, Huehuetenango, and Totonicapán. Through the training, the *Factoría* helped the young people assess local markets, build alliances and formulate financially viable project proposals. All the projects are based on crop and livestock production and promote integrated farming systems and climate-smart practices. The projects also explore the potential of developing niche markets and green entrepreneurship, including agrotourism. Each of the youth-led enterprises engages 25 to 50 families from the local community. FAO, in collaboration with the Government and partners such as the *Banco Centroamericano de Integración Económica* (BCIE) has supported around 25 of these proposals in mobilizing additional technical assistance, training and organizational support and increasing access to market opportunities. Four of the community groups that have been established have been registered as 'cooperatives', nine are in the process of registering and other nine have been formalized through other arrangements (e.g. associations).

For more **information** on the FAO Integrated Country Approach (ICA) for promoting decent rural employment, please visit the website: <http://www.fao.org/rural-employment/work-areas/youth-employment/ica-programme/en/>

El Camino – microagroecosistema familiar in Mexico: An initiative built around a family farm that promotes sustainable production methods among local youth to re-establish agricultural practices and achieve the Sustainable Development Goals.

CLIMATE CHANGE IMPACTS ON AGRICULTURE IN MEXICO:

Climate change projections indicate that in the near future Mexico will likely face two main impacts: higher annual temperatures (between 1.5 and 4 degrees Celsius) and increased droughts (The Climate Reality Project, 2018). These impacts can devastate agricultural production systems. For example, in 2011 Mexico experienced the worst drought in its history. Remote villages were left without food and water, which led to the death of more than 1.7 million livestock and the loss of 2.2 million acres of crops (The Climate Reality Project, 2018). As temperatures increase, so will evapotranspiration, which will reduce soil moisture and water availability, and affect crop production, especially for rain-fed agriculture. Higher temperatures will increase evaporation and affect water reservoirs, which will have an impact on the availability of water for urban and industrial users. Global climate change affects a variety of factors that are associated with drought. Beyond the direct economic impacts, it is very likely that the consequences of climate change will not only affect agriculture, but also employment, food and nutrition security, and water scarcity. All of these impacts will lead to an increase in the number of climate migrants from rural to urban areas.

INITIATIVE PROFILE:

El Camino – microagroecosistema familiar is an agroecology initiative based in Veracruz, Mexico. Zeferino Elizur Bautista Martínez, a 24-year old man, founded the initiative in 2017 by modifying his parents' family business. Initially, the family cultivated citrus fruits, coffee and bananas. The sustainable development movement in his country and an appreciation of how his family's ancestors managed the land, inspired Zeferino to refocus their business towards agroecology. He joined the Urban and Periurban Agriculture Network of Xalapa (RAUPX), a local network that promotes the production of food in homes, workplaces and public spaces. RAUPX places an emphasis on people. The staff at RAUPX uses their extensive personal experiences to promote the sharing of knowledge, seeds and healthy food.¹⁵ Zeferino applied the skills and knowledge he gained through RAUPX to design sustainable production systems for his family's business. Gradually he transformed the enterprise his parents had founded in 1986, into the youth-focused agroecology initiative: *El Camino – microagroecosistema familiar*.

El Camino focuses on young people in the Xalapa area,¹⁶ empowering them and educating them about sustainable agricultural practices. Its work is intended to promote sustainable farming methods that can help achieve the SDGs. It also provides young people with the tools they need to act as representatives in the region and contribute to shaping the country's environmental policies. The number of people running *El Camino* is small – a team of four – but the initiative is estimated to have directly reached at least 180 people. Their network continues to grow through collaborations with other groups and social media outreach. The initiative has entered into ongoing partnerships with the *Coordinación Universitaria para la Sustentabilidad* of the *Universidad Veracruzana* and other local and international organizations.¹⁷ These partnerships have allowed *El Camino* to undertake further research and activities on a wide range of issues, including food sovereignty, community resilience to climate change, biocultural patrimony, biodiversity management, and sustainable development.

El Camino organizes activities to reach local youth and promote additional research on agroecological approaches and practices. It organizes workshops and film screenings on the work of (micro) agroecosystems, and offers demonstrations of traditional cooking methods for local youth. The goal of the organization is to show local youth that there are broader approaches to agriculture that can provide alternatives to common agricultural practices, and encourage them to adopt sustainable agroecological production methods. In the words of Zeferino: "An agroecological production space can be a classroom for learning economics, a living experimental laboratory, a place to share international experiences on this field, a pretext for community building, and a sustainable way of life, a space to provide services such as photographic hunting, training, and environmental education." The initiative is targeted towards contributing specifically to SDG 13: Take urgent action to combat climate change and its impacts.¹⁸



WHAT ARE THE IMPACTS OF THE INITIATIVE?

El Camino has introduced local young people to agroecology and its associated factors. It has also educated them about recognizing and working with sustainable production systems, understanding different cultivation techniques, improving soil quality, and managing the risks associated with agricultural practices (e.g. planting trees to create soil retention through the root systems to reduce erosion and prevent landslides).

Through the work of El Camino, some young people have started and manage their own agro-ecological farms. The staff at El Camino have noticed a steady growth in interest in agroecology and an increase in the number of young farmers in urban areas. El Camino aims to keep growing and continue their work in promoting sustainable agriculture production systems in the Metropolitan Zone of Xalapa and beyond.¹⁹

For more **information** on the activities of El Camino in Mexico, please visit: <https://www.facebook.com/elcamino.mf/>

Alliances and networks

CASE STUDIES

Theme 5

FAO and the Youth and United Nations Global Alliance (YUNGA) flagship educational series:

An alliance of UN agencies, government institutions, civil society organizations and other groups that work with children and young people.

Pag. 36

Green Savers Association in Dhaka, Bangladesh:

A sustainable agriculture association focused on promoting urban agriculture and creating green spaces in the city.

Pag. 38

The UN General Assembly celebrated the International Year of Youth from 2010-2011. This initiative drew attention to the important role young people play in the shaping the world's future and highlighted the contribution young people can make to realizing the goals of the United Nations Charter.

Many international organizations, institutions and entities recognize that young people need to be involved in decision-making processes related to the environment and development and play a role in the implementation of programmes and activities. Multi-agency alliances, networks, think tanks and associations help give global coverage to youth-focused initiatives and expand the reach of national and local programmes and activities geared toward young people. When working to foster young people's engagement in sustainable agriculture, FAO and other institutions believe that partnerships and collaboration on projects, programmes and initiatives build stronger alliances and lead to better outputs.

FAO and the Youth and United Nations Global Alliance (YUNGA) global flagship educational series:

An alliance of United Nations agencies, government institutions, civil society organizations and other groups that work with children and young people.

CLIMATE CHANGE IMPACTS ON AGRICULTURE GLOBALLY:

Climate change and environmental degradation are urgent threats to the future of the planet. Climate-related disasters have disproportionate impacts on children and young people especially in rural and marginalized communities. These impacts will have a direct bearing on their well-being and their human rights. Over the next fifty years, it will be the world's young generation that will be most affected by the decisions currently being made on agricultural practices and policies. By providing young people with knowledge about the impacts of climate change and possible solutions today, young people can be active agents of change in their communities and become responsible decision makers and practitioners of tomorrow. Ensuring youth participation in current decision-making processes, gives young people the chance to contribute to shaping their own future. Partnerships and networks are crucial for the exchange of information, capacity building and the mobilization of young people in large-scale, coordinated actions and processes.

INITIATIVE PROFILE:

Hosted by FAO, YUNGA is an alliance between UN agencies, civil society organizations, government

institutions (including schools) and youth groups. YUNGA partners, who include educators, programme and project implementers and members of youth organizations, have expertise in both the social and environmental sectors. YUNGA experts and educators contribute to the development and use of formal and non-formal education products, programmes and capacity building initiatives. With a combined membership of have a 50 million members, the World Association of Girl Guides and Girl Scouts (WAGGGS) and World Organization of the Scout Movement (WOSM) are key YUNGA partners.

The common aim of all YUNGA partners is to educate and develop the capacities of children and young people so that they can become active agents of care in their communities and in international fora. Their activities are intended to help boy and girls and young men and women care for and conserve the environment, natural resources, and biodiversity, and address a range of social issues. YUNGA has worked to produce a number of resources including 'challenge badges', youth guides and text books, curricula for schools, lectures for universities and materials for extensions services. YUNGA has developed the 'Climate Change Challenge Badge' and the 'Climate Change, Junior Farmer Field and Life School – Facilitators guide', and collaborated on the 2011 publication, *CLIMATE CHANGE TAKE ACTION NOW! A guide to supporting the local actions of children and young people, with special emphasis on girls and young women.*²⁰ Partners and other organizations use these resources to formulate national programmes targeting young people. YUNGA programmes and activities are currently being carried out in over 80 countries. YUNGA also works to give young people a voice in decision-making processes. For example in partnership with UNFCCC, YUNGA successfully advocated for young people to be given observer status in the climate negotiations. The youth contingent played a key role in raising the importance of the Doha work programme on Article 6 of the Convention.

The Climate Change Challenge Badge, already in its second edition, helps raise awareness about how our daily activities contribute to climate change.²¹ It also illustrates how different communities and individuals are being affected by climate change, especially with

regard to water, and food and nutrition security. The Badge's five sections provide an educational overview on climate change, looking at the impacts of climate change on natural ecosystems and biodiversity, and on human health and the economy. In all five sections the role of food production, food security and food consumption are explored in relation to climate change. The initial sections clarify the difference between weather and climate, describe the natural and human factors that cause climate change, and outline the impacts of climate change. The fourth section presents approaches for mitigating climate change and adapting to its impacts and points out important climate policy and agreements. The final section focuses on action-oriented steps participants can take in their everyday life, such as how to be energy-smart, eat green and travel in a sustainable way. Each section contains a selection of activities and projects about weather and climate, and food and consumer choices.

The *Climate Change, Junior Farmer Field and Life School – Facilitators guide* is part of a series of facilitators guides developed for the JFFLS.²² Other topics that have been dealt with in the series include aquaculture, capture fisheries, community seed banks and post-harvest issues in fisheries and aquaculture.²³ The *Climate Change, Junior Farmer Field and Life School – Facilitators guide* includes a series of exercises, and discussions about climate change issues in relation to agriculture. It helps JFFLS participants understand agriculture's role in climate change and the impacts of climate change on agriculture. The guide highlights actions and best management practices, such as climate-smart agriculture approaches, that can reduce these impacts.

WHAT ARE THE IMPACTS OF THE INITIATIVE?

The Climate Change Challenge Badge curriculum contains activities for children and young men and women. The activities are divided into five categories: Climate is Life; The Causes of Climate Change; The Impacts of Climate Change and Solutions to Climate Change and Take Action. The Badge includes activities that school classes, clubs and individuals can organize and participate in to take action against global warming, environmental degradation and world hunger. The Badge has already been translated into nine languages and has been used in many countries to develop context-specific national YUNGA climate change programmes. For example, the Scout Association in North Macedonia, the BIOM Youth Ecological Movement in Kyrgyzstan, the Girl Guide Association in Costa Rica, and the Government of Uruguay have all used the Badge to develop national programmes. Each country formulated a programme that is specifically tailored to the national situation and local contexts.

YUNGA's Junior Farmer Field and Life Schools (JFFLS) programme is an after-school training programme, jointly developed by FAO and the ILO.²⁴ The programme provides supports to young farmers between 15-25 years of age on the management of the entire food value chain, from production to marketing. Young people involved in the JFFLS programme acquire agricultural, life and entrepreneurial skills through discussions, observations, role-play and experimentation. Since 2003, over 25 000 young people in 16 countries in Africa, Asia and Middle East have benefited from the programme.

The JFFLS programme has been involved in the training of Scout leaders and Rovers of WOSM National Associations in Africa. After being provided with seeds, tools and basic resources, these trainers of trainers established a series of demonstration gardens and vegetable plots within their communities. These demonstration gardens have been expanding as Scouts have transferred their knowledge to other Scouts and community members. The programme has clearly demonstrated the effectiveness of working

with volunteer non-formal educational organizations, such as WOSM and WAGGGS. YUNGA has engaged in extensive outreach activities and has completed training activities through the World Scout Jamborees, which bring together 40 000 participants. YUNGA continues to work on national programmes with civil society organizations.

For more **information** on FAO and YUNGA, please visit the following website: www.fao.org/yunga/home/en/

Green Savers Association in Dhaka, Bangladesh: a sustainable agriculture association focused on promoting urban agriculture and creating green spaces in the city.

CLIMATE CHANGE IMPACTS ON AGRICULTURE IN BANGLADESH:

In the 2018 Environmental Performance Index report, Bangladesh was ranked 179 of 180 countries. This low ranking is based on the country's limited capacity to curb environmental pollution, for example by improving air quality, protecting biodiversity and reducing greenhouse gas emissions (Wendling *et al.*, 2018). The Environmental Performance Index is also a partial indicator for extreme vulnerability to climate change. Bangladesh's vulnerability is due to its low elevation, high population density, inadequate infrastructure and the heavy reliance of its economy on the agriculture sectors. The country is already experiencing the impacts of climate change, such

as sea-level rise, more frequent and more intense cyclones and droughts, increased flooding and soil salinization.²⁵ Large numbers of people in Bangladesh have been displaced mainly as a result of these impacts. An estimated 1 000 - 2 000 people move from rural areas to Dhaka, the nation's capital, every day (Environmental Justice Foundation, 2018). The population of Dhaka currently stands at over 13 million people and is growing by over 4 percent annually. It is one of the fastest growing cities in Southern Asia. By 2025, the city is expected to have a population of over 20 million people. Higher urban population densities increase the vulnerability people living in cities, especially the poor (UN-Habitat, 2009).

In Bangladesh, the agriculture sectors have grown remarkably over the past 20 years. To maintain this growth, however, the country faces many challenges, including the declining area of arable land, the depletion of groundwater, sea-level rise, saline intrusion and extreme weather events, such as droughts and cyclones. These challenges not only constrain agricultural production but also limit investments due to concerns about risks (FAO, 2014b).

INITIATIVE PROFILE:

The Green Savers Association, which was founded in 2010, works to enhance the functions of plants within the urban ecosystem with the goal of making Dhaka an ideal city to live in while fighting climate change. The approach of Green Savers focuses on nature, science and out-of-the-box thinking. The Association encourages the people of Dhaka to improve their understanding and appreciation of nature, and inspires them to become part of the urban socio-ecology by creating rooftop gardens at their homes. Green Savers, which has grown to a vast network with many projects and programmes, provides training, organizes workshops, conducts research and advocates for urban agriculture, urban environmental management and urban community forestry. The Association targets schools, colleges and universities to reach students and teachers, as they are considered to be important agents of change. The Green Savers Association has

won several awards and other honours.²⁶ The Green Savers are part of a wide network and collaborates with various organizations, including Save The Children, ActionAid, Practical Action and FAO. The Association also works closely with government bodies, including the city corporations, the Forest Department, the Department of Environment, and the Ministry of Education.

WHAT ARE THE IMPACTS OF THE INITIATIVE?

The Green Savers Association carries out a wide range of projects and programmes to achieve its broad objectives. The Association, which mainly targets young people in its projects, has implemented a number of initiatives related to agriculture and climate that have had notable impacts. It has established over 3 600 rooftop gardens. It has focused its initiatives on schools in the Dhaka area, setting up 380 Oxygen Banks and establishing over 360 Model School Gardens. The Association has also started up 100 Green Clubs in schools and colleges; organized 37 Plant-for-the-Planet programmes, and installed three urban lab gardens at schools. It has created at least 24 new job opportunities as 'plant doctors' in Dhaka.

Green Clubs and Oxygen Banks

In schools, the Green Savers Association supports environmental education on climate change, climate change adaptation and disaster risk reduction and management. The Association has set up Green Clubs in schools in cooperation with Save the Children and the Department of Environment in Dhaka. The Green Clubs focus on environmentally friendly technology and promote participatory hands-on activities to encourage children to become involved in sustainable agriculture. The Green Clubs manage 'Oxygen Banks', which allow children to donate a small amount of their lunch money to fund the Green Savers' Roof Gardens (Al Amin, 2018). The children also carry out regular

educational activities with other students using the funds they have collected through the Oxygen Banks.

Environment and Agricultural learning: monthly sessions

The Green Savers' Association has set up a knowledge-sharing platform called 'Krishi Patth'. Every month the platform organizes a free learning session about the environment and agriculture for students and parents of different schools, colleges and universities to increase their understanding of urban agricultural technologies.

Plant Doctors for Rooftop Gardens

The Green Savers Association has established positions referred to as 'plant doctors' who provide expertise on the management of rooftop gardens. By creating opportunities to pursue a career in urban agriculture, the Association has supported the empowerment of young people who have an educational background in agriculture and who currently face limited employment opportunities.

For more **information** about Green Savers Association initiatives and their impacts, please visit the following website: www.greensaversinfo.org

Conclusion

The ten initiatives highlighted in this publication have benefited nearly 55 000 young women and young men. They have created over 12 000 jobs for young people in the agriculture sectors and have indirectly reached nearly a quarter of a million students, farmers and families in both urban and rural areas. These initiatives have helped hundreds of thousands of young people build their resilience of their communities to the impacts of climate change.

Climate change threatens everyone. But it is today's young people that will face much of the most severe impacts of the changing climate. Smallholder agricultural producers will also likely bear the brunt of these impacts, as the agricultural sectors are highly vulnerable, especially in developing countries. The increase in extreme weather events is not just 'bad weather'. They are sign of a fundamental change in the climate, which will triggers a cascade of events that may be devastating for food and agriculture systems and value chains, and deepen food insecurity for millions of people. Many countries will experience similar impacts of climate change, such as rising temperatures, rising seas levels, change in rainfall patterns, severe floods, extended droughts, heavy and prolonged rainfall, violent storms and receding coastlines and coastal vegetation.

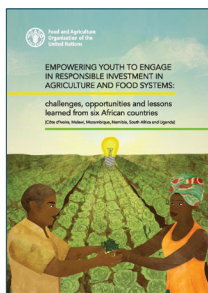
The youth-focused initiatives that address challenges related to agriculture and climate change described in this publication vary in size and reach. They are scalable and adaptable, and can be replicated in other regions and communities around the world. They have been implemented both by groups cooperating at the community level and by large intergovernmental organizations working together in partnership with private sector groups, NGOs, or governments.

Youth-led or youth-focused initiatives play a key role in achieving the objectives laid out in the Doha work programme on Article 6 of the UNFCCC. Originally, an eight-year plan, the Doha work programme underwent a mid-review in 2016.²⁷ The review concluded that progress and reporting had increased, but actions undertaken by Parties in accordance with Article 6 have not necessarily been embedded in their broader mitigation and adaptation programmes.

The case studies in this publication are intended to be of use for anyone who is committed to achieving the objectives of Article 6. They provide with examples of initiatives and platforms that can offer long-term, strategic and country-driven approaches to addressing the impacts of climate change in the agriculture sectors through education and training, and skill development at various levels. The examples illustrate how projects and programmes that are youth-led or youth-focused can deliver long-term dividends within a community. They also highlight the main pathways of engagement for young people, including: information technology and innovative services, community work, educational opportunities, rural employment and urban agriculture.

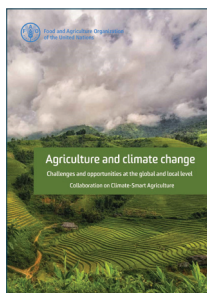
In the case studies young people were empowered to be 'ambassadors of communication', liaising with farmers and playing a leading role in developing capacities within their communities. Young people are powerful agents for change. The international community should prioritize youth-led or youth-focused initiatives in their projects and programmes because investments in the world's youth are investments in a more sustainable future.

FAO Youth publications



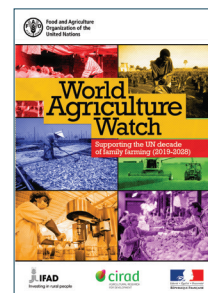
Empowering youth to engage in responsible investment in agriculture and food systems

www.fao.org/3/ca2877en/CA2877EN.pdf



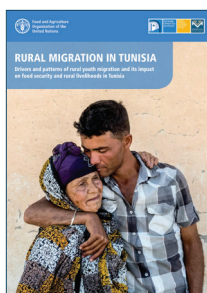
Agriculture and climate change

www.fao.org/3/CA3204EN/ca3204en.pdf



World Agriculture Watch (2019-2028)

www.fao.org/3/ca1901en/CA1901EN.pdf



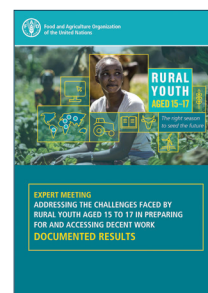
Rural migration in Tunisia

www.fao.org/3/l9193en/l9193en.pdf



Hire services as a business enterprise

www.fao.org/3/l9207en/l9207en.pdf



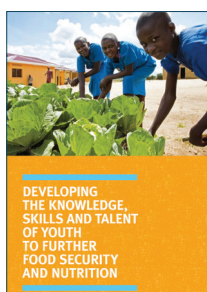
Rural youth aged 15-17

www.fao.org/3/a-i6975e.pdf



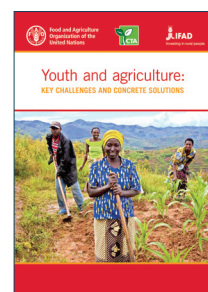
Innovative markets for sustainable agriculture

www.fao.org/3/a-i5907e.pdf



Developing the knowledge, skills and talent of youth to further food security and nutrition

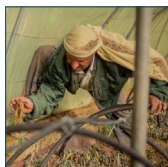
www.fao.org/3/a-i5024e.pdf



Youth and agriculture: key challenges and concrete solutions

www.fao.org/3/a-i3947e.pdf

FAO Youth e-learning



Understanding the risk environment in agriculture

elearning.fao.org/course/view.php?id=448



Promoting youth employment and reducing child labour in agriculture

elearning.fao.org/course/view.php?id=389



Migration and youth in rural areas

elearning.fao.org/course/view.php?id=376



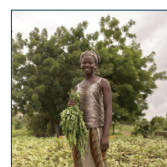
Introduction to climate-smart agriculture

elearning.fao.org/course/view.php?id=439



Water management for climate-smart agriculture

elearning.fao.org/course/view.php?id=438



Climate-smart crop production

elearning.fao.org/course/view.php?id=436



Business strategies and public-private partnerships to end child labour in agriculture

elearning.fao.org/course/view.php?id=300



Pesticide management and child labour prevention

elearning.fao.org/course/view.php?id=299



End Child labour in agriculture

elearning.fao.org/course/view.php?id=148

FAO Challenge Badges

Food Security and Climate Change



www.fao.org/3/i1091e/i1091e00.htm

Climate Change



www.fao.org/3/a-i5216e.pdf

Ending Hunger



www.fao.org/3/a-i3466e.pdf



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Additional readings

1. The Doha work programme on Article 6 of the Convention is available in all UN languages at unfccc.int/process-and-meetings/conferences/past-conferences/doha-climate-change-conference-november-2012/cop-18/cop-18-decisions
2. FAMEWS website: www.fao.org/fall-armyworm/monitoring-tools/en
3. AgriPredict website: www.agripredict.com
4. USSD (Unstructured Supplementary Service Data) is a protocol used by GSM (Global System for Mobile Communications) cellular telephones to communicate with the service provider's computers
5. Infomediary Campaign website: www.infomediary4d.com
6. Pinoy Rice Knowledge Bank website: www.pinoyrice.com
7. For more information on these pilot projects consult, FAO private and public partnership model for youth employment in agriculture Experiences from Malawi, Tanzania Mainland and Zanzibar archipelago, available at: www.fao.org/3/a-i4118e.pdf
8. For FAO, the private sector includes individual enterprises, whether entirely or partly privately owned; special purpose coalitions and consortia; financing institutions; international industry associations; other representative business organizations; intermediary organizations of private or mixed ownership; producers' organizations; private foundations; and research institutes
9. These ministries included, the Ministry for Agriculture and Natural Resources, the Ministry for Lands, Housing, Water and Energy, the Ministry for Livestock and Fishing and the Ministry for Labour, Peoples Economic Empowerment and Cooperatives.
10. The Employment for Youth in Egypt (EYE): Providing a Reason to Stay project proposal is available at: open.unido.org/api/documents/11612264/download/170034percent20Projectpercent20Proposal.pdf
11. To learn more about FAO work on capacity development visit www.fao.org/capacity-development/our-vision/en
12. For more information go to the ICA Programme webpage at www.fao.org/rural-employment/work-areas/youth-employment/ica-programme/en
13. Phase one of the ICA Programme was implemented in Malawi and the United Republic of Tanzania from 2011-2014. Phase two was implemented in Guatemala, Senegal and Uganda from 2015-2018. A third phase is currently being implemented in Guatemala, Kenya, Rwanda, Senegal and Uganda.
14. ChispaRural.gt web site: chisparural.gt
15. For more information about RAUPX visit their Facebook page at www.facebook.com/Red-de-Agricultura-Urbana-y-periurbana-Xalapa-234948896672890/?fref=ts
16. In regional development, the Xalapa area has a different meaning than Metropolitan Zone Xalapa. The Metropolitan Zone Xalapa includes Banderilla, Coatepec, Emiliano Zapata, Jilotepec, Rafael Lucio, Tlalnelhuayocan and Xalapa municipalities

Additional readings

17. A number of local organizations El Camino is cooperating with include: MYWorld Mexico; Orgánica – Huerta Sostenible; Global Ecovillage Network; Cíclica Proyecta; Coosoali; Retoño Verde; Rescate del Río Sedeño/Parque Lineal Quetzalapan Sedeño; Huerto Colmena; Centro de EcoAlfabetización y Diálogo de Saberes; Tele UV; Ritual Productora; Orquidario UV; La Cigarra; Casa Narán; Tetlanman Chantico; El Show de la Tierra; Elemento 4; Departamento de agroecología y medio ambiente; 3colibrís; and Xalapa en Transición hacia el Buen Vivir – Bosque de Niebla.
18. Information on SDG 13 is available at: sustainabledevelopment.un.org/sdg13
19. Much of the information for this case study was gathered through written interviews with Zeferino Elizur Bautista Martínez in April, 2019.
20. Available in English at: www.ifrc.org/Global/Publications/youth/AYCEOs_climate-change_take-action-now_EN.pdf
21. The Climate Change Challenge Badge is available in nine languages at: www.fao.org/yunga/resources/challenge-badges/climate-change/en
22. The Climate Change, Junior Farmer Field and Life School – Facilitators guide is available in English at: www.fao.org/3/a-i4320e.pdf
23. The complete series of JFFLS Facilitator Guides (English) are available at: www.fao.org/yunga/activities/capacity-development/junior-farmer-field-and-life-schools/en
24. The YUNGA JFFLS website: www.fao.org/yunga/activities/capacity-development/junior-farmer-field-and-life-schools/en
25. In 2016 alone, Bangladesh experienced four cyclones (Roanu, Kyant, Nada and Vardah), as opposed to the usual one per year.
26. The Prime Minister's National Award for Saving the Environment (2013); First prize in Environmental Awareness by the Department of Environment, Bangladesh (2014); Joy Bangla National Youth Award (2015); Che Guevara Youth Award and DYDF Award (2016); The Channel I Nature Care Award (2017); and the United Nations Forest Service recognition (2018).
27. The Review of the Doha work programme on Article 6 of the UNFCCC is available in all UN languages at: unfccc.int/documents/9184

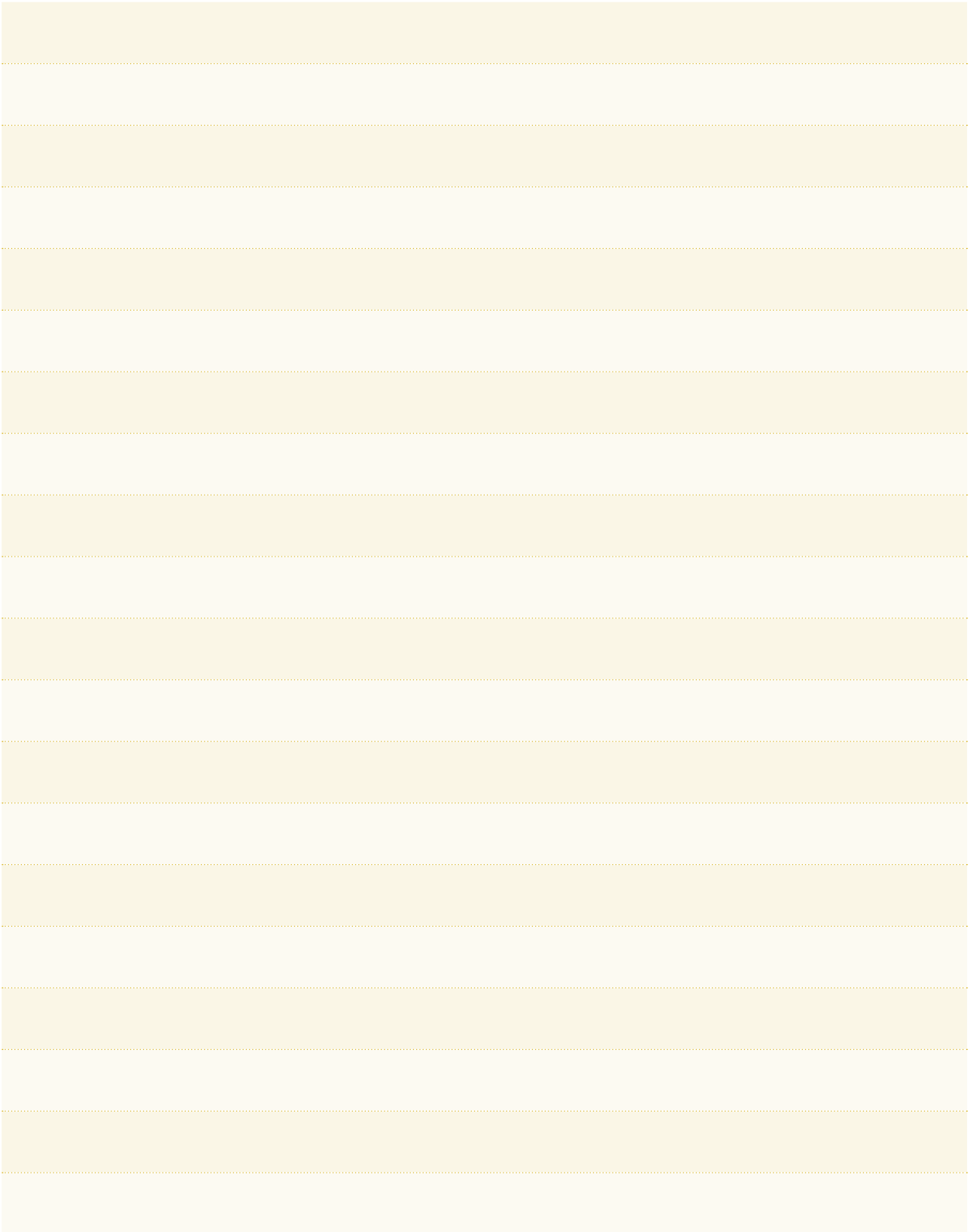
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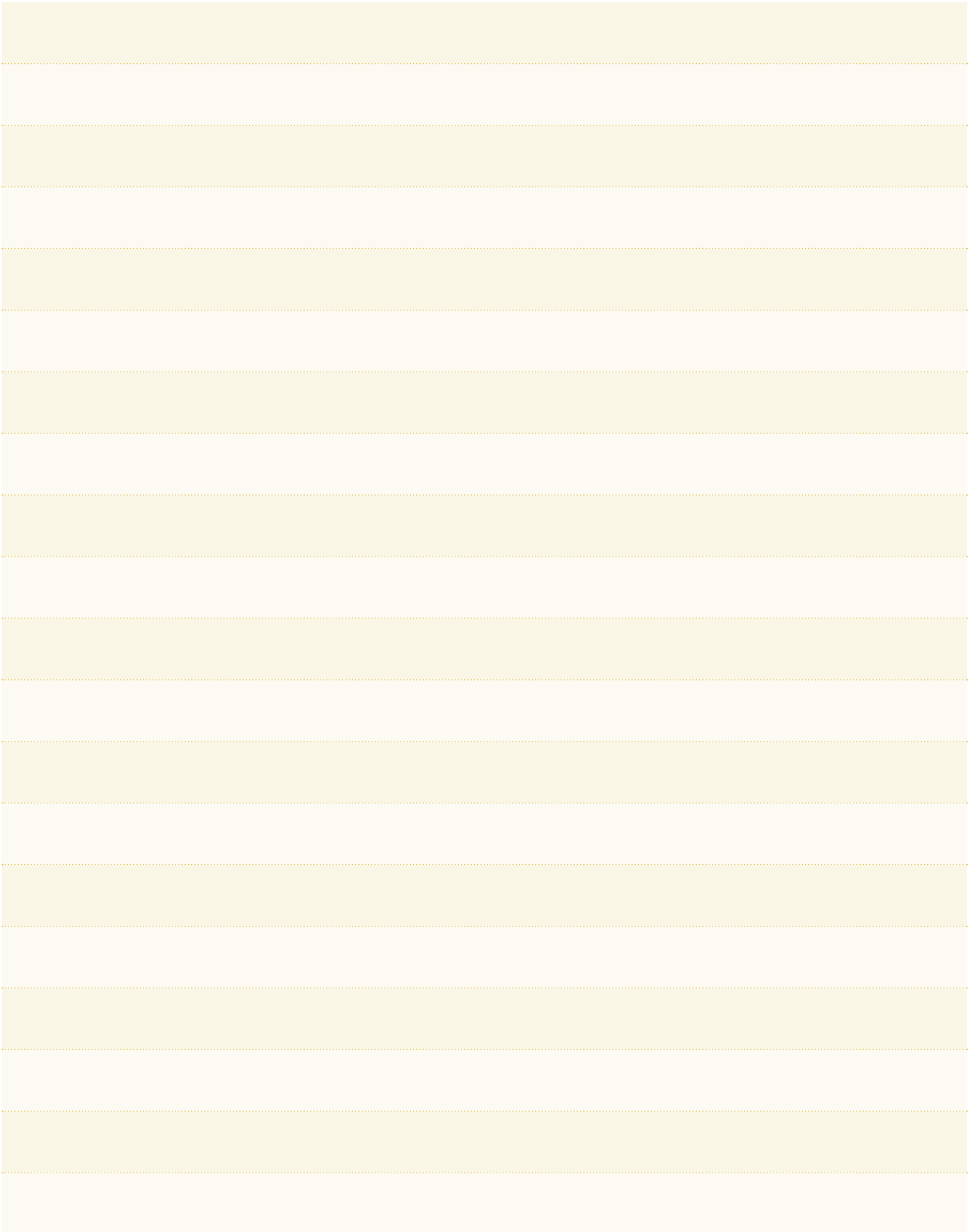
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Notes



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