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Enhancing knowledge on climate change mitigation and adaptation for food security and nutrition

Through the signing of Memorandum of Understanding in 2017, FAO and Université Laval are capitalizing on their comparative advantages to aid FAO Members' achievement of the United Nations Sustainable Development Goals.

MAIN AREAS OF ACTIVITIES:

➤ Recognizing that partnerships can enhance and facilitate opportunities that foster research and education projects for developing capacities, FAO and Université Laval are leveraging their technical expertise and resources to advance actions in the areas of agroforestry, climate change mitigation and adaptation, food safety, and food security and nutrition. This cooperative venture is advancing the uptake of innovative tools and resources to help governments and policy-makers overcome new global challenges brought on by climate change, including through combating desertification. The partnership is further contributing to the preparation and training of the next generation of climate change professionals necessary for a future of food security.
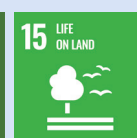
■ Beneficiary countries

Source: United Nations Map No. 4170 Rev. 18.1, February 2020

The boundaries and names shown and the designations used on this map do not imply the expression of any opinion whatsoever on the part of FAO concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers and boundaries. Dashed lines on maps represent approximate border lines for which there may not yet be full agreement.

PARTNERSHIP MILESTONES

2017 The partnership was established at the "International Symposium on Food Security and Nutrition in the Age of Climate Change" with the overall goal of enhancing institutional knowledge exchange, strengthening capacities to address global climate change mitigation and adaptation, combat desertification, and provide food security and nutrition for all.

2020 The partnership was renewed for an additional three-year period building upon past successful collaborations that fostered global food security and nutrition and safeguarding of the planet.

CONTRIBUTING TO

2 ZERO HUNGER

13 CLIMATE ACTION

15 LIFE ON LAND

KEY RESULTS

01 | Fostering agroforestry
- The partnership facilitated expert exchanges resulting in the development of the following agroforestry knowledge products:
  - Agroforestry for Landscape Restoration is an informational tool which explores the potential of agroforestry to enhance the sustainability and resilience of degraded landscapes.
  - Agroforestry and Tenure aids stakeholders in policy development and project implementation on tenure-related challenges to agroforestry adoption, aimed towards actions to mitigate climate change and increase the socio-economic and environmental sustainability of rural development.
- Partnership expertise contributed to the Europe-FAO workshop "Understanding the Contribution of Agroforestry to Landscape Resilience in Europe" which promoted the sharing of state-of-the-art knowledge and the building of mutual understanding and cooperation in the field of agroforestry between agricultural and forest sectors, with the aim of increasing ecological resilience at landscape level.

02 | Combating climate change
- Exchanges between the FAO and the Université Laval have improved the agroforestry module of the Ex-ACT (Ex-Ante Carbon balance Tool), which facilitates estimations of the potential impact of changes in land use on the emission of greenhouse gases and carbon sequestration. Such exchanges include the development of a joint publication in the scientific journal Environmental Research Letters entitled "Revisiting the Intergovernmental Panel on Climate Change Tier 1 coefficients for soil organic and biomass carbon storage in agroforestry systems" and a workshop on "The Ex-ACT tool for estimating the impact of land use changes on Greenhouse Gas Emissions" for students, professors and researchers at Université Laval.

03 | Strengthening climate change adaptation planning in Senegal
- In 2019, Université Laval joined the first collaborative project between the government of Quebec and FAO as an implementation partner. The Strengthening Agricultural Adaptation (SAGA) global project aims to enhance Senegal's adaptation planning capacities to ensure the population's food security and nutrition in the context of climate change through an interdisciplinary and multi-stakeholder approach.
- As an implementing partner, Université Laval plays a key role in enhancing and disseminating knowledge and training qualified professionals on climate change adaptation, with a focus on agroforestry and water management in Senegal through:
  - exploring the various contributions of agroforestry to improve the resilience of Senegalese agriculture to the impacts of climate change
  - optimizing water use to reduce the vulnerability of the food production sector of the Senegal river basin.

The results of the two ongoing activities are expected, respectively, in 2020 and 2021. With FAO's assistance, the generated data, models, analyses and recommendations will feed into Senegal's national policy processes to increase the agriculture sector's resilience to climate change, including through the National Adaptation Plan.

04 | Innovating food safety
- Université Laval is facilitating uptake of the FAO/World Health Organization (WHO) Food Control System Assessment tool, which introduces an approach to the automation of data processing and the selection of criteria designed to assess targeted aspects of the performance of food control systems with a view to maximizing returns on investment.
- Expertise is being deployed from Université Laval to Joint FAO/WHO Expert Meetings on Microbiological Risk Assessment (JEMRA). JEMRA is providing scientific advice on microbiological risk management and food safety.

05 | Increase awareness, promotion and capacity building on key FAO themes related to food and nutrition security and the Sustainable Development Goals
- Université Laval continues to organize communication campaigns celebrating World Food Day and International Years. One example is Université Laval's organization of documentary screenings and discussions for its students (e.g. "Refugees from the Blue Planet", "Let's change the future of migration" and "Invest in food security and rural development").
- Université Laval is integrating FAO materials into its key themes and FAO materials into learning activities to supporting the University's Research Chair in Food Diversity and Food Law.
- Université Laval has organized a workshop on integrating food security into professional practice, and established summer schools on food security and food justice.

LOOKING FORWARD

Strengthening climate change adaptation planning in Haiti

Cooperation between FAO and Université Laval within the SAGA project in Senegal will be expanded to Haiti in order to:
- replicate the methodology used to model water resources and assess climate change impacts in the Senegal river basin in the Artibonite river – Haiti's biggest basin;
- develop a practical climate change adaptation planning guide for the agriculture sectors in Haiti, based on participatory assessments, in order to provide a conceptual and informational basis for Haitian government bodies responsible for the National Adaptation Plan process.

As part of **Université Laval's Initiatives for the Future**, a new graduate programme in food security will provide interdisciplinary training through the practical application of knowledge to help promote sustainably improvements in food security in a target region, using a highly interactive, hands-on approach focused on resolving societal problems. This programme will put professors and students in contact with FAO and other international organizations, as well as with local partners.

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ABOUT UNIVERSITÉ LAVAL

A site of excellence since 1663, Université Laval is one of Canada's largest universities, with approximately 43 000 students, 17 faculties, 60 departments and schools, and nearly 500 programmes in every field of knowledge. Université Laval is also a leader in the area of research and innovation, with over 1 620 research professors divided among 250 teams and centres.

In recognition of its contribution to sustainable development, Université Laval has earned a second gold rating from the international Sustainability Tracking, Assessment and Rating System (STARS) programme for more than 10 years of outstanding commitment to the field. Already ranked first in Canada, it rose to the #2 position worldwide, out of some 800 registered universities. In 2019, the Times Higher Education Supplement ranked Université Laval 4th in the world for climate action measures.

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