

18. FARMERS ADAPTING TO CLIMATE CHANGE WITH A WATER-FOOD-ENERGY NEXUS IN BELIZE

ACTION AREA	FOOD SYSTEMS RESILIENCE
SOLUTION CLUSTER	INTEGRATED APPROACHES TO RESILIENT FOOD SYSTEMS
THEMATIC AREA	WATER-ENERGY-FOOD NEXUS
SUBMITTED BY	CAYO RURAL FARMERS ALLIANCE. WORLD FARMERS' ORGANISATION

WHAT ARE THE KEY THEMES THAT NEED TO BE CONSIDERED TO ADDRESS FOOD INSECURITY AND ENHANCE FOOD SYSTEMS RESILIENCY?

Inclusiveness: Food systems differ based on geography. Therefore, there cannot be a one-size-fits-for all approach because circumstances and production realities differ from continent to continent and region to region. The approach should be based on common ground and inclusiveness, where no one will be left behind. All farmers, including women and young farmers deserve to be empowered and provided with the same resources in terms of i.e. access to land, inputs, finance, education, to maximize their contribution towards more resilient food systems, as well as to prepare the future farmers' leadership.

Transparency: Transparency of information is required at all levels from global to grassroots, as well as in feeding the international discussion with the farm level experiences and best practices that are ready for scaling up and replication in other countries. The flow of information must be timely and effective to allow all actors to make proper decisions and take robust actions for the benefit of the world farmers and the whole population. The digitalization has to be improved as an instrument of knowledge and transparency of the chain and at the same time the property of data has to be considered a priority for farmers. Transparent and trustful relationships between farmers and consumers (the first and final stage of the food value chain, where open traceability is available) must be promoted. The farmers' share of value added in the whole approach must be not only valorised but also restored.

Farmers driven: Farmers are at the centre of food systems. Therefore, any policy-making process that has an impact on the farming sector at local, national, and international levels should involve them, through their organized structures. Representatives of farmers' organisations and cooperatives must therefore also be partners in the discussion and decisions on sustainable food systems and the 2030 Agenda for sustainable development. This approach applies to decision-making processes and its implementation, monitoring and evaluation actions

Reference: WFO-Policy-Paper-on-Sustainable-Food-Systems_approved-by-the-WFO-2020-GA_EN.pdf (wfo-oma.org)

WHAT DO YOU THINK CONSTITUTES SOCIAL RESILIENCE, ENVIRONMENTAL RESILIENCE AND ECONOMIC RESILIENCE IN FOOD SYSTEMS? WHAT ARE THE CROSS-CUTTING SOLUTIONS BETWEEN ECONOMIC, SOCIAL AND ENVIRONMENTAL RESILIENCE?

Ensuring social, environmental and economic resilience in food systems means recognizing the multidimensional nature of the farming activity replacing the old vision of agriculture as a simple "provider of raw material". Farmers ensure food security providing quality food; they are at the forefront of combating climate change; they preserve and promote biodiversity; they are committed to nurture

farmer-driven research and innovation. This translates into social resilience, environmental resilience and economic resilience in food systems.

Therefore, if we aim to align and lay the foundations for the necessary shift towards Sustainable Food Systems, this role has to be emphasised and mostly valorised, putting farmers at the centre of the transition towards sustainability. Within the World Farmers' Organisation, awareness of the centrality of agriculture and the responsibility this entails for sustainable food systems is clear and has been formalised with the adoption, in June 2020, of a policy document marking The Farmers' Route to Sustainable Food Systems" https://www.wfo-oma.org/wp-content/uploads/2020/07/WFO-Policy-Paper-on-Sustainable-Food-Systems_approved-by-the-WFO-2020-GA_EN.pdf

A route based on three guiding principles: inclusiveness, transparency and the centrality of farmers in every strategic process.

WFO proposes to focus future commitments on the following cross-cutting actions, with the central role of farmers in each of these actions:

- Involving the whole value chain
- Fighting climate change
- Structuring disaster risk management
- Attaining global nutrition security
- Enhancing Research and Innovation
- Protecting biodiversity
- Deploying investments and incentives
- Valuing the livestock sector's role
- Achieving food security
- Boosting the role of farmers' organisations and cooperatives
- Promoting inclusiveness: youth and women are key to succeed.

WHAT SOLUTIONS CAN WE PROPOSE TO ADDRESS FOOD INSECURITY AND PREVENT FUTURE SOURCES OF CONFLICT, MANAGE TENSIONS AND OTHER STRESSES IN FOOD SYSTEMS ?

- Farmers and rural communities in Belize are facing several challenges including:
- Droughts
- Forest fires
- Lack of extension services for livestock farmers
- Lack of vets specialized in sheep and goats
- Lack of organization
- Covid-19 impacts on consumer purchasing power
- High reliance on imported farm inputs

Farmers from the Cayo Rural Farmers Alliance – CRFA adopted the following solutions to increase their resilience:

- Organizing themselves & joining forces: a group of livestock & crop farmers created the CRFA Association
- Downsizing production with consequent fall of cattle prices by 40-60% in domestic market
- Diversifying production (i.e. selling horses once used for touristic activities and purchasing sheeps that are cheaper)
- Planting different forage species
- Changing their animal genetics, introducing species that are more resistant
- Investing in more efficient water harvesting techniques

WHAT IS THE POTENTIAL ACTION THAT COULD BE TAKEN?

Reducing farmers' vulnerabilities to shocks & crisis, including those caused by climate change or issues like the Covid19 pandemic which caused global food supply chain disruptions, by boosting farmers' capacity to be prepared & respond to those events, to ensure food production & well-functioning of value chains even during exceptional crisis, as well as farmers' incomes & livelihoods & those of their communities.

WHO ARE THE MAIN ACTORS THAT WOULD PUT THIS ACTION INTO PLACE?

Policymakers (government), Private (businesses, etc.), Farmers, Farmers' Organization / Cooperatives, Scientists

WHERE ARE MAIN AREAS IN WHICH THIS SOLUTION WOULD MAKE CHANGES

- Food supply chains - Inputs
- Food supply chains - Production
- Food supply chains - Retail & Marketing
- Food environments - availability
- Food environments - affordability
- Consumer behavior

WITHIN WHICH CATEGORY DOES THIS INTERVENTION MOST EASILY FALL?

- Food research, processing, technology
- Food marketing (regulations, laws, practices)
- Consumer education, training, and awareness
- Cross-cutting

IS THIS IDEA APPLICABLE TO A PARTICULAR GEOGRAPHY OR TYPE OF SETTING (E.G., SEMI-ARID AREAS, HIGHER- OR LOWER-INCOME COUNTRIES)?

The best practices are implemented in Belize with the potential to be replicated and scaled in other Countries.

WHERE IS THIS IDEA COMING FROM?

The best practice was first shared in the context of the initiative "The Climakers", the Farmers Driven Climate Change Agenda conceived by the World Farmers' Organisation and carried out with different partners, with the aim to be assessed by science against climate smartness criteria and be scaled up and replicated in other Countries.

Reference: https://www.theclimakers.org/wp/wp-content/uploads/2020/12/THE-CLIMAKERS_Stories-from-the-Field_COVID-19-Special-Edition-1.pdf

ANY OTHER COMMENTS, INCLUDING EVIDENCE OR ARGUMENTS IN SUPPORT OR AGAINST.

The best practice was assessed against Climate smartness criteria by CCAFS, with the following results:

"Most of the practices presented in this project are framed within the concept of Climate-Smart Agriculture (CSA), since they meet at least two of the three pillars, which are adaptation, mitigation, and increase of productivity. Several of the practices promoted in the project are identified within the global evaluation of Climate-Smart Agriculture carried out by Sova et al., 2018. With respect to adaptation, key practices are productive diversification, establishment of water reservoirs, implementation of improved pastures, and the use of alternative forages such as silage. These practices allow improving production in dry seasons through adaptation capacity increase of the livestock systems, and better management of climate risks. Likewise, the new breeds' introduction guarantees enhanced milk and meat production during dry spells, and periods of high temperature and relative humidity. Several practices of the project also contribute to greenhouse gases reduction, given that by improving the quality of animal feed, the methane emission by product is reduced. In addition, an improved grasslands management increases the soil carbon sequestration. It is recommended for this project to create strategies to strengthen the knowledge of the farmers as regards access to and use of agro-climate information². This kind of information may enable them to make short-term decisions that are linked to climate variability, such as diseases and weed management in paddocks. Likewise, it is recommended to assess the implementation of additional practices recommended by CIAT and the World Bank, 2018."

Reference: https://www.theclimakers.org/wp/wp-content/uploads/2020/12/THE-CLIMAKERS_Stories-from-the-Field_COVID-19-Special-Edition-1.pdf