

EGU2020-21612

<https://doi.org/10.5194/egusphere-egu2020-21612>

EGU General Assembly 2020

© Author(s) 2021. This work is distributed under the Creative Commons Attribution 4.0 License.



Inventory of Good Agricultural Practices for climate resilience in Central America

Julia Urquijo Reguera^{1,2}, José Luis Postigo^{2,3}, Ivanka Puigdueta^{1,2,4}, Laura Juarez², Eduardo Sánchez Jacob^{2,5}, Margarita Ruiz Ramos^{1,2,4}, Carlos Gregorio Hernández Díaz-Ambrona^{1,2,4}, and Leonor Rodríguez-Sinobas^{1,2}

¹Escuela Técnica Superior de Ingeniería Agronómica, Alimentaria y de Biosistemas (ETSIAAB), Universidad Politécnica de Madrid, Madrid, Spain (julia.urquijo@upm.es)

²Centre for Innovation in Technology for Human Development (itdUPM), Universidad Politécnica de Madrid, Madrid, Spain

³Universidad Rey Juan Carlos (URJC), Madrid, Spain

⁴Research Centre for the Management of Agricultural and Environmental Risks, Universidad Politécnica de Madrid, Madrid, Spain

⁵Escuela Técnica Superior de Ingenieros Industriales, Universidad Politécnica de Madrid (UPM), Madrid, Spain

Agricultural practices and technologies play a crucial role in the adaptation to climate change and disaster risk reduction, especially in contexts of high social and environmental vulnerability as in the Meso American Dry Corridor. This area, home to more than 40 million people and half of the smallholders basic grain farmers, is highly sensitive to El Niño phenomenon, associated to 30-40% decrease of precipitation and long periods of water shortages. This in turn makes agricultural production difficult to success and maintain subsistence livelihoods of the rural poor. Thus, adaptation to climate variability is key for sustainable development in the dry corridor.

In this study we develop a methodology to systematically review Good Agricultural Practices (GAP) for climate change adaptation and disaster risk reduction to gain a comprehensive overview of adaptation options that can guide policy recommendations at the local level. The food-water-energy nexus approach has been considered in this methodology.

The methodology starts analyzing good agricultural practices (GAP) already identified in the Meso American Dry Corridor documented by different types of actors (International organizations, NGOs, local and national governments, academia, private sector). They were classified in different agricultural subsectors (farming, livestock, agroforestry, forestry and fishing and aquaculture) regarding climate variability and several natural hazards such as drought and flood. Then, a live spread sheet database was developed where the best practices were organized following the criteria defined based on literature review and expert knowledge. These criteria were established to assess each potential good practice taking into account agroecological adequacy, socioeconomic viability, increase in resilience and environmental co-benefits, and specific consideration to the water-energy nexus. Finally, a group of 145 GAP were identified for the region.

Most of the GAP correspond to crop production, and they are mostly related to drought management and coping with interannual climate variability. It is observed that GAP are frequently implemented as a combination of practices and techniques as well as to face several hazards at the same time. In this regard, the analysis of water resources and the energy component should be seen under the food-water-energy nexus approach to ensure that a complete assessment of a potential GAP.