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Integrated bioenergy and food systems: Building sustainable options based on evidence

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Energy playing an essential role in society is central to development and enables modern life. At present, the energy sector heavily relies on fossil fuel supply and is the source of two-thirds of global greenhouse gas emissions. Consequently, energy policy decisions in countries will play an important role in the future. As part of an alternative energy mix, bioenergy could play a role in countries complementing current energy production in order to reduce fossil fuel dependence and increase energy sovereignty. Bioenergy and Food Security (BEFS) approach developed by FAO allows a multidisciplinary assessment of bioenergy production considering food security aspects, natural resources availability and techno-economic feasibility. By applying this approach in a country, it is possible to recognize opportunities for bioenergy production using biomass available that have been identified as available not affecting the national food security. Moreover, BEFS is able to analyze the techno-economic feasibility of different bioenergy technologies under the specific context of the country. Thus, it is possible to detect key elements such as specific profitable production conditions in the country, minimum profitable plant sizes, and price ceiling for feedstock. In this work, examples of how BEFS approach has been applied in Turkey and Egypt are presented. These examples illustrate the overall BEFS process and show how bioenergy can be used as alternative to take advantage of biomass residues to mitigate environmental impacts, as profitable option to meet national energy targets or as alternatives to promote rural development.

Biography

Sergio Rivero has completed his MSc in Energy and Environmental Management from the University of Twente in the Netherlands. He currently holds a position as Technical Consultant at the Bioenergy and Food Security (BEFS) project from the Food and Agricultural Organization of the United Nations (FAO). His previous work experience includes working on renewable energy related projects with institutions such as GIZ (EnDev project) and The Nature Conservancy.

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