61. Climate change and rainfed agriculture: how to extend the campaign and improve the Burkinabe agricultural production?

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In Burkina Faso, agriculture is the main activity of rural households. It occupies more than two thirds of the workforce and contributes more than a third to gross domestic product. Mainly rainfed, it is a subsistence agriculture which is still little mechanized and therefore highly dependent on climate conditions. In recent decades, climate change has greatly weakened the traditional systems of production through flooding, uncertainty about the dates of the beginning and end of the rainy season and with longer and more recurrent dry spells. Supplemental irrigation consists in bringing water to crops in case of dry spells, by mobilizing water from a dam, a boulis, a well or any other water resource. For areas far away from these water resources, runoff harvesting basins which are built to collect water and irrigate crops in case of dry spells, contribute to the sustainable management of waters and lands. The practice is increasingly accepted in the farmer environment and the government plans to subsidize the construction of over 10,000 basins in 10 of the 13 administrative regions of the country. A literature review combined with producer surveys and experiments, conducted within the framework of a research-development project on supplemental irrigation and climate information, allowed to obtain a number of results. Supplemental irrigation as the only discriminating parameter between two agricultural plots enables improved yields of over 25%. The early start of the campaign may be wedged since the first rains from the second decade of May, by keeping animals in sheds and under the condition of a period not longer than twenty days, between the first rains able to fill the basin and the actual start of the rainy season. According to the agro-climatic zone and the level of sealing of the basin, water can be stored between 30 and 90 days after the last rains, allowing extending the campaign by gardening or relay cropping. By combining supplemental irrigation with techniques relative to water and soils conservation, protection and restoration of soils, the use of organic fertilizer and improved seed varieties, household farms could enhance their adaptation capacities to drought and dry spells.