

11:15 Conservation agriculture and agroecology practices to mitigate climatic variations in medium altitude in Madagascar

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Conservation Agriculture (CA) has been promoted in the last 15 years in Madagascar to develop a sustainable rainfed agriculture in order to cope with low fertility upland soils, erosion, low local cropping system productivity and impact of climatic variations. We took the example of medium altitude areas (Lake Alaotra and Middle West of Vakinankatra province). If climate change is not proven in these areas, climatic variations are very high (in lake Alaotra for instance, rainfall varies from 500 to 1600 mm/year and rainy season from 2 to 5 months) and erratic rainfall patterns at the beginning of the rainy season do induce serious risks of crop failure.

In CA systems, the mulch resulting from rice straw, other plant residue and associated dedicated plant residues contributes to better cropping systems resilience and helps to mitigate climatic variations. If a limited number of farmers have effectively adopted in the long run CA, most farmers have developed intermediate cropping systems between conventional and CA that fit their own constraints and strategies, leading to a wide spread of some agroecological practices. But are such practices sufficient to cope with climate variations? Most farmers have to deal with the following trade-off: better resilience of upland cropping systems through CA practices (including Mulching) vs better immediate economic output. Changing the paradigm from conventional to conservation agriculture implies some risks and not only technical risks of crop failure. A typology of behavior is presented to identify farmers' strategies on risks in a world of multiple uncertainties (climatic, economic, and socio-political).