

ABSTRACT

Technology and market related gaps, changing climatic conditions, and policy and institutional failures are often recognized as the root causes of limited agricultural intensification in India. While access to assured irrigation is considered as a prerequisite for promoting intensification in the sector, increasing use of groundwater for the same and decreasing areas under surface irrigation would cause serious concerns for sustainability. The issues appear to be more critical for the smallholder farmers due to their limited capabilities, fragmented landholding, restricted market access, lower scale of operations, and rising costs of cultivation. Existing studies suggest that appropriate crop diversification coupled with necessary policy and institutional supports can potentially reduce pressure on natural resources and make intensification in agriculture inclusive and sustainable. This study examines the process of transition towards Non-food grains as a means of promoting inclusive and sustainable agricultural intensification in West Bengal, India. The study uses both primary and secondary data and information and applies panel data estimation techniques and qualitative methods to address the research objectives. It is found that greater irrigation facilities and more diversified crop basket increase cropping intensity, whereas rainfall, chemical fertilizers, share of agriculture in GSDP and yield have no significant impact. However, along with crop diversification and irrigation facilities, fertilizer use, road connectivity and market and storage facilities influence transition of the sector in favour of Non-food grains. In addition, the climatic factors such as relative humidity and variations in temperature also affect such transition. Nevertheless, presence of active local institutions in the form of smallholders' collectivization via farmer producer organisations (FPOs) is expected to make such transition more effective and sustainable. Hence, the present research also carries out a detailed analysis of the structure, functioning and performance of two selected FPOs from the northern West Bengal in order to get a deeper understanding in this regard. It is found that the size of the FPOs do not influence efficiency, inclusiveness and sustainability of the outcomes. Instead, effective marketing strategies, strong social and functional relationships, and active participation of farmers in collectives tend to play an important role in this regard. The study, therefore, suggests for scaling up collectivization of smallholder farmers and integrating them with markets, policies and institutions for inclusive and sustainable intensification in Indian agriculture sector.

Keywords: Collective farming, agricultural growth, sustainability, input market dynamics, small and marginal farmers, West Bengal, India