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Title: Planning for Sustainable Cropping Pattern in Haryana

Abstract

Conclusion and Findings

1. The findings of the present study indicate that the green revolution in the state has jeopardised economic viability and ecological basis of agriculture in the state of Haryana.
2. Another driver of this research has been common experience of anomalous weather and climatic conditions over the years signifying that climate change has set in motion, which, as predicated by the ITM, would have adverse impact on the water resource of the state. It is also found out prior to the green revolution.
3. Agriculture over thousands of the years has adjusted to the existing bio-climate and ecological conditions and natural resources of the region with cultivation of a number of crops as well as mix cropping is a cropping season heaving enough resistibility and viability against extreme hydrological event (e.g., drought) to assume good security at subsistence level.
4. However, the green revolution technology has changed the agricultural landscape with crop specialisation and extension of cultivation of certain crops in unlikely areas e.g. production of rice and wheat in arid condition simply by exploiting groundwater resources.
5. An examination of the preceding figures show that in Haryana (2000-01) crop combination range from two to five with dominance of rice-wheat system in fertile and well irrigated areas leaving a small area for other crop combination mostly in rain-fed areas.
6. Most of the districts in the state at present are showing a tendency towards crop specialisation rather than diversification especially in resource rich areas.
7. Agricultural production like in pre-green revolution period is more dependent on the vagaries of monsoon as increment in every input is accruing diminishing or no return. Since agricultural production depends largely on the choice of crops raised, therefore, a sustainable agriculture that ensures continued food supply largely depends on right choice of cropping systems such that maximum use of natural production potential is made and dependence on chemicals and depleted groundwater resources is minimised without compromising the present level of gross food production.

8. The analysis of cropping pattern in Haryana reveals that the share of food grains in the gross cropped area decreased in Haryana from around 86 per cent in 1960-61 to about 76 per cent in 2000-01. However, drastic shifts in the allocation of area under different crops have taken place. Apart from allocation of a large area under commercial crops like cotton and sugarcane, among food grains crops coarse cereals and pulses lost their area to rice –wheat cropping system with the phenomenal increase of area under rice.

9. Haryana has recorded as a whole a cropping intensity of (2000-01) 181 per cent, which show a much intensive use of land under plough.

10. Area and production under rice, wheat, cotton and sugarcane has increased tremendously on the cost of previously dominating crops of gram, *bajra*, *jowar*, pulses and oilseeds.

11. The study reveals that the existing rice–wheat cropping system presently dominates in the state and does not seem to be sustainable in the long run because repetition of this crops rotation every year for more than four decades has led to considerable reduction in ground water balance, deteriorating of soil health, multiplication of pest, diseases and weeds, excessive use of electricity, fertilisers and pesticides and deterioration in the overall agro-economic system of the state.

12. The optioned worked out sustainable cropping system plan, suggest increase area under pulses, oilseeds, maize, barley and other leguminous crops with decrease in area under paddy, wheat and cotton have with better crop rotation, crop-mix and crop diversification. Finally, it will help in attaining the ultimate objective of lessening the use of irrigation.

13. Water and agro-chemicals and gradually attaining soil health and this adding farmer profit, thereby, paving for an incorporation of more sustainable practise. The changed pattern of returns will have to be viewed not only from economic considerations over and above it has much more to its fold, the said and unsaid quantitateness on food front, ecological dimension and sustainable growth parameters.