SUSTAINABLE AGRICULTURAL POLICY IN INDIA

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ABSTRACT

Sustainability has become the central concern in agricultural systems in India, as small farmers a nd marginal, are grappling with the environmental impact of chemical- intensive farming,declining farm incomes, as well as adverse impacts of climate change on crop yields. This issue brief, the s econd in SPRF's series on Indian agriculture, analyses the policy responses since 2014 to concern s regarding sustainability of farm incomes, crpe yields, and current agricultural practices, it a lso briefly looks at the effects of the COVID -19 lockdown on the agricultural supply chain and th e efficacy of the government's responses to offset these effects

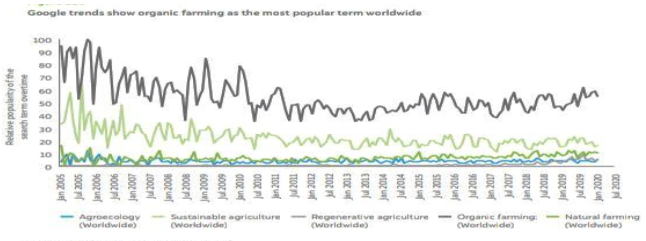
Keywords:-. *Sustainable Agriculture, Agroecology, Organic Farming, Agricultural Policy, NAPCC.*

INTRODUCTION

Sustainable agriculture, agroecology, regenerative agriculture, organic farming, natural farming a re some of the most common terms used to describe various sustainable agriculture approaches. One might ask why so many different terminologies refer to these respective but related concepts. Perh aps it is not essential to bother about the various terms as long as we know what we mean conceptu ally. However , in the absence of universally accepted definitions of each of these terms, everyon e has their interpretation of them. It also means that two different individuals may interpret or even apply the underlying philosophy or concept differently while using the same term.

SOME SPECIFIC TERMS OF SUSTAINABLE AGRICULTURE

1. **Organic Farming:-** Organic farming is a production system which avoids or largely excludes t he use of synthetically compounded fertilisers, pesticides, growth regulators, genetically modified organisms and livestock food additives.
2. **Regenerative Agriculture:-** Regenerative agriculture is a conservation and rehabilitation ap proach to food and farming systems. It focuses on topsoil regeneration, increasing biodiver sity, improving the water cycle, enhancing ecosystem services, supporting biosequestration, increasing resilience to climate change and strengthening the health and vitality of farm s oil
3. **Sustainable Agriculture:-** Sustainable agriculture is farming in sustainable ways meeting so ciety's present food and textile needs, without compromising the ability for current or fu ture generations to meet their needs. It can be based on an understanding of ecosystem serv ices.
4. **Natural Farming:-** Natural farming uses only organic matter to enhance the vitality of the s oil and enrich its inherent power. Since nature farming does not rely on commercial fertili sers, it was initially called fertilisers-free cultivation.
5. **Agroecology:-** Agroecology is not just a set of agriculture practices- it focuses on changin g social relations, empowering farmers,adding value locally and privileging short value ch ains. It allows farmers to adapt to climate change, sustainably use and conserve natural re sources and biodiversity.



Among various definitions, we selected **agroecology** as a lens of investigation in our study, as it adequately captures all the three dimensions of sustainability—economic, environmental, and social. Broadly, it refers to less resource-intensive farming solutions, provides more diversity in crops and livestock, and allows farmers to adapt to local circumstances.

AGRICULTURE POLICY MAKING IN INDIA

Agriculture is a state subject under the Indian constitution this means that even though the central government steers the overall approach in agriculture policies and crucially, disburses funds for their state-level implementation, states have the responsibility and the right to implement agricultural schemes tailored to their context. States may choose to implement central government schemes partially or not at all. This is a reasonable framework considering the diverse ecological regions in the country that would require interventions suited to the local conditions instead of one-size-fits-all policies. Thus, to a large extent, the success of policy intervention in agriculture depends on how states choose to implement central sector policies and their own plans. It is essential to note this at the outset because growth in agriculture and the fortunes of India's farmers depend on the spirit of cooperation between the various states and central government. Interestingly, cooperation has been a key area of concern as there is a need for robust mechanism that can bring policymakers from the centre and state levels to evaluate existing policy challenges and come up with possible solutions.

NATIONAL MISSION FOR SUSTAINABLE AGRICUTURE (NMSA)

NMSA was first envisaged as one of the eight missions outlined under the National Action Plan on Climate Change (NAPCC) proposed in 2008. It is the flagship central government policy that aims to make agriculture sustainable in a comprehensive manner. Thus, the mission encompasses all three dimensions of sustainability mentioned earlier. The centrally sponsored schemes under the mission are:

RAINFED AREA DEVELOPMENT: - The scheme promotes integrated farming systems involving mixed cropping practices along with horticulture, livestock, fisheries, etc. in rain fed regions of the country to improve farmer incomes mitigate impacts of extreme weather events like floods and drought. The significance of the scheme can be gauged by the fact that out of the 140.1 million hectare (mha) cultivated land under food grain production, 68.3 mha is irrigated, while the remaining71.7 mha is rain fed. Rain fed regions lack irrigation infrastructure and are characterised by low productivity, low farmer income and high risk of extreme weather conditions. Looking at the coverage target and financial allocation for the scheme over the years, it is clear that scheme consistently falls short in achieving the seat targets.

Table 1 targets and achievements under rad scheme

Year	Coverage Under Integrated Farming system (in hectare)		Expenditure (in Crores INR)	
	Target	Achieved	Target	Achieved
2015-16	42,380.6	35,543.1	152.2	123.5
2016-17	55,833.5	40,961.5	200.8	147
2017-18	72,518.3	50,075.8	270.1	180.2
2018-19	99,346.5	69,988.8	281.1	183.4

2019-20	50,114.6	45,270.5	191.1	66.6

2. SUB-MISSION ON AGROFORESTRY(SMAF):- Launched in 2016 following the adoption of the National Policy, this mission aims to increase tree plantation in an integrated manner with crop production(MoAFW2016).Agroforestry involves growing fruit-bearing or timber trees on the periphery of farms and is considered a climate-adaptive alternative to conventional agriculture. The practice has implications for improving soil health and increasing farmer incomes in the long-run. It is considered particularly beneficial to the income generation capacity of marginal and small farmers across India. The intended increase in tree cover also ties in with India's nationally determined contribution for creating an additional 2.5-3 billion tonne carbon sink by improving tree cover under the Paris agreement. A tertiary look at the data on area covered and trees planted under the scheme over the last years reveals that the plantation coverage has gone down substantially in 2019-20, despite seeing a consistent increase during 2016-2019.

Table 2 Annual area covered and trees planted under smaf

Year	Area covered (hectare)	Trees Planted
2016-17	373	4,63,159
2017-18	2,273	34,73,699
2018-19	2,819	19,37,075
2019-20	774	2,60,056

3.SOIL HEALTH MANAGEMENT:- This crucial scheme is aimed at "promoting location as well as crop specific sustainable soil health management , creating and linking soil fertility maps with macro-micro nutrient management ,judicious application of fertilisers and organic farming practices"[MoAFW 2017:7] .the flagship policy under this scheme is the soil health card scheme [SHC] launched in 2015. The SHCs;distributed every 3 years to farmers ;inform them about the status of nutrient on their land ;the appropriate crops they should choose for the crops cycle and the right nutrient dosage needed for enhancing soil fertility.The rationale of the scheme is that if the farmer knows what to grow and how to improve the soil health, he spends considerably less on inputs , sees increased production and has a decreased chance of incurring losses. Additionally, soil nutrients and organic content improves over time with this practice.

PARAMPARAGAT KRISHI VIKAS YOJNA (PKVY):- India has the highest number of organic producers in the world and ranks 9th in terms of area under organic agriculture (Mukherjee et al. 2017). Thus, the country's potential for development of organic agriculture is huge. Realising the need to promote organic farming, PKVY was launched in 2015. PKVY intends to encourage commercial organic farming in India by creating an organic certification system based on involvement of producers and consumers in the certification process so that it is characterised by mutual trust and local relevance (PKVY 2017). This kind of certification is called the Participatory Guarantee System 9PGS0 under the scheme . As of now, 27.7 lakh hectare area has been certified organic through PGS and third-party certification in India (PIB2019).

THE COVID -19 SHOCK : PREPARING BETTER

The analysis above shows that even though agriculture policy making in recent years has acknowledged and responded to the problem of sustainability in a holistic manner, severe gaps exist in implementation. These gaps make the agriculture supply chain and value chain from the farmer to the consumer as vulnerable as ever to unforeseen circumstances, whether in the form of extreme weather events or the ongoing COVID-19 pandemic. The national lockdown to contain the spread of the coronavirus came at the tail end of the rabi season when crops were about to be or being harvested. The re

strictions on movement also dented the availability of agriculture labour to harvest crops as well as posed challenges for transportation of produce from farms across the country. Any delay in harvesting does not just put the standing crop at risk of being destroyed, but also significantly delays the preparation of fields for the kharif season. Regions that have higher agriculture mechanisation may have handled the labour shortage better, but given that more 85% of India's farmers have marginal and small landholdings that cannot support widespread mechanisation, it is safe to say that most farms would have faced difficulties in harvesting rabi crops. Additionally, the government identified a decrease of 20-25% in milk demand during the lockdown that affected the income of dairy farmers.

CONCLUSION

In conclusion, it is to be noted that while the government's intention to make agriculture and allied activities environmentally sustainable, remunerative and climate-adaptive is visible in old and new schemes, gaps in implementation and deficiencies in cooperation between the centre and the state is also evident across all the schemes . Even as part of the slew of reforms brought in responses to the COVID-19 pandemic, there is neither any mention of measures to improve implementation , nor any provision for a robust mechanism to ensure greater cooperation between the state government and the centre. It is essential that the government recognises the crucial gap in administration and governance for any scheme to be successful in achieving its intended aim as well as to have any lasting impact on sustainability in agriculture.

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