



DISCUSSION PAPER

PROMOTING SUSTAINABILITY AND LIVELIHOODS IN AGRICULTURE AND ALLIED ACTIVITIES: **ENHANCING THE ROLE OF WOMEN AND PROVIDING INSTITUTIONAL SUPPORT**

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Manish Anand, and Mini Govindan*



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STAKEHOLDER CONSULTATION

A Workshop was held in association with National Rural Livelihood Mission, Ministry of Rural Development (MoRD), which was attended by representatives of NITI Aayog, Department of Land Resources, MoRD, Ministry of Agriculture and Farmer Welfare, NABARD, UN Women, PRADAN, MAKAAAM, Jagori, Landessa, and community resource persons of MKSP.

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TABLE OF CONTENTS

EXECUTIVE SUMMARY	V
ACKNOWLEDGEMENTS	VII
1. CONTEXT	01
2. SUSTAINABLE AGRICULTURE AND ALLIED SECTORS: ROLE OF WOMEN	05
3. GENDER AND SUSTAINABLE DEVELOPMENT OF RAINFED/DRYLAND AGRICULTURE	09
4. EXPANDING ROLES OF WOMEN TO SUSTAINABLE AGRICULTURE: ISSUES AND CHALLENGES	11
5. SPECIAL PROVISIONS FOR WOMEN IN GOVERNMENT POLICIES	15
6. CLOSING THE GENDER GAP: MAHILA KISAN SASHAKTIKARAN PARIYOJANA	19
7. THE WAY FORWARD	27
REFERENCES	38

PROMOTING SUSTAINABILITY AND LIVELIHOODS IN AGRICULTURE AND ALLIED ACTIVITIES: **ENHANCING THE ROLE OF WOMEN AND PROVIDING INSTITUTIONAL SUPPORT**

EXECUTIVE SUMMARY

The path to bring gender equality into the mainstream of the development debate is marked by the 2030 Agenda for Sustainable Development and Sustainable Development Goal (SDG) 5 to end all forms of discrimination against women and girls. This is reflected in the numerous poverty-reduction rural initiatives taken by the government to create farm and non-farm opportunities for women, including empowerment and livelihoods promotion.

As farmers, labourers, and entrepreneurs, women play an important role in the agriculture sector and development of rural economies. With increasing involvement in land and water management and as collectors of water and fodder, women provide critical support to the health of rainfed/dryland farms and livestock in areas where soil is unproductive, rains are erratic/insufficient, and the men have migrated in search of work, leaving the women behind to earn additional incomes through agriculture and allied activities, minor forest produce, and local enterprises. Being unpaid in nature, these efforts of women are dampened as they are not recognized as primary producers; they continue to face constraints in accessing land, credit, technology, agricultural inputs, services, and market opportunities.

The interlinkages between gender, sustainable food, and nutrition security highlight the need to identify and operationalize mechanisms and incentives that forge links among the agriculture and social welfare sectors. With the thrust on strengthening community institutions, the National Rural Livelihood Mission aims to empower poor women farmers to enhance participation, improve productivity, and pursue sustainable livelihoods through systematic investments in building knowledge, skills, and capacities. One of its sub-components, Mahila Kisan Sashaktikaran Pariyojana has helped women in self-help groups (SHGs) to access resources and services for enhanced agricultural productivity.

A localized holistic approach and an enhanced role of women collectives *vis-à-vis* promoting sustainability and livelihoods in agriculture and allied activities would include: inclusion of women cultivators in land records; adopting a gender-agriculture-natural resource management-health nexus approach; enhancing practices, choices, and concerns of women farmers in the areas of seed production, agro-biodiversity, sustainable agricultural practices, and natural resource management; empowering women in resource-efficient agricultural value chains; engendering technological innovation; aligning women collectives for impacts along multiple SDGs; and extending SHGs as a social enterprise for women empowerment and sustainability.

An enabling environment that can further empower women will comprise innovative skill sets and ICT-based improved technologies that take into account the women's needs and reduce their drudgery. An enhanced role as primary producers and higher participation in decision-making processes will lead to recognition of their contributions in the overall development of rural economy.

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01 CONTEXT

Promoting Gender Mainstreaming in the Development Agenda

- 1.1 Through its focus on leaving no one behind, the 2030 Agenda for Sustainable Development attempts to bring the role of women and girls into the mainstream of the development debate.
- 1.2 It is essential that needs and concerns of women and girls are taken into account to ensure their full participation in economic activities and to harness their potential to act as agents of change. Gender equality and empowerment of women and girls feature in Sustainable Development Goal 5 (SDG 5),¹ but it is integral to all the dimensions of inclusive and sustainable development and, hence, acts as a cross-cutting theme in all the other SDGs. Since gender inequality constitutes one of the most persistent and widespread forms of injustice, eliminating it will call for one of the history's biggest movements for change.
- 1.3 With its emphasis on eliminating all forms of discrimination, creating opportunities for effective participation and leadership at all levels of decision-making, undertaking reforms to give equal rights to women over economic resources, ownership of land, and control over natural resources, and stepping up measures for women's unpaid work to be recognized, reduced, and redistributed, SDG 5 has a special significance for rural women.

¹ Women and girls continue to suffer discrimination and violence in every part of the world. Gaps in gender equality exist in every sector. In South Asia, only 74 girls were enrolled in primary schools for every 100 boys. In 155 countries, at least 1 law exists which impedes women's economic opportunities. One in three women experience some form of physical or sexual violence in their lifetimes. (refer to in.one.un.org/page/sustainable-development-goals/sdg-5/)

- 1.4 Rural women have the potential to act as key agents for development. They play a catalytic role towards transformational, economic, environmental, and social changes required for sustainable development. Given equal resources, women could contribute much more.² In the Indian context,³ women and girls experience inequalities when accessing healthcare facilities, education, nutrition, employment, and asset ownership. Gender inequality is also reflected in India's low ranking on the World Economic Forum's Gender Gap Index, 2014, where the country ranked 127th out of 146 countries with a score of 0.563 on the gender inequality index and came 114th in the world in terms of gender gap. It is well recognized that better health can improve agriculture as it boosts a worker's capacity to do work and thereby increases production. The women workers' ability to deploy newer farming methods will increase substantially with better education. Decision-making at home and in public sphere is another area where women currently lag behind and can do better with better access and control over resources.
- 1.5 Since the adoption of the SDGs in 2015, the Government of India, state governments, and civil society organizations have been deeply engaged in the SDG process and have taken steps at the national and sub-national levels to adopt, implement, and monitor SDGs. NITI Aayog supports the agenda for sustainable development,

² FAO (2011) estimates that if women farmers (43 per cent of agricultural labour force in developing countries) had same access as men, agricultural output in 34 developing countries would rise by an estimated average of 4 per cent. (refer to [UN women.org](http://UNwomen.org))

³ This is reflected in the adverse ratio of 919 females per 1000 males in 2011, declining from 927 in 2001. Women continue to lag behind in education as is reflected in literacy rate of women being 65 per cent compared to 82 per cent for males in 2011.

and based on a National Indicator Framework, measures the progress of states and union territories (UTs) in achieving the SDG targets. However, the performance of various states and UTs on the baseline index (2019) for SDG 5 is low.⁴

- 1.6 The agenda of 'Leave no one behind' requires a robust system for identifying those at risk and ensuring that women are able to exercise their rights and benefit from their entitlements. Strategies are increasingly being devised by states on 'reaching the furthest behind first'. Concerted efforts are being made towards eliminating gender inequality by focusing on education of the girl child, providing access to healthcare facilities to girls and women, ensuring access to livelihood opportunities, and decision-making opportunities for women in public sphere (Figure 1).
- 1.7 The Draft National Policy for Women 2016 reiterates its commitment to achieve SDGs with emphasis on

eliminating poverty, inequality, and violence against women. It envisages strengthening of policies for empowerment of rural women and ensuring the rights of women over resources, services, and social protection cover. It also provides for a holistic approach to the livelihood issue through agriculture-based trainings and skill development for farm and non-farm-based entrepreneurship and right to land ownership and nutrition.

- 1.8 The national strategy to achieve Goal 5 focuses on the creation of an enabling environment while addressing institutional and structural barriers. A number of national-level schemes are being implemented by different ministries in the central government, such as the 'Beti Bachao, Beti Padhao' campaign, to generate awareness on nurturing and education of a girl child without discrimination to let them become empowered citizens of the country. Schemes such as 'Janani Suraksha Yojna' (JSY) ensure the well-being and prosperity of the girl child and the mothers. Benefits under the JSY scheme are disbursed directly to the Jan Dhan accounts of the women beneficiaries, opened under the 'Pradhan Mantri Jan Dhan Yojna' using the Direct Benefit Transfer (DBT) mechanism. One Stop Centre scheme aims to ensure safety and integrity of women, while Pradhan Mantri Ujjwala Yojana (PMUY) is aimed at safeguarding the health of rural women by providing them clean cooking fuel. Under the MUDRA (Micro-Units Development and Refinance Agency) initiative, financial assistance is provided to female entrepreneurs. Mahila Kisan Sashaktikaran Pariyojana (MKSP), a sub-component of National Rural Livelihood Mission, focuses on capacity building of women farmers.

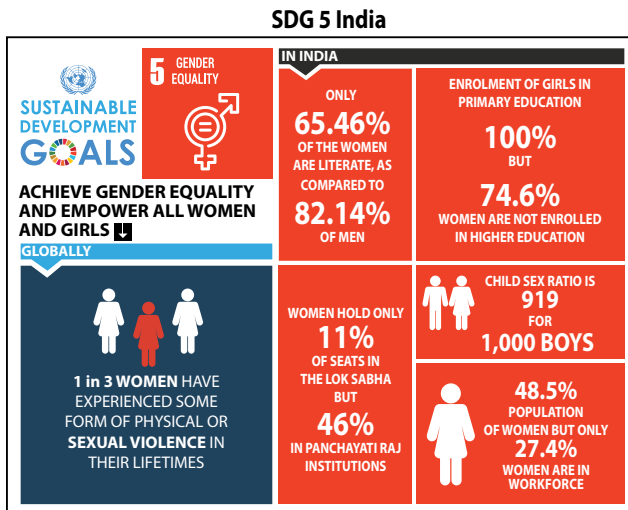


Figure 1: SDG 5 India
Source: un.org

⁴ Except for two states (Kerala and Himachal Pradesh) and two UTs (Jammu and Kashmir and Ladakh) where an index score of 50–65 has been achieved against a maximum score of 100.

SDG 5 – MAJOR SCHEMES AND PROGRAMMES

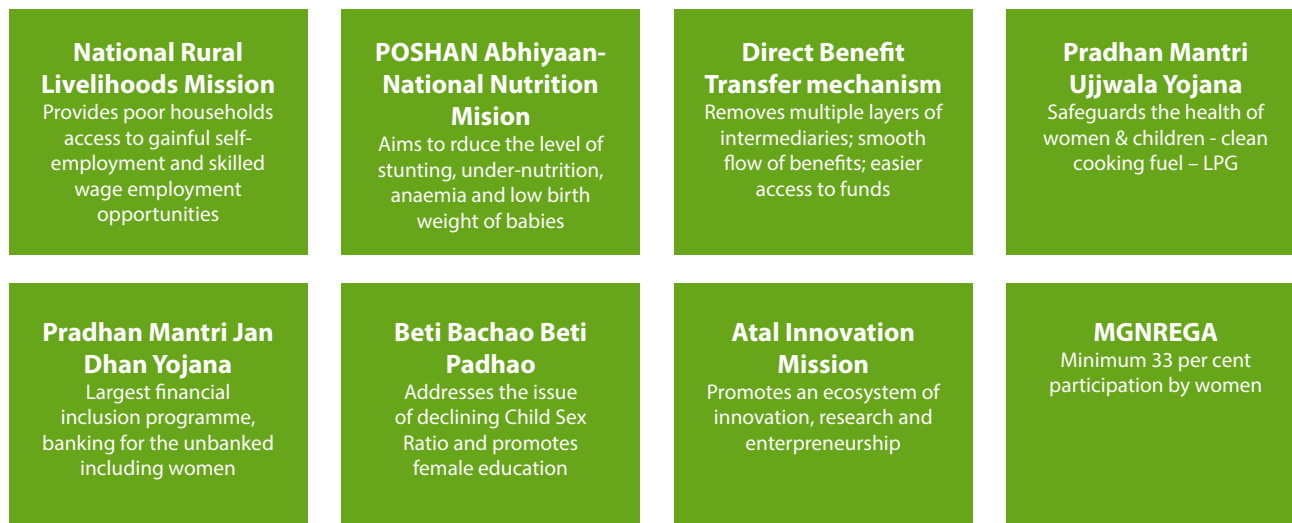


Figure 2: SDG 5 major schemes and programmes
Source: NITI Aayog

02 SUSTAINABLE AGRICULTURE AND ALLIED SECTORS: **ROLE OF WOMEN**



2.1 Providing livelihood and employment to 44 per cent of the workforce in 2018 (World Bank 2019a) and contributing about 17.2 per cent of gross value added in 2017/18 (MoAFW 2018), the agriculture sector remains fundamental for economic growth, poverty alleviation, and environmental sustainability, wherein rural women contribute significantly in three different ways depending on the socio-economic status of their family. They contribute as paid labourers, unpaid labourers– doing labour on their own/family-owned land, and managers/supervisors in agricultural production and post-harvest operations. Besides they also play an important role in the maintenance of natural processes and ecosystem services and adopt an integrated perspective to farming system that emphasizes on sustainable agricultural practices and resource-use efficiency. This further gets bolstered by their ability to respond to the barriers to farming with innovative strategies that emphasize smaller farm scales, diversified high value and value added products and enterprises, unique marketing strategies, and sustainable practices (Sachs, Barbercheck, Brasier, *et al.* 2016).

2.2 Women play an important role in allied activities as well; they undertake a wide range of activities related to livestock production, vegetable cultivation, fish processing, and dairy production and maintenance.⁵ Beyond the farm, women play a significant role in land and water management⁶ and are most often the collectors of water, firewood, and fodder. Given the extensive participation of women in all aspects of agricultural and allied activities, the mainstreaming of the gender into the agriculture sector is a key strategy not only for the promotion of equality between men and women but also for sustainable agriculture and rural development.



2.3 The role of women in agriculture and in rural labour markets varies between regions and different agro-climatic zones. The analysis of gender-wise changes in labour-force participation and workforce distribution across sectors shows a disproportionate number of women who are dependent on land: 73

⁵ Approximately 4.9 million women are engaged in milk cooperatives (NDDB Annual Report 2017–18) and as per NDDB, the annual growth rate of all women cooperatives is about 10 per cent (Economic Survey 2016/17).

⁶ This acquires immense importance in areas where budgeting of water is required for allocation of this scarce resource for agriculture, livestock, and drinking purposes.

per cent of all rural female workers and 55 per cent of all rural male workers are in agriculture, as shown in Table 1. However, in terms of earnings from employment, it is observed that women workers, in both rural and urban areas, continue to receive lower wages than men. Earnings of a male regular wage/salaried employee *vis-à-vis* a female regular wage/salaried employee are higher by 1.4–1.7

times in rural areas and 1.2–1.3 times in urban areas (MoSPI 2019). Further, in the agriculture sector, the Census of India data reveal that the proportion of women in agriculture declined from 39 per cent in 2001 to 37 per cent in 2011 and the percentage of women cultivators within female agricultural workers has reduced from 46 per cent in 2001 to 37 per cent in 2011, as shown in Table 2.

Table 1: Gender-wise percentage distribution of workers across sectors in rural areas

Sectors	1999–2000*		2004–05*		2011–12*		2017–18**	
	Male (%)	Female (%)	Male (%)	Female (%)	Male (%)	Female (%)	Male (%)	Female (%)
Agriculture	71.4	85.4	66.5	83.3	59.4	74.9	55	73.2
Mining and quarrying	0.6	0.3	0.6	0.3	0.5	0.3	0.5	0.2
Manufacturing	7.3	7.6	7.9	8.4	8.1	9.8	7.7	8.1
Construction	4.5	1.1	6.8	1.5	13	6.6	14.5	5.3
Trade, hotel, and restaurant	6.8	2	8.3	2.5	8	3	9.2	4
Other services	9.4	3.6	9.9	4	11	5.4	13.1	9.2

Source: *NSS rounds; **MoSPI (2019)

Table 2: Percentages between 2001 and 2011 of cultivators and agriculture labourers (men and women)

Category of workers	2001		2011	
	Male (%)	Female (%)	Male (%)	Female (%)
Cultivators	67.1	32.9	69.7	30.3
Agriculture labourers	53.7	46.3	57.3	42.6
Cultivators' percentage within M/F	60	46	50	37

Source: Census data 2001 and 2011

2.4 The pattern of agricultural holdings reflects a predominance of small and marginal farmers in the agriculture sector. Although women play a significant role in agriculture, they own only about

13.9 per cent of the operational holdings, with a large proportion of these (over 27 per cent) in the marginal and small category (Agriculture Census 2015–16). Since small and marginal farmers, in particular women farmers, are more vulnerable to shocks and poverty, it is imperative to focus on resource efficiency in smallholder farming to meet the Sustainable Development Goal (SDG) targets and also to attain sustainability in agriculture (Table 3).

⁷ The share of marginal holdings (less than 1 ha) to total operational holdings has increased from 62.9 per cent in 2000–01 to 68.5 per cent in 2015–16. The area operated by the marginal and small holdings increased from 38.9 per cent in 2000–01 to 47.4 per cent in 2015–16, while that of the large holdings decreased from 37.2 per cent to 20 per cent during this period.

Table 3: Operational land holdings operated by women

Different size groups	2005–06 (%)	2010–11 (%)	2015–16* (%)
Marginal (below 1.00 ha)	12.6	13.6	14.6
Small (1.00–2.00 ha)	11.1	12.2	13.3
Semi-medium (2.00–4.00 ha)	9.6	10.5	11.5
Medium (4.00–10.00 ha)	7.8	8.5	9.6
Large (10.00 ha and above)	6.0	6.8	7.7
All size groups	11.7	12.8	13.9

*Source: MoF (2019)

2.5 The social and cultural aspects around agriculture have been witnessing changing trends. Women's role has been growing with the 'feminization of agriculture' as the men are migrating to urban areas in search of productive employment, leaving women to manage the farmlands. Other factors include rise of women-headed households and growth in the production of cash crops which are labour intensive and primarily managed by women. While the women are now *de-facto* playing multiple roles in managing farm and non-farm activities,

particularly in the dryland areas, their typical work continues to be limited to less skilled jobs, such as sowing, transplanting, weeding, and harvesting and rearing livestock among other things that fall within the broad framework of domestic life. Participation of women as unpaid subsistence labour in agricultural work is also quite common. Though the number of women's tasks, both in farm and in non-farm activities, is increasing, it is often treated as an extension of their household work which in turn becomes a dual burden of domestic responsibilities.

Box 1: Indian paradox – feminization or defeminization of agriculture?

It is well accepted that India is witnessing a phenomenon of 'feminization' co-existing with 'defeminization' of agriculture. Feminization of agriculture is seen broadly as an increase in the percentage of women in the agricultural workforce relative to men, as fewer men are working in agriculture, which is reflected in the Agricultural Census (2015–16). The Economic Survey 2018 also identified the increasing number of women in multiple roles as cultivators, labourers, and entrepreneurs and acknowledged the need for a 'women-centric agriculture policy'. The percentage of female operational holdings in the country increased from about 11.7 per cent in 2005–06 to around 13.9 per cent during 2015–16. However, the increasing contribution of women to agriculture alongside the declining economic stake of women has been a serious concern of the decade. Studies have indicated that feminization of agriculture has no necessary relationship with the wide indicators of women's social or economic empowerment (Pattnaik, Lahiri-Dutt, Lockie, *et al.* 2018). Moreover, their control over resources and access to education, credit, and market information are limited. As agriculture gets more oriented towards markets and mechanization both at input and output levels, due to a variety of socio-cultural-economic reasons, men are more likely to be at the helm of affairs and push women to more marginal and invisible roles in this market-driven paradigm of farming. Similarly, aspirations of rural women who are exposed to paid labour opportunities under the Mahatma Gandhi National Rural Employment Guarantee Scheme

(MGNREGS) have shifted away from unpaid agricultural work on family farms towards more formal, paid work. The NSSO data on Female Labour Force Participation Rate (FLPR) indicate that in rural areas the decline is steeper where it has declined from 330 per 1000 in 1993 to 253 per 1000 in 2011 as compared to urban areas from 165 to 155 over the same period. Studies indicate that when rural women are educated, they prefer to move away from agriculture and look mainly for better quality jobs, especially salaried work (Chatterjee, Desai, and Vanneman 2018). Women's contribution and presence in allied activities, such as dairy and poultry, also often go un-noticed since dairy cooperatives and other societies are predominantly governed by men.

2.6 The agriculture and allied sector has been undergoing gradual structural change since several years. The share of livestock and poultry and fishing and aquaculture, where contribution of women is more significant, has increased gradually in gross value added in agriculture. For instance, their major share in the labour input to livestock rearing including the management of manure is not only critical for the household's livelihood but also for the long-term maintenance of soil fertility and land productivity. The growth rate of the fishing and aquaculture sector more than doubled from 4.9

per cent to 11.9 per cent between 2012–13 and 2017–18, and the livestock sector registered an average growth of about 8 per cent during the last 5 years,⁸ as represented in Figure 3. Further, women play an important role as agri-entrepreneurs and are involved in processing, packaging, logistics, and marketing of agri-food products. Similarly, the role of women in commercial value chains for high value products such as fresh fruits, vegetables, and flowers and livestock products, which are growing rapidly in recent years, needs to be analysed.

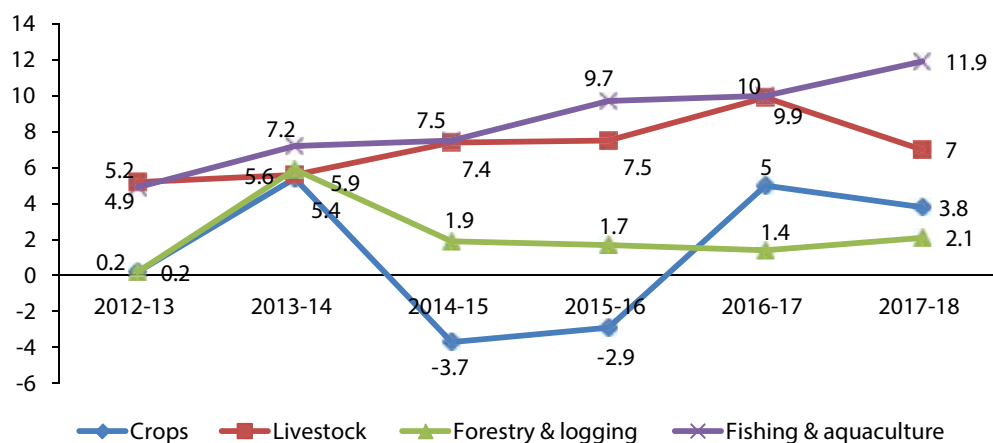


Figure 3: Growth rate of gross value added in the agriculture and allied sectors (2011–12 prices)
Source: MoF (2019)

⁸ Economic Survey 2019/20

03 GENDER AND SUSTAINABLE DEVELOPMENT OF RAINFED/DRYLAND AGRICULTURE

3.1 Rainfed/dryland farming⁹ is a major part of agriculture in India, as 52 per cent of total cropped area is without assured irrigation. Drylands constitute significant proportion of the rainfed areas, mostly in Gujarat, Madhya Pradesh, Rajasthan, Chhattisgarh, Uttar Pradesh, and Tamil Nadu. These areas are characterized by extreme rainfall variability, recurrent but unpredictable droughts, high temperatures, and low soil fertility. Rainfed agriculture supports an estimated 40 per cent of population and has a large share of cropped area occupied by rice (42 per cent), pulses (77 per cent), oilseeds (66 per cent), and coarse cereals (85 per cent). Harbours about 78 per cent of cattle, 64 per cent of sheep, and 75 per cent of goat, rainfed areas cater to most parts of the meat markets in the country.

3.2 The traditional roles and knowledge of women in dryland and rainfed areas for sustainable agriculture, natural resource management, particularly in common lands, forests, and water, and food security are crucial. Women play an important role in seed collection, conservation, and



⁹ The climate of rainfed/dryland farming ranges from arid, semi-arid to sub-humid, with mean annual rainfall varying between 412 mm and 1378 mm.

maintenance. Women are involved in both crop and livestock production in rainfed/dryland areas and their role remains critical in terms of both the extent and the nature of the labour performed in agriculture. In rainfed areas as well as in mountain agricultural systems, women are significantly involved in most of the activities of crop production such as sowing, weeding, plant protection, maintenance, harvesting, food preparation, storage, preservation, treatment, and marketing of crops. Within pastoralist and mixed farming systems, women are heavily engaged in livestock rearing and play a critical role in long-term maintenance of soil fertility and land productivity.

3.3 Women's workloads are greater in non-irrigated than irrigated areas, due to poorer economic standards in non-irrigated areas. However, data on the number of women farmers and their operation holdings in the major dryland and rainfed agro-system in India reveal a disproportionately lower share of women in the area operated *vis-à-vis* the number of land holdings operated by women, as shown in Table 4. Furthermore, crop production in rainfed areas is low and there are several challenges in such areas on account of poor land quality and lack of moisture, including low access to resources and finances rendering increased vulnerability to women farmers. Also, rainfed agriculture especially kharif (summer) crops may be more vulnerable to the adverse repercussions of climate variability. If no measures are undertaken, then it has been projected that there will be reduction in agriculture yields in medium term (2010–2039) by up to 4.5–9 per cent and in long term (2040 and beyond) by more than 25 per cent and a fall in gross domestic product (GDP) growth in medium term by up to 2 per cent per annum.

Table 4: The numbers and areas of operational land holdings operated by women in major dryland/rainfed agricultural regions in India (in percentage)

States	Marginal (<1 ha)		Small (1–2 ha)		Semi-medium (2–4 ha)		Medium (4–10 ha)		Large (>10 ha)		All size groups	
	Number	Area	Number	Area	Number	Area	Number	Area	Number	Area	Number	Area
Gujarat	39.6	11.6	30.6	24.3	20.4	31.0	8.8	27.4	0.8	5.7	16.5	15.9
Madhya Pradesh	56.2	20.9	26.2	28.9	12.9	27.0	4.5	19.8	0.3	3.3	11.9	9.6
Rajasthan	49.5	10.7	20.8	13.7	15.0	19.6	11.7	33.2	3.0	22.8	10.1	7.9
Chhattisgarh	69.1	27.8	18.4	26.0	9.2	24.4	2.9	16.5	0.4	5.4	13.8	11.1
Uttar Pradesh	86.8	53.6	9.3	23.0	3.2	15.5	0.7	7.0	0.1	0.8	7.7	5.8
Tamil Nadu	81.3	42.1	12.7	26.4	4.7	18.7	1.2	9.7	0.1	3.1	19.7	17.4
Andhra Pradesh	72.3	34.6	18.5	30.6	7.6	22.9	1.5	9.7	0.1	2.2	30.1	27.2
Telangana	65.1	31.3	24.4	34.9	8.7	22.8	1.7	9.3	0.1	1.6	23.0	22.4
Maharashtra	53.9	20.2	28.8	31.8	13.5	28.4	3.5	15.8	0.3	3.9	15.5	14.1

Source: MoAFW (2019)

3.4 Rainfed and dryland agriculture has not been given adequate attention in government policies. The area is important from the perspective of nutritional security, since it supports a large share of the production of nutritious crops such as millets, pulses, oilseeds, and livestock. Juxtaposing the important role played by women farmers and the challenges experienced by them, building drought resilience through the management of productive resources in dryland agro-ecosystems can be achieved with the help of gender-mediated roles in water resource management and optimization, improvement, and expansion of available land resources coupled with diversification of crops and establishment of silvi-pasture system. Besides strengthening sustainability of these fragile and degraded agro-ecosystems, duly acknowledging and involving women has resulted in women's increased access to nutrition and income, whereby

providing much needed impetus to their financial, social, and political empowerment (Sharma, Shalander, Padmaja, *et al.* 2016).

3.5 Contrary to the common belief that women are a homogeneous group, women's participation in farming and other activities differs according to the situations and the community to which they belong. Caste, class, age, education, family size, and her position within the family are among many socio-cultural factors identified as influencing women's involvement in resource management (Mollett and Faria 2013). Despite their important roles and extensive knowledge, women in rural areas often face constraints in their efforts to contribute to food and nutrition security. The issues and challenges faced by rural women are presented in the next section.

04 EXPANDING ROLES OF WOMEN TO SUSTAINABLE AGRICULTURE: ISSUES AND CHALLENGES

4.1 Some of the major issues plaguing the agriculture sector in India include fragmentation of individual landholdings, degradation of quality of land, policies focusing predominantly on irrigated agriculture rather than on rainfed areas, lack of attention to nutritional issues in agriculture, implications of climate change impacts, etc. Some of the issues and challenges typically faced by rural women are discussed further.

4.2 Lack of recognition of women's role: Despite a significant contribution of women in the production process albeit on an unpaid basis, a bias has persisted among development planners to not treat women as primary producers but only as consumers of social services. A study by Singh and Vinay (2013) has highlighted that the role of women in agriculture as female labourers is not featured in India. Despite significantly contributing in crucial activities such as sowing, transplanting, and post-harvest operations they remain as invisible workers. This unpaid labour of women renders them being unnoticeable to the planners despite their shock-absorbing contribution by means of feeding themselves and their families. Where rural employment opportunities do exist or open up for women, these tend to remain largely voluntary, underpaid, and incentive based. Even the schemes launched by the government tend to overlook their claims for better treatment. This unnoticed labour of women has led to perpetuation of a cycle of drudgery, non-upgradation of skills, and non-participation in decision-making processes by the rural women to the detriment of development of the rural economy.

4.3 Skill development: Researchers have revealed that owing to lack of avenues for skill development, women are relegated to work long hours in low-skill farm activities such as sowing, transplanting, weeding, and harvesting that are time consuming, labour intensive, and monotonous, and often fit well within the framework of domestic life and child-rearing. Performed manually, these jobs cause considerable physical and mental fatigue and health problems. Further, with increasing mechanization of agriculture, many women may be replaced from production cycle unless skill development opportunities are created for them to learn to operate machinery. Moreover, an estimated 52–75 per cent of Indian women engaged in agriculture are illiterate, creating an education barrier that prevents them from participating in more skilled labour sectors. Lack of skills, education, and employment mobility render majority of women vulnerable to participate in the agricultural sector.

4.4 Land ownership and records: As per Census 2011, women formed more than 75 per cent of the agriculture sector workforce. Out of the total female main workers, 55 per cent are agricultural labourers and 24 per cent are cultivators. However, only 13.9 per cent of the operational holdings are owned by women, which reflect gender disparity in ownership. Moreover, there is concentration of operational holdings (25.7 per cent) by women in the marginal and smallholding categories. While access to land continues to be problematic for poor persons, access by rural women is further restricted because of inheritance laws and customs and there has been no uniformity in inheritance laws, with various religious communities governed by their own personal laws and different tribes by their customary laws. As per the Hindu law

¹⁰ Although 75 per cent women participate in the workforce in rural India, their contribution towards economic activities is counted for only about 33 per cent.

of succession, women were kept outside of the domain of landholdings for a long period, and it was only after the amendment in the Hindu Succession Act in 2005, whereby equal rights were awarded to daughters in their father's ancestral property. However, it will take substantial time to see the effects of various policies that the Government of India has introduced to promote women ownership in land, such as waiver in registration fee, subsidies on stamp duty, etc. The land records maintenance leaves a lot to be desired in several states (e.g., in Jharkhand). In some states¹¹ a database of surplus public land has been created and distributed to landless families headed by women and landless women farmer collectives.¹² However, the process is slow and requires continuous follow-up. The absence of gender-disaggregated data on ownership of assets impedes policymaking processes, and adversely impacts the women engaged in agriculture and other allied livelihood activities owing to lack of targeting and outreach services in schemes where land ownership is the basis for design and delivery.¹³ The Department of Land Resources has taken a reformative step by including information regarding gender disparity in land ownership by creating additional fields in the land-records databank. These data are useful in monitoring the effectiveness of the schemes and programmes of the government to promote women's land ownership. It should also be noted that even when the land is in the name of women, they may not have actual decision-making power in terms of cropping pattern, sale/mortgage, and purchase of land.

4.5 Limited access to resources: Major constraints faced by rural women include lack of access to land, credit, training, marketing facilities, extension services, government schemes, support services, compensation, insurance facilities, etc. Whenever

women have access to land, they tend to have smaller and less productive plots with lesser secure tenancy in comparison to men. Further, the development of technologies specifically tailored to women-specific occupations and involvement of women in technology development and transformation have not received enough attention from both scientific and administrative departments of governments. These challenges get more intensified in the case of dryland and rainfed areas. Policies in relation to such areas have to take into account the poor land quality, lack of moisture, and low access to resources and finances for rural women.

4.6 'Poor' credit: Microfinancing and other credit facilities are largely inaccessible to women due to lack of ownership of assets. Kisan Credit Card and other such credits are also not easily accessible to women. Rural financial institutions are often hesitant to accept women clients because they are unable to meet collateral requirements and are inexperienced borrowers. In this context, NABARD has launched a 'Micro Credit Innovation' programme to solve the issue of access to credit to women farmers and self-help groups (SHGs) by relaxing the requirement of collaterals for extending loans. They have also initiated the SHG-bank linkages programme to make the microfinancing robust and cost-effective for women in rural areas.

4.7 Weak market linkages: Women engaged in agriculture, forestry, and fishery tend to produce small quantities and have poor access to organized marketing and cooperatives. Inadequate awareness among women farmers and SHGs about the potential benefits of collectivization and non-availability of competent agency for providing handholding support are added constraints. Therefore, women sell mainly to private traders and have low bargaining power. Access to markets can have meaningful impact on women's incomes and may result in strengthening of their assets and decision-making capacity not only by addressing barriers to women's engagement in agricultural markets but also by promoting women's economic

¹¹ Such as Tamil Nadu, Andhra Pradesh, Rajasthan, and Maharashtra

¹² Joint consultation paper – NCW, UN Women, and MAKAAAM, 2016–17

¹³ As per the National Policy for Farmers 2007, the status of 'farmers' is granted to anyone who tills the land, replacing the current practice of identifying a farmer through land ownership and possession. However, this is yet to be implemented.

leadership in agricultural markets. Institutions that promote women's group access to market need to be strengthened.¹⁴

4.8 Lack of awareness and capacity in the extension system:

The contribution made by women on farm and even in home is not computed in monetary terms; as a result, they are by-passed in government planning schemes and programmes and also in developing strategies to successfully implement them. NSSO reports that women lead almost 18 per cent of agricultural households and there is not a single area of agriculture in which they are not involved. However, convergence of government schemes on agricultural and rural development programmes has been an issue. Lack of awareness about the schemes and the application process leaves women devoid of the benefits. Women farmers also lag in addressal through extension efforts. The need for innovative changes in extension programmes for women farmers is felt. The need for capacity building and skill up-gradation of farm women has of late begun receiving the priority it deserves. Special extension and technology dissemination programmes for women are being implemented, which will be discussed subsequently. However, the span of attention and pace of execution need to be consistently intense to catch up with the lagging status of women. Moreover, by linking the knowledge and information flow among women,

socio-economic progress can be achieved (Dhaka, *et al.* 2012).

4.9 Environmental impacts: Because of their important role and dependence on natural resources along with their socially constructed roles and responsibilities, it is evident that climate change impacts women disproportionately, particularly those connected to agriculture and allied activities. Although the scale and scope of impact of climate change on women's lives is not well understood due to inadequate data, financial risk because of climate change led to crop failures, and natural disasters as a consequence of climate change create greater risk for women rendering them more vulnerable to exploitation, particularly in the context of pre-existing economic vulnerability. Hence, it is often quoted that responses to climate change in agriculture must be gender specific and the initiatives need to ensure that women are included in climate change mitigation and adaptation activities and the strategies should be designed to enhance food security and livelihoods. However, traditional agricultural methods adopted by women subsistence farmers are known to have environment-friendly features, such as seed preservation, natural fertilizers, and crop rotation techniques, among others, which need to be given due recognition and these need to be included in mitigation and adaptation measures.

¹⁴ A pilot project initiated by PRADAN in Odisha towards improving the lives of women in rural areas (among other things) demonstrated how collectivization of crop-production or Agriculture-Production Clusters Approach (APCA) is an economically viable business model for small farmers or SHGs. It also demonstrated entrepreneurship development among women in Odisha as an outcome of this undertaking.

05 SPECIAL PROVISIONS FOR WOMEN IN GOVERNMENT POLICIES



5.1 Agriculture is an important component of rural livelihoods.¹⁵ Women play a pivotal role in all agricultural operations from planting through harvesting to post-harvest processing and marketing. With a view to focus on gender equality and empowerment of women and girls, several initiatives have been taken, such as earmarking of at least 30 per cent of the budget allocation for women beneficiaries in all ongoing programmes and development activities; initiating women-centric activities to ensure benefits of various beneficiary-oriented programmes and schemes; and, focusing on women self-help groups (SHGs) to connect them to microcredit facilities through capacity-building activities, and to provide information and ensuring their representation in different decision-making bodies.

5.2 Institutional framework reflecting the national commitment to empowerment of women farmer is spread across various schemes, legislations, legal

principles both within and outside the Ministry of Agriculture and Farmers Welfare. For ensuring that policies and programmes in the agriculture sector address the gender dimension, a National Gender Resource Centre in Agriculture (NGRCA) was set up in the Department of Agriculture, Cooperation & Farmers Welfare (DAC&FW) in 2005–06 to act as a focal point for convergence of all gender-related activities. NGRCA undertakes and supports training, research, and advocacy of mainstream gender issues in agriculture and management of natural resources. Some of its current research activities include the following:¹⁶



- ▶ Adoption of gender-friendly tools by women farmers and its impact on their lives
- ▶ Schemes for improving women farmers' access to extension services and gender mainstreaming in agriculture
- ▶ Kisan credit card and issues related to credit availability to women
- ▶ Gender-based impact analysis of ATMA (Agriculture Technology Management Agency) programme

¹⁵ Almost 70 per cent of India's population, which is 1.2 billion, lives in rural areas (Census 2011).

¹⁶ KRISHI VISTAR, Directorate of Extension, Department of Agriculture, Cooperation & Farmers Welfare, Government of India

5.3 The National Policy for Farmers 2007 considers gender mainstreaming as an important pillar and envisages the following measures towards empowerment of women farmers:

- ▶ Asset reforms under land, water, and livestock for an equitable share to women farmers
- ▶ Better access to inputs and services, science and technology, implements, credit, and support services such as crèches, child care centres, nutrition, health, and training
- ▶ Encouragement to women for participating in group activities aimed at achieving economies of scale through farming groups
- ▶ Involvement of women in conservation and development of bio-resources

5.4 The Ministry of Agriculture has undertaken pro-women initiatives by earmarking at least 30 per cent of the benefits and resources for women in the beneficiary-oriented schemes and providing some special provisions for women under different schemes/programmes/mission¹⁷ pertaining to the areas of horticulture (Mission for Integrated Development of Horticulture), agricultural extension (National Mission on Agricultural Extension and Technology), crops (National Food Security Mission, National Mission on Oilseeds and Oil Palm, and Bringing Green Revolution to Eastern India), agricultural marketing (Integrated Scheme for Agricultural Marketing), mechanization and technology (Sub-Mission on Agricultural Mechanization), seeds (Sub-Mission for Seeds and Planting Material), rainfed farming systems (Rainfed Area Development Scheme and Sub-Mission on Agro Forestry under National Mission for Sustainable Agriculture, Per Drop More Crop component under Pradhan Mantri Krishi Sinchayee Yojana), and agricultural insurance (Modified National Agricultural Insurance Scheme, Weather Based Crop Insurance Scheme, and Coconut Palm Insurance Scheme).

5.5 The ATMA scheme, which was conceptualized based on the experiences and insights from National Agriculture Technology Project, envisages the involvement of key stakeholders for sustainable agricultural development in a particular district. A number of provisions have been made specifically for women, such as establishment and supporting food security groups exclusively of women farmers under ATMA cafeteria as a mandatory activity through setting up of kitchen garden, promoting off-farm activities like piggery, goat rearing, bee-keeping, by providing financial assistance to two groups per block with Rs 10,000 per group per year. In the team of committed extension personnel under ATMA, the position of a 'Gender Coordinator' in every state has also been created to ensure that funds and extension services are provided to women farmers in proportion to their numbers. Representation of women farmers is ensured in decision-making bodies in the state, district, and block farmer advisory committees and ATMA governing and management committees at the district level.



5.6 Outside the institutional set-up of the Ministry of Agriculture & Farmers Welfare, the National Policy for Women 2016 (draft) enunciated by the Ministry of Women and Child Development recognizes gender

¹⁷ For details see, Farm Women Friendly Hand Book, National Gender Resource Centre in Agriculture, Ministry of Agriculture & Farmers Welfare, Government of India

equity as an important concern for sustainable agriculture development. It calls for providing gender entitlements to land and ownership of assets, developing gender-disaggregated land ownership database, encouraging and incentivizing women SHGs and cooperatives in following sustainable agriculture practices, and utilizing their skills and capacities as agricultural extension workers – ‘Krishi Sakhis’. Emphasis is also on involving women farmers in on-farm participatory research, developing women-friendly farm technologies/ equipment and their database, and developing skill sets for enhancing livelihood opportunities in agriculture and allied sectors (forestry, livestock, poultry, and fishery).

5.7 With the introduction of Gender Budget Statement in 2005–06 by the Ministry of Finance, gender budgeting has been recognized as an important tool to mainstream gender-related concerns aiming at assessing resource allocation for women and establishing the connect between the commitments on gender and their budgetary provisions. Further, Gender Budget Cells (GBCs) have been set up to serve as focal points for mainstreaming gender through gender budgeting. Accordingly, a GBC has also been constituted in the DAC&FW for addressing gender concerns in public expenditure and

budgetary commitments of various schemes under the DAC&FW and ensuring benefits to women farmers.

5.8 Gender Budget Statement of the Ministry of Agriculture and Farmers Welfare indicates that there has been a substantial increase in the actual expenditure in 2018–19 as compared to 2017–18 under two schemes with 100 per cent women-specific allocations of Department of Agricultural Research and Education, for Central Institute of Women in Agriculture and All India Coordinated Research Project on Home Science in Bhubaneswar, as shown in Table 5. There are 13 beneficiary-oriented schemes of Department of Agriculture Cooperation and Farmers Welfare, as listed in Table 6, which have 30 per cent budgetary allocations in the gender component. Of the 13 schemes, more than three-fourth of the budgetary allocations have been for the four major schemes, namely, Rashtriya Krishi Vikas Yojna, Pradhan Mantri Krishi Sinchai Yojana – Per Drop More Crop, Mission for Integrated Development of Horticulture, and National Food Security Mission, as shown in Table 6. Empirical studies, however, suggest that the budgetary allocations for women in select agricultural schemes have not led to much success in terms of addressing gender gaps because of mismatch between women’s presence in agriculture and budgetary allocations.

Table 5: Allocations under 100 per cent women-specific programmes of the Ministry of Agriculture (Rs. in crore*)

Ministry/Department	2017–18	2017–18	2017–18	2018–19	2018–19	2018–19	2019–20	2019–20
	BE	RE	AE	BE	RE	AE	BE	RE
Central Institute for Women in Agriculture, Bhubaneswar	14.94	9.64	2.89	10.64	11.00	15.37	11.50	7.32
All India Coordinated Research Project on Home Science, Bhubaneswar	29.10	10.10	7.82	11.10	9.00	24.60	9.34	5.72
Total	44.04	19.74	10.71	21.74	20.00	39.97	20.84	13.04

* In Indian currency, 1 crore = 10 million

AE: Actual expenditure; BE: Budget estimates; RE: Revised estimates

Source: Expenditure Profile 2020–2021, Ministry of Finance, Government of India

Table 6: Allocations under 30 per cent women-specific programmes of the Ministry of Agriculture (Rs. in crore*)

Scheme	2017-18 BE	2017-18 RE	2018-19 BE	2018-19 RE	2019-20 BE	2019-20 RE	2020-21 BE
Sub-Mission on Agriculture Mechanisation	165.00	233.01	349.59	269.39	300.00	304.50	300.00
National Project on Soil Health and Fertility	135.60	64.20	120.00	90.01	97.26	46.76	94.50
National Food Security Mission	480.00	420.00	507.21	453.00	600.00	533.07	630.00
Rashtriya Krishi Vikas Yojana	1350.00	915.00	1080.00	1080.00	1123.50	828.00	1110.00
Paramparagat Krishi Vikas Yojna	81.00	75.00	108.00	90.00	97.50	89.81	150.00
Sub-Mission on Seed and Planting Material	60.00	144.00	99.60	99.60	114.04	90.00	113.63
Pradhan Mantri Krishi Sinchai Yojana – Per Drop More Crop	915.00	900.00	1200.00	886.41	1050.00	609.66	1200.00
Mission for Integrated Development of Horticulture	636.00	657.00	760.80	630.00	667.50	475.05	690.00
Sub-Mission on Agriculture Extension	273.60	246.30	306.00	262.50	285.00	282.00	360.00
Organic Value Chain Development for North Eastern Region	30.00	30.00	48.00	54.74	48.00	48.00	52.50
Rainfed Area Development and Climate Change	66.90	63.00	70.20	67.50	75.00	43.82	60.75
National Project on Agro Forestry	30.00	12.00	22.50	12.00	15.00	8.40	10.80
National Mission on Oil Seeds and Oil Palm	120.90	98.42	120.00	105.60	NA	NA	NA
Total	4344.00	3857.93	4791.90	4100.75	4472.80	3359.07	4772.18

BE: Budget estimates; RE: Revised estimates

* In Indian currency, 1 crore = 10 million

Source: Expenditure Profile 2020-2021, Ministry of Finance, Government of India

06

CLOSING THE GENDER GAP: **MAHILA KISAN SASHAKTIKARAN PARIYOJANA**

Empowering Women Through Collective Action

6.1 Of the various schemes that are implemented for rural development, Aajeevika – National Rural Livelihood Mission (NRLM – later renamed as Deendayal Antayodaya Yojana–NRLM [DAY–NRLM]) is an initiative by the Ministry of Rural Development, Government of India, launched in 2011 to provide

effective and efficient institutional platforms for enabling the rural poor to increase their household income by means of sustainable livelihood enhancements and better access to financial services, as discussed in Box 2. The basic feature of the programme is universal social mobilization which aims at bringing at least one woman member from each identified rural poor household under the self-help group (SHG) network in a time-bound manner.

Box 2: Self-help groups: An effective approach to collective empowerment

It is widely accepted that one of the most important means to reduce rural poverty is to provide improved financial and related non-financial services in rural areas, and evidence around the world shows that when microfinance services reach women, the benefits are particularly sustainable.

Though self-help groups (SHGs) and microfinance in India were piloted by NGOs, notably MYRADA and Self Employed Women's Association (SEWA) in the '70s, the concept of group lending was started formally by the National Bank for Agriculture and Rural Development (NABARD). The Self-Help Group–Bank Linkage Programme (SHG–BLP), launched in 1992–93 with the aim of providing access to finance to the underserved population, started as the pilot programme of linking 500 SHGs to financial institutions, which proved to be extremely successful and expanded throughout the country to become the largest microfinance programme in the world.

This movement spearheaded by NABARD was taken forward by several NGOs and private organizations to promote SHGs and enable linkages with financial institutions. The SHG movement was further recognized and strengthened when the Government of India launched Swarna Jayanti Gram Swarozgar Yojana in 1999, which was eventually subsumed under the National Rural Livelihood Mission (NRLM) launched in 2011, later renamed as Deendayal AntyodayaYojana–NRLM (DAY–NRLM). DAY–NRLM became the world's largest poverty alleviation programme, and mobilizing the community into SHGs lies at the core of the mission that aims at creating economic opportunities for providing sustainable livelihood to poor families.

6.2 To address the plethora of challenges faced by rural women engaged in agriculture and allied activities, the Ministry of Rural Development launched 'Mahila Kisan Sashaktikaran Pariyojana' (MKSP) in 2011. The scheme, a sub-component of DAY–NRLM,

has the primary objective to empower women by making systematic investments to enhance their participation and productivity in agriculture and allied activities for creating sustainable livelihood opportunities. The programme aims to strengthen

the capacities of women in agriculture to access the resources of other institutions and schemes within a convergence framework, as presented in Figure 4. MKSP is strategized to target the poorest of the poor and the most vulnerable women such as SC/ST, landless, and primitive tribal groups. MKSP adopts an inclusive approach by acknowledging and creating various sustainable farm and non-farm opportunities including livelihoods promotion and empowerment. By establishing efficient local resource-based agriculture, wherein women in agriculture gain more control over the production resources and manage the support systems, the initiative seeks to enable them to gain better access to the inputs and services provided by the

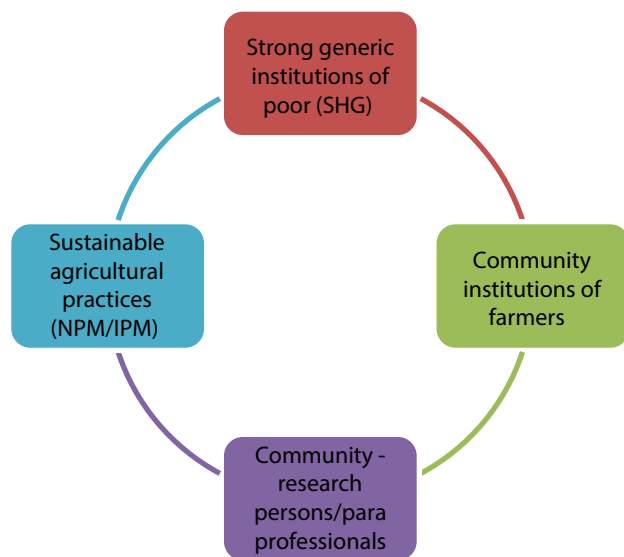


Figure 4: The Mahila Kisan Sashaktikaran Pariyojana Framework
 IPM: Integrated pest management; NPM: Nutrient and pest management;
 SHG: Self-help group

government and other agencies.

6.3 MKSP is a membership-based programme wherein women farmers become members of the SHGs at the village level and further the groups are federated at the block and the district levels. These groups are seen as an empowering platform for women and they also aid in efficient delivery mechanism for more sustainable agricultural practices. MKSP supports approximately 36 lakh women farmers and about 86,000 SHGs (as on March 31, 2019). Approximately 50 per cent of the budget of all MKSP

projects is devoted to training and capacity building of community professionals and women farmers for building their institutions. Since its inception, the scope of MKSP has been expanding and in 2012, it was extended to Non-Timber Forest Produce (NTFP)-based livelihood promotion to increase the income of tribal NTFP women collectors through sustainable harvest and scientific post-harvest practices for higher returns. In 2015–16, a special fund for the promotion of large-size value chain interventions was launched to empower women farmers and increase their influence on commodity value chain. Organic farming through village clusters is another important initiative conceived under MKSP in 2018–19 and its focus is to promote sustainable agricultural practices through organic certification and marketing to enable farmers get better market access. It also provides opportunities to increase the income of the small and marginal women farmers.

6.4 The project implementing agencies under MKSP are expected to promote locally adopted, resource-conserving, knowledge-centric, farmer-led, and environment-friendly technologies, and enhance the skill base of the women through formal and vocational courses. The outcomes of MKSP include improved food and nutrition security of women and communities, increased incomes with sustainable agriculture practices, non-farm-based livelihood opportunities, access to productive resources such as land, credit, information, agriculture inputs, and capacity building, and improved visibility and presence of women farmers in the region by strengthening their institutions and supporting entrepreneurship.

Transforming Lives and Livelihoods of Rural Women – Documenting Good Practices

6.5 MKSP recognizes many facets of the complex situation of women engaged in agriculture and allied activities and aims to economically empower them through building knowledge, skills, and capacities of women farmers to enhance their participation, improve productivity, and also enable them to pursue sustainable livelihoods including

non-farm activities. In Wardha and Yavatmal districts of Maharashtra, majority of women farmers reported higher productivity due to introduction of 'Integrated Agricultural Practices'. Seed banks were also introduced in some villages for preservation of local and traditional variety of seeds. Kitchen garden has been among the more successful initiatives under MKSP where it has been channelized as a source of income.



6.6 The programme provided an opportunity to learn new skills and perform new tasks to rural women. It is only when women farmers are empowered, the agriculture sector undergoes revival and rural livelihoods become sustainable. The implementation of MKSP by Bihar Rural livelihood Programme (BRLP)-Jeevika brought notable changes in the lives of women farmers through training women groups to procure seeds and food grains and access market information and opportunities to sell their produce. Further they received training on seed technology, market prices, and plantation techniques. These capacity-building efforts enabled them to take on duties that were previously part of the men's domain (Anandi 2015). Similarly, the concept of 'Seed Mothers' introduced by MKSP in the tribal belt of Odisha helped women in identifying, collecting, conserving, and propagating the local traditional seeds. In Balaghat, one of the poorest among the tribal-dominated districts of Madhya Pradesh, farmers shifted to organic farming both for vegetables and for paddy. Agriculture planning

for all the plots was completely done by the SHGs, which resulted in adoption of climate resilient practices. Tribal dominated belt of Bastar district in Chhattisgarh also adopted organic practices through MKSP, which boosted household food and nutrition security. The MKSP has been instrumental in increasing visibility of women in allied activities as an interest group where women SHG members are trained to become Pashu Sakhi for improved rearing and management of goats. In the tribal-dominated pockets of East Singhbhum district of Jharkhand, Pashu Sakhis are provided cycles for easy mobility, where they demonstrate good practices and provide timely deworming and vaccination services. With adequate capacity-building exercises, women tend to prioritize sustainable livelihood options. The activity resulted in the creation of weekly haat for sale and purchase of animals, which especially benefitted landless and single women (GoJ 2017).

6.7 MKSP has expanded into identifying and demonstrating technologies in areas of poultry, which form a significant portion of a large number of women's livelihood baskets and contribute to nutrition security. In Nalanda district of Bihar, women-led institutional mechanism has been established to ensure continuous supply of quality checks at subsidized prices, selling of birds and eggs, vaccination and healthcare support, among other things. This activity has significantly contributed to achieving the dual goal of increasing women's income and fulfilling household nutritional security. MKSP also recognizes that NTFP plays a key role in the livelihood of the poorest and the most vulnerable, and the level of involvement of women in this particular activity is high. With dwindling forest cover and hardly any reduction in the number of tribal poor households that are dependent on NTFP collection, systematic efforts have been made under MKSP to promote NTFP collectives. The aim is to increase the income of tribal NTFP collectors through sustainable harvest and scientific post-harvest practices for higher returns while safeguarding the environment.

Box 3: Kudumbashree

Kudumbashree – a federation of women’s collective in Kerala at village, block, and district levels is touted as a vehicle for women’s empowerment through its Neighbourhood Group (NHG) network. Sustainable farming, being one of the thrust areas of Kudumbashree, has been instrumental in bringing NABARD’s concept of joint liability groups (JLGs) for collective farming since 2010. Unique guidelines have been formulated for the formation of farming JLGs and its activities, where it facilitates to enhance the agricultural production by bringing fallow and cultivable wastelands into agricultural use, and has great significance as a food security measure. Over a period, JLGs have become professional agripreneurs who run the farm value chains for establishing cost advantage at the farm economies and thereby gaining competitive advantage at the market place. Since women enter the programme as cultivators, they have control over the means of production and access to formal credit through JLGs which help in increasing the returns from farming. Currently, 338,202 women farmers of 68,388 JLGs are collectively farming in more than 55,000 ha of land, including 5878 tribal JLGs. Paddy, vegetables, banana, and tubers are the major crops cultivated through these JLGs.

The agricultural activities are monitored by resource persons who are selected from among the JLG members, and the master farmers and master farmers trainers give assistance and hand-holding support to JLGs at the field level. The Farmers’ Facilitation Centres, established under Mahila Kisan Sashaktikaran Pariyojana, play an important role in supporting and monitoring the farming activities of JLGs. For ensuring better marketing opportunities, Kudumbashree has started weekly markets named ‘Naattuchantha’ across the state and provided infrastructure facilities. Various local, state, and central schemes such as



MGNREGS, crop insurance, ATMA, and RKVY, and the activities of Department of Agriculture and Farmers Welfare were integrated with Kudumbashree to provide various inputs to JLGs. Some of their flagship initiatives include – organic farming, creation of plant nurseries, intensive banana cultivation, fallow-less village programme, agri-therapy, medicinal plant cultivation, agri-business ventures, creation of smart agri-villages, among others.

Collective farming through the JLGs has gone beyond the sole objective of ensuring food security. It has become an instrument of social and economic inclusion and provided women a ‘collective voice’. Collective power of women groups, integration of local self governments, and proactive credit schemes have enabled landless women to take up farming as a productive enterprise. Increased financial returns and sustainable employment opportunities have given them a sense of security and increased agency within households and beyond.

6.8 A key non-tangible outcome of the programme has been addressing the structurally entrenched strategic needs such as increasing the decision-making power of women. For instance, in the marginalized tribal blocks of Vadodara district in Gujarat, the programme helped in increasing productivity through training given to women farmers for sustainable agricultural practices. This had a cascading impact on the women’s decision-making power at various spheres

including household, farms, and community.¹⁸ Women farmers, by their own reckoning, felt more confident and empowered than prior to their participation in the programme in Wardha and Yavatmal districts of Maharashtra.

6.9 On the ground, the programme successfully reached out to economically and socially marginalized

¹⁸ Details available at www.shroffsfoundation.org › pdf › mksp › TISS_2017

women by empowering them with alternative livelihood opportunities. One such innovation is to engage the SHG members as Business Correspondent Bank Sakhi. Under this initiative, SHG members are identified, trained, and groomed to become the interface between rural poor and banks. They are leveraged to provide financial services to rural community at their doorstep under well-defined terms and conditions set by the banks. This initiative has become popular in several states as it is playing a key role in realizing the overarching goal of financial inclusion. Credit disbursed to SHGs more than doubled between 2014–15 and 2018–19 under the NABARD SHG–Bank linkage programme, which covers more than 100 lakh SHGs,¹⁹ as presented in Appendix 1. NPAs under the bank loans to SHGs have been declining and stood at 5.2 per cent as on March 2019.

6.10 Another important initiative introduced for alternative household income is to facilitate members of SHGs to operate public transport (e-rickshaws, three- and four-wheeler motor



vehicles) in backward rural areas. Furthermore, it aims to provide secure, affordable, and community-monitored rural transport services connecting distant villages with prime services and amenities for the overall development of the area. It has been announced that Aajeevika Grameen Express Yojana will be implemented in 250 blocks in the country on a pilot basis. The implementation will be done over a period of 3 years from 2017 to 2020.

Box 4: Aajeevika Didi Café

In Jharkhand, Sakhi Mandal (SHGs) is being promoted by the district administrations to run office canteens under the Aajeevika Didi's Café brand. After receiving training in cooking and running a business, the members have come up with various branches of Aajeevika Didi Café across the state and are popularizing the local dishes of Jharkhand. The cafés are promoted at hospitals, block offices, collectorate, among other popular places. Preference is given to this café for bulk catering orders for government programmes. Moreover, DAY–NRLM is working towards developing an app to connect with the café and also exploring training options for SHGs at good hotels in the state. This model, which is inspired by Kerala's well-known Kudumbashree, has won much applause and has given socially excluded and financially backward rural women an opportunity to become entrepreneurs (GoJ 2019).



¹⁹ NABARD Status of Microfinance in India Report (2018–19)

6.11 Among the various scalable sustainable livelihood models promoted by MKSP for empowering women to adopt resilient agro-ecological practices and create a pool of skilled community professions, the Tasar (silk) livelihood activity has shown immense possibilities for long-term sustainability.

The multi-state initiative launched in Jharkhand, Odisha, West Bengal, Tamil Nadu, and Chhattisgarh has created incremental/supplementary sources of income, helped enhance participation, facilitated increased involvement in decision-making, and instilled accountability along the Tasar value chain.

Box 5: Mahalir Thittam

Mahalir Thittam is a socio-economic empowerment programme for women, implemented by Tamil Nadu Corporation for Development of Women Ltd. The self-help group (SHG) movement, which was started on a small scale in Dharmapuri district in 1989, has now transformed into a mammoth movement covering all districts of the state targeting poor families and the marginalized sections of the society. It is implemented in partnership with NGOs and community-based organizations.

The hallmark of the SHGs promoted by Mahalir Thittam is the systematic training provided to the SHG members and the office bearers. The members are given training to orient them to the SHG concept while the office bearers of the SHGs are given training to enhance the leadership quality and team building spirit and capacity to maintain books of accounts. In addition, SHG members who are interested in starting economic activities or develop skills to be self-employed are provided skill training. The other important activities undertaken by SHGs are organizing job fairs, conducting cultural competitions, and organizing exhibitions and college bazars to showcase their products. To promote more economic activities among SHGs, the Corporation has converged Mahalir Thittam with the guidelines of NRLM implementation. In Mahalir Thittam, federations of SHGs are formed at the village panchayat level. These federations, by pooling talent and resources and exploiting economies of scale in production and marketing, benefit the member SHGs immensely. They also guide and monitor the functioning of SHGs in all village panchayats and strengthen them for self-reliance.

6.12 Similarly, towards strengthening smallholder agriculture, MKSP intervention strategy involves incorporating climate change resilient and ecologically sound agricultural practices such as Community Managed Sustainable Agriculture,

usage of locally available natural inputs (for pest management and soil fertility management), Zero Budget Natural Farming, and ensuring the scalability of climate change resilient agriculture practices through community best practitioners.

Box 6: Community Managed Sustainable Agriculture Programme

With an objective to bring sustainability to agriculture-based livelihoods in Andhra Pradesh, which has a high fertilizer and pesticide consumption, Community Managed Sustainable Agriculture Programme (CMSAP) was launched in 2004. Women are at the centre of the CMSAP initiative under the Society for Elimination of Rural Poverty. CMSAP is a nested federation model with the SHGs transformed into village-level federations (called village organizations, 150–200 members on an average), then into sub-district mandal federations (called Mandal Samakhya, 4000–6000 members on an average), and finally into district federations (called Zilla Samakhya, 300,000–500,000 members on an average). It is this federated structure that has enabled the scaling up of a variety of interventions across the state. The model adopted is a 'knowledge- and skill-based model' rather than 'input-centric model', with emphasis on building the knowledge base of the farmers, encouraging farmers to innovate, and sharing of innovations among other farmers. CMSAP has been replicated nationwide through Mahila Kisan Sashaktikaran Pariyojana.

6.13 The experience so far with regard to the contribution of women to agriculture, including the MKSP initiative, indicates the following:

- ▶ The programme's main goal of empowering women farmers through capacity-building measures, which would enable them to take well-informed decisions pertaining to their lives and livelihoods, has been achieved in many districts across the country. Women SHGs have been able to add value to agriculture through a variety of entry points. At the individual level, women have been performing better in achieving integration in farming practices in dryland and rainfed areas because of their proximity to livestock-related activities. At the group levels, they are more receptive to integration of practices, which delivers higher resource efficiency and sustainability including organic farming, preservation of local and traditional variety of seeds, and the use of technology, among others. The SHGs are an important component in the strategy of empowering women in agriculture and they should be seen as an efficient delivery mechanism for more sustainable agricultural practices.
- ▶ Women SHGs and their federations have also been a powerful mechanism to increase access of women to credit and other inputs, in improving market access, and to enforce their rights in relation to resources, including land.
- ▶ The programme has also enabled women earn independently through off-farm and non-farm enterprise interventions in the form of skill-building support to federations, financing, marketing, and trade promotion.
- ▶ The key advantage of the programme has been its attempt to develop and tap social capital for deepening the development outreach. Moreover, it acted as a catalyst for improving self-confidence and social solidarity of women, which will have far reaching consequences in terms of transcending gender roles.

Missed Opportunities

6.14 MKSP has been able to achieve certain level of agricultural rejuvenation and sustainable practices and improvement of livelihoods. However, certain apprehensions have been raised by a few studies highlighting that MKSP concerns itself with the household and not the women farmer, and even when women farmers are benefitted, it is unclear whether they have access, control, or ownership over the incomes accrued due to the programme inputs. Moreover, women faced many barriers towards the adoption of integrated agriculture practices with regards to laborious processes involved, meticulous planning that is required, non-availability of time, and lack of support from family members, among others. Women farmers also faced difficulties in accessing inputs for following certain techniques recommended in the programme, and the lack of availability hinders large-scale adoption. Supporting infrastructure to link the agriculture produce with the potential markets is another hurdle faced by the SHGs. Enterprise development needs to be strengthened. Recent NRLM evaluation shows limited increase in enterprise incomes. The market linkages and assured procurement of their produce should be given high priority in all policies and programmes, moving forward.

6.15 Other common structural challenges include delays in disbursement of funds, apprehension of withdrawal of MKSP and its impact on existing institutions, and conflict and dynamics among the members of some of the SHGs. Nevertheless, social change and removing the gender gap is a gradual process and the insights drawn from various best practices show a process of transformation at various levels.

07

THE WAY FORWARD

- 7.1** Deep and complex changes are taking place in the Indian agriculture scenario that need to be addressed while formulating strategies for the betterment of women and, through them, the rural economies. First, there is an urgent need to tackle the issues related to sustainable land (and water) management. Second, in the rainfed areas and drylands, poverty and backwardness need to be addressed through a broad range of issues covering on-farm, off-farm, and non-farm interventions. Land as a resource is also becoming fragmented in terms of ownership and smaller in terms of operational holdings for agriculture. A third aspect relates to the increasing 'feminization of agriculture' because of urbanization and migration of male labourers to find employment in the non-agriculture sector (one of the reasons being that agriculture is no longer able to meet family requirements). Women are *de-facto* managing most of the agricultural activities, particularly in drylands, but there is inadequate appreciation of the need to empower them, in terms of access to inputs and knowledge, and giving them legal rights associated with farming.
- 7.2** It is well acknowledged that the promotion of sustainability in agriculture and allied activities is inextricably linked to the enhancement of the role of women. Past experiences have shown that provision of institutional support through mechanisms such as Mahila Kisan Sashaktikaran Pariyojana (MKSP) may have positive spin-offs in the context of women collectives. They can be game changers in the agricultural and rural development process with their high potential to deliver impacts across multiple Sustainable Development Goals (SDGs) through a localized holistic approach.
- 7.3** Evidences suggest that good examples of Kudumbashree, Community Managed Sustainable Agricultural Program, Jeevika Project in Bihar (discussed later in this section), and Aajeevika café, among others, illustrate that these multipurpose networks and initiatives reflect promising innovations with regard to agriculture, livelihood, and rural development trajectories addressing food and nutritional security concerns as well. Although up-scaling and replication of such examples are often proposed, the challenges of confronting contextual constraints need to be streamlined. In this regard, it would be imperative to propose a multipronged approach as indicated in Figure 5, which would take into account the interlinkages between gender and food and nutritional security, gender-friendly technology development policy/programmes, gender-smart solutions for resource-efficient agricultural value chains, gender budgets and targets, inclusion of off-farm activities, among others.

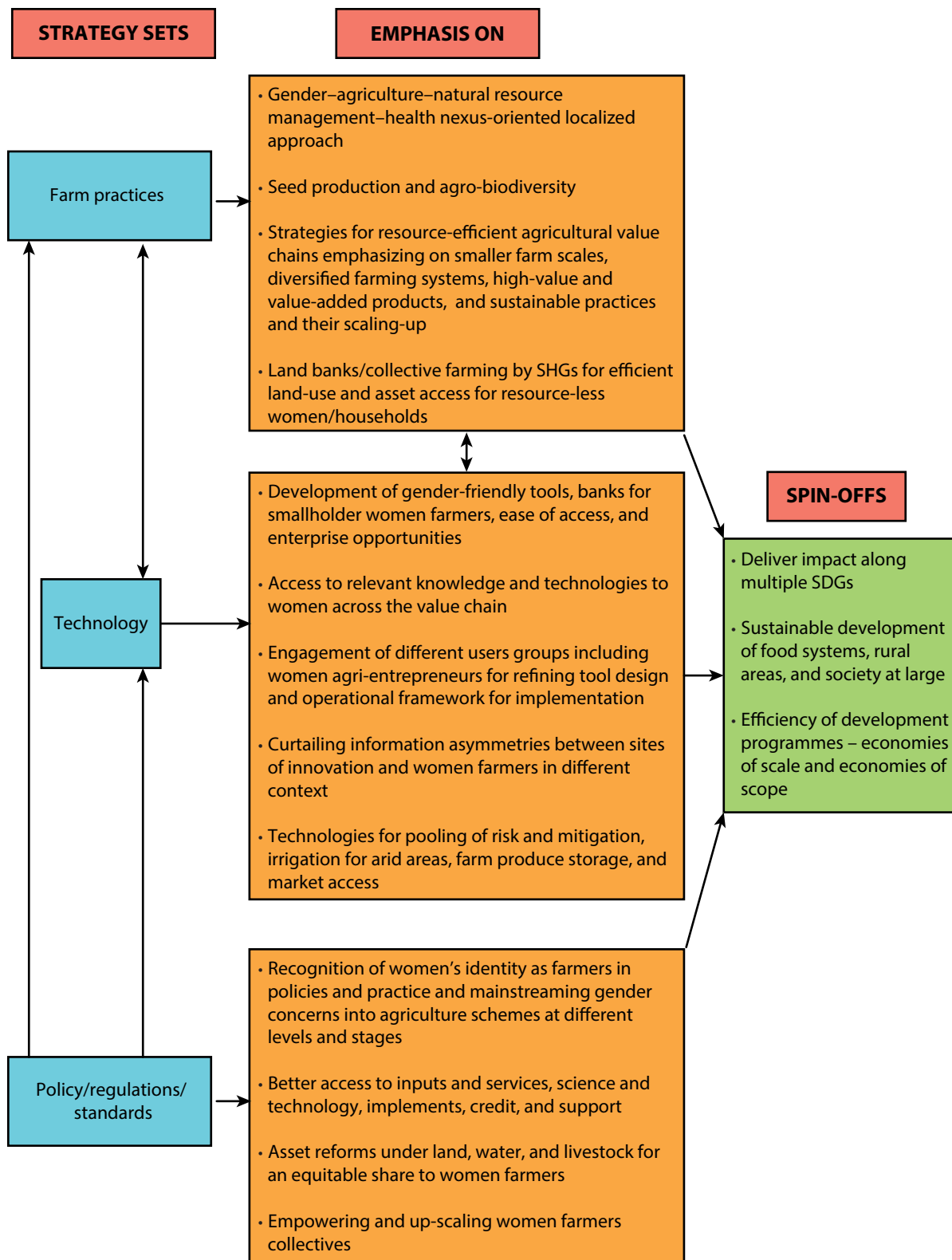


Figure 5: Women as agriculture game changers: the way ahead

7.4 The framework provided in Figure 5 can be leveraged for adopting a localized and integrated approach to gender mainstreaming in agriculture and rural development and addressing sustainability concerns and generating development impacts. A few issues that stem from this analysis and are of critical importance are discussed further.

7.5 Inclusion of women cultivators in land records: The current definition of a ‘farmer’, which is based on land ownership and possession of land titles, denies in its ambit the inclusion of women cultivators/labourers and other disadvantaged groups such as tenants/sharecroppers, etc., despite being an integral part of the labour force engaged in agriculture and allied activities. Due to this, these groups are not able to directly access the benefits of extension/support services, credit, insurance, subsidies, and compensations available to farmers under the government schemes. Digitization and modernization of land records and the recent initiative of linkage of records of rights with Aadhaar have helped in mitigating the situation to an extent but it has still a long way to go. An alternate system of farmer registration based on certification of women farmers and other groups by the village/panchayat-level functionaries in the annual cultivation records (such as Pani-Patrakor Girdawari) is required urgently to fill the gap. Such inclusion of women farmers in the cultivation records will not only facilitate an easier access to benefits, credit, insurance, etc., to women farmers but also pave the way for the mandatory requirement of women cultivator’s consent in the event of sale/transfer of land parcel, thereby allowing them to participate in decision-making processes.

7.6 Innovations of credit products and delivery systems: Joint Liability Group (JLG)²⁰ is a lending model that enables group of individuals to take loans for income-generating activity by forming a group, wherein group members guarantee

each other’s loans without any collateral. Being a credit-oriented group, which is primarily formed to avail loan from banks/formal credit institutions, JLG’s focus is different from SHGs that are primarily saving-oriented groups in which borrowing power is based on savings of the members. The success and fast scaling of JLG, which by its nature is market driven, would be contingent upon its social embeddedness rather than adopting a clinical and economic view of microfinance (Haldar and Stiglitz 2016). Further, most collective initiatives including JLGs reveal that innovation in terms of the design of different social groups and their organizing capacity, business models, and community-based finance underpins their emergence and evolution. These aspects need to be remembered while analysing and replicating such collectives and accordingly a more detailed examination needs to be undertaken.

7.7 Collective farming on leased lands by JLGs: Various measures taken under MKSP for promoting collective farming on lands leased by JLGs need interlinkages with panchayats for production implements, agricultural machinery, water supply, etc.; MGNREGS for land preparation; agriculture department for crop insurance, technical support, and production implements; banks for loans and saving bank deposits; and NABARD for subsidies on short-term loans, for prompt payments, etc. Master farmers are accessed by women farmers of JLGs at the Farmer Facilitation Centres. In the absence of availability of collaterals, in particular, land as collateral, the formation of women farmers into JLGs and accessing both credit and leased land for farming provides a viable model for improving livelihood, and identification of cultivable government land is needed for assignment or distribution of land to landless women cultivators forming the JLGs.

7.8 Involving SHGs in government procurement activities: The Take Home Rations prepared by micro-enterprise units consisting of

²⁰ The concept of JLG was established by NABARD in 2014 to provide institutional credit to small farmers, tenants, sharecroppers, and farmers without proper land records.

²¹ Neighbourhood groups are primary units of Kudumbashree community organization. Ten to twenty women form a neighbourhood group.

Neighbourhood Groups²¹ under Kudumbashree is a pioneering initiative in the field of rural development, financial inclusion, and, most importantly, in the battle against malnutrition. This model has been replicated by other SHGs under MKSP for mid-day meals, stitching of uniforms for schools, and recently even for running fair price shops in Odisha. This has tremendous potential in expanding to other government procurement orders, such as file covers, jute bags, envelopes through the GeM Portal, etc.

7.9 Extending SHGs as a social enterprise for women empowerment and sustainability: It is suggested that extending the concept of 'social enterprises for sustainability' to women SHGs could be a game changer by way of its ability to integrate the elements of commercial gain (income and employment), social capital gain (women empowerment), and environmental gain (conserving natural resource base). By definition, a social enterprise is a business with primarily social objectives, whose surpluses are principally reinvested for that purpose in the business or in the community, rather than being driven by the need to maximize profits for shareholders (Ridley-Duff, Bull, and Seanor 2008). A social enterprise for this purpose is one that aims to achieve social and environmental goals through market-based mechanisms. Such businesses may be relatively a few in numbers and need to be strengthened and up-scaled.

7.10 Given the larger national trend towards urbanization, stagnation in agriculture, and increases in employment opportunities in the non-farm and non-agri sector, women in areas with potential need to be empowered to develop skills to take advantage of the welfare programmes. The example of One Tambon One Product/One Village One Product/One Town One Product of local entrepreneurship in East Asian and South-East Asian countries can be institutionalized through the SHG system to use local resources for best value realization, particularly in peri-urban situations. The SHG system too can help promote this through 'Startup Village Entrepreneurship Programmes', facilitating not only skill development but also credit, knowledge, and market access.

7.11 Setting targets for creation of women farmer producer organizations and federating SHGs:

In its policy and process guidelines for farmer producer organizations (FPOs) in 2013, the Ministry of Agriculture and Farmers Welfare recognized that collectivization of small and marginal farmers into producers' organizations can enable the development of the agriculture sector through improved access to investments, technology, inputs, and markets,²² and that FPOs provide marketing linkages, easy access to credit, and benefit of economies of scale. Despite recognition by NABARD that gender mainstreaming is integral to lending policy outcomes, formation of women FPOs has been slow, and they are still not recognized as the formal ones. There is a need to focus on the creation of women farmer FPOs with emphasis on women-centric enterprise development and handholding. Similarly, SHGs need to be federated to avail the solidarity and collective strength that a federation offers to women members in reaping the benefits of economies of scale and scope as well as to ensure sustainability of the SHGs. Federating SHGs offer the benefits of meeting the economic needs of the federation's members, increasing level of financial discipline and accountability, disseminating innovative and sustainable agricultural practices, and promoting livelihood activities. Although there are gaps in literature on women-only FPOs, a few published studies (Desai and Joshi 2014; Gowda and Dixit 2018; Gupta 2015; Pastakia, Alam, Satyanarayan, *et al.* 2015; World Bank 2019a) have considered these aspects and some of their observations are: proportion of women FPOs is higher in animal husbandry as a secondary activity (Gowda and Dixit 2018); FPOs registered as societies are more likely to have women members than those registered as companies; and women's membership is higher in FPOs with external funding. Further, the experience of promoting women FPOs as enabling institutions under the Jeevika project in Bihar provides valuable lessons for decision-makers and practitioners, as discussed

²² Details available at <http://sfacindia.com/PDFs/FPO%20Policy%20&%20%20Process%20Guidelines%20%201%20April%202013.pdf>

in Box 7. Lack of legal and technical knowledge about various acts and regulations related to formation of FPOs and statutory compliances thereafter is also a major issue with women. The licence fee to register an FPO at Rs 40,000–60,000 is another barrier for women marginal farmers.²³ More research on the functioning and performance of FPOs from a gendered perspective is crucial towards the intended policy of smallholders' integration with the markets *vis-à-vis* gender mainstreaming in agriculture. There is also a need to widely document and synthesize quantitative and qualitative evidences of MKSP performances so that learnings from the best practices may be considered for devising the best fits depending on the local contexts and up-scaling in various agro-ecological zones.

7.12 Adopting a gender–agriculture–natural

resource management nexus approach: The experience so far with regard to the contribution of women to agriculture, including the MKSP initiative indicates that women collectives are more attuned to adopting an integrated perspective on farming systems and their receptivity of practices which deliver higher resource efficiency and sustainability are higher. Marginalization of women impacts sustainability of natural resources extraction, which is predominantly a male-dominated activity in a majority of societies. Significant involvement of women in the use and management of natural resources also results in their empowerment. For instance, it has been observed that increased involvement of women in natural resource-based livelihoods as men migrate to urban areas for employment has 'enhanced their access to and control over resources, [and] also strengthened their bargaining power' (Upadhyay 2005). In this regard, it would be important to adopt a nexus-oriented and localized approach of gender–agriculture–natural resource management for gender mainstreaming. This may also help achieve a sustainable agri-food system with a multiplier effect on development.

7.13 Scaling sustainable agriculture practices:

A clear policy directive, accompanied by adequate financing and institutional support for building social and human capital, is crucial for scaling sustainable agriculture practices (Bharucha, Mitjans, and Pretty 2020). It is important that farmer-focused sustainable agriculture practices are anchored in institutional innovations, which are cognizant of existing knowledge gaps, and support women farmers to enable them to learn from subject matter specialists and to innovate, experiment, and adapt to their conditions. For instance, adoption of farm-focused Zero Budget Natural Farming practice by farmers in Andhra Pradesh is also attributed to the institutional innovation in terms of its anchoring in the Rythu Sadhikara Samstha (RySS, 'farmers empowerment organization'). The institutional mechanism allowed farmers to learn the principles and techniques underlying sustainable farming through training and peer-to-peer learning being facilitated by farmers designated as 'community resource persons' (CRPs) and allowed them to adopt a suite of methods aligned to their farm conditions. This led to a broad range of farm regimes across the landscape.

7.14 Enhancing practices, choices, and concerns of women farmers in the areas of seed production and agro-biodiversity:

Women's role in the realms of seed saving, crop diversity, water management, and nutrition holds a special importance from the perspective of maintenance of agro-biodiversity, for food security, and for women's role in the countryside and in the household (Pionette 2006). The researches on seed systems, agro-biodiversity, and dynamics underlying agricultural change need to be addressed from a gendered perspective. Refocusing on women's role in seed production and management through the following measures provides unprecedented opportunity for strengthening women's role in the areas of seed production and agro-biodiversity: capacity building of women; trainings on package of practices for seed production; strengthening of women SHGs to produce seeds on a large scale; collective production of certified seeds; involving

²³ Joint consultation paper – NCW, UN Women, and MAKKAM, 2016–17

farm women in quality seed production through public–private partnership; setting up of authorized mini-seed testing laboratories in every block or panchayat; and establishing women-managed community seed (Sahoo, Argade, and Sasamala 2016).

7.15 Empowering women in resource-efficient

agricultural value chains: Value chain perspective provides an important means to understand the mechanisms for increasing efficiency and ways to achieving both economic goals and women’s empowerment. Gender relations affect and are affected by the ways in which agricultural value chains function. Opportunities and constraints for women vary between regions and along the value chain (production, post-harvest processing and storage, transportation, marketing, and sales) depending on their access to information, technology, resources, and networks. A gendered analysis of the agricultural value chain from a perspective of resource efficiency and circularity

may entail a greater role of women. For instance, women-only FPOs/farmer producer companies (FPCs) and participation of women in FPOs/FPCs can support the sustainable use of resources, while improving farm productivity, access to livelihoods, and enabling poverty reduction. Wider linkages of existing women’s groups with soil and water conservation programmes, particularly in watersheds, can lead to better management of resources. Similarly, women may play an important role in the development of resource-efficient and circular business models, like conservation agriculture, zero budget natural farming, to ensure value creation while using fewer inputs and generating less waste. Linkages between women farmers/entrepreneurs and agri-food markets can stimulate market access at the local level, where women farmers, processors, traders, transporters, and retailers conduct business. Similarly, linking women farmers (groups) to online agri-trading platform – National Agriculture Market (e-NAM)

Box 7: Bihar Transformative Development Project 'Jeevika II'

The Bihar Transformative Development Project was launched in 2016 with an objective to diversify and enhance household-level incomes and improve access to and use of nutrition and sanitation services such as nutrition education to increase the demand for quality entitlements and improve nutrition-related practices (diet, care, and health/WASH) among targeted households. The beneficiaries include approximately 5 million women from poor rural households across 300 blocks and 32 districts of Bihar. The institutional model adopted towards women farmer producer organizations involved formation of producer groups (PGs) at the village level by mobilizing around 20–100 women farmers. These PGs serve as effective platforms for collective orientation and capacity building of producers. PGs are federated into farmer producer companies (FPCs) on a needful basis. FPCs are large registered businesses that allow more streamlined delivery of inputs and services to a set of farmers engaged in production and marketing of specific commodities. FPCs ensure collective aggregation and marketing of the produce, apply strong focus on quality control, and emphasize on reaching multiple markets to diversify and minimize risk. A core component of the institutional model to support FPCs has been a strong cadre of village resource persons who serve as the interface between PGs and FPCs and deliver services such as training, weighing, quality assessment, and daily price communication.

The initiative in Bihar resulted in two positive outcomes, namely, increased produce and profits of women farmers and social, economic, and political empowerment of women. The experience of promoting women FPOs as enabling institutions provide the following lessons for decision-makers and practitioners: investing in strong community institutions and human capital helps strengthens the overall ecosystem for women-only FPOs; the role of the formal financial sector is vital and depends on a strong business model; and empowering women to use technology is the way forward (World Bank 2019b).

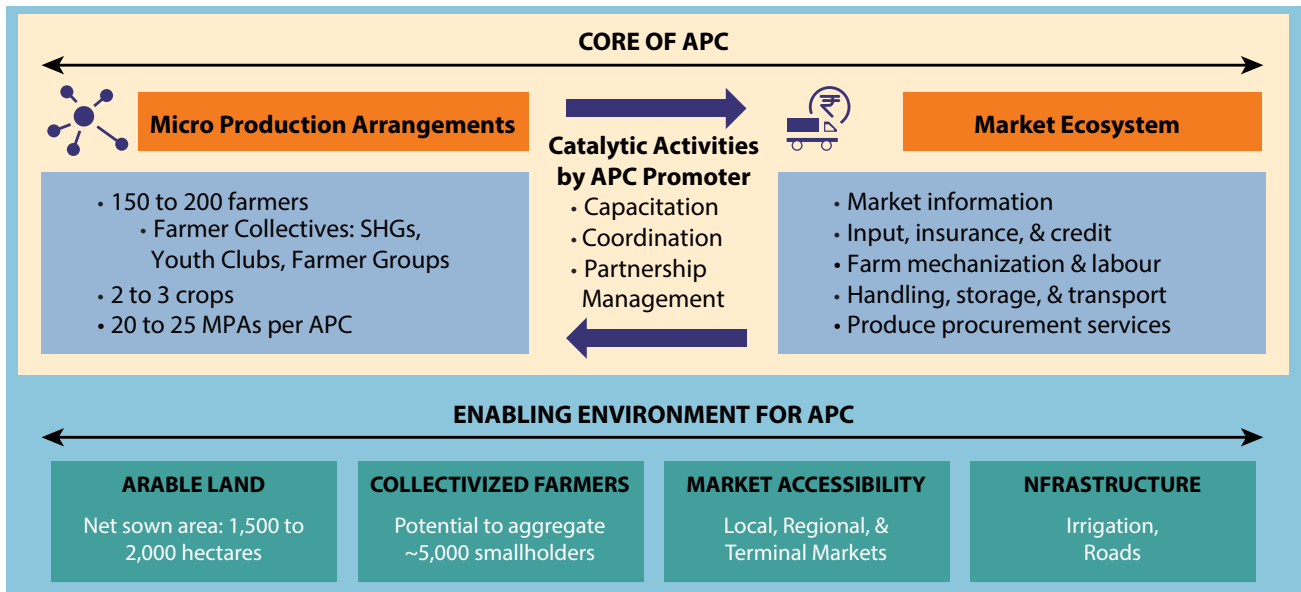


Figure 6: Agriculture production cluster model of PRADAN

scheme – would help them get better price realization of their produce. Resource efficiency covers a broad range of actions from energy and water-use efficiency to material-use efficiency and reducing food wastage at various points of the supply chain. A gender strategy can be planned and integrated, starting with understanding the division of labour, power relations, and decision-making. This can be followed by capacity-building initiatives and providing institutional support through: (i) developing gender-sensitive resource efficiency indicators and targets in national policies; (ii) skill development of women for ‘green jobs’; (iii) promoting partnerships and linkages among key stakeholders; and (iv) supporting research and development for resource efficiency.

7.16 Furthering women collectives through promoting agro-based clusters: Collective action/initiatives of women farmers can be furthered by promoting a cluster approach in agriculture and encouraging their participation in clusters to reap the benefits of agglomeration economies. For instance, PRADAN’s ‘Agriculture Production Cluster (APC) model’, contextualized for smallholder production systems, is a market-linked approach to improve farmer incomes through synchronized production and marketing. The APC comprises a self-regulated collective of approximately

3000–5000 smallholder farmers in a defined area, who synchronize production of a common basket of 8–10 commodities to create a marketable surplus, as represented in Figure 6. The core of APC is micro-production arrangements (MPAs) with each MPA comprising 150–200 farmers across 2–3 contiguous villages who practice synchronized production of 2–3 commodities (out of the APC portfolio of 8–10 commodities). The commodities/crops are initially selected based on the three key factors: smallholder farmer suitability, agro-ecological compatibility, and market attractiveness of the crops. Enhancing participation of women farmers in such clusters and providing them the right knowledge, tools, and market ecosystem linkages can recreate synergistic demand and supply conditions in agricultural societies that are still practicing subsistence agriculture, leading to the creation of thriving agricultural production clusters in a much shorter time frame.

7.17 Engendering technological innovation: Agricultural research needs to be oriented towards adapting technologies to address women’s physical stature and their tasks.

²⁴ Green Army Labour Bank – a collection of women farmers groups in Kerala to meet the challenges in paddy cultivation due to labour shortages – who’s role is to provision women-friendly machines such as cono-weeders, harvesters, threshers, winnowers, and small tractors and technological services through a dedicated team of ‘labourers turned mechanics’ is a proven model.

Women's low productivity stems mainly from lack of appropriate technologies suited to their work. A combination of resource-efficient methods and technologies, dynamic cropping patterns, responsiveness to climate change, and intensive use of Information and Communication Technologies (ICTs) needs to be the backbone of smallholder farming. Furthermore, in India, new technologies have entered in all the steps of the agricultural value chain, such as high density plantation, irrigation, tissue culture, play houses, poly tunnels, protected horticulture, organic farming, IPM, INM, etc. ICT, nanotechnology, and synthetic biology are important additions to the existing list of technologies. In this regard, options need to be explored to provide access to women to relevant knowledge across the value chain. While technology is a critical enabler, the displacement of labour due to technology, and due to mechanization, has to be analysed and dealt with. In this regard, technologies need to be used carefully in conjunction with skill development so that improvement in skill sets leads not only to higher wages and productivity but also to pre-empt any displacement of labourers, as has happened in other labour-intensive areas. Addressing vulnerabilities of women in different agro-ecosystems through the development of user-friendly tools and technologies, facilitating better choice of crops, and educating about cropping patterns that help reduce degradation of natural resources and build resilience to climate change within the resource constraints (e.g., water and land) faced by them is the need of the hour.²⁴ Engagement of different users groups including women agri-entrepreneurs for refining tool design and operational framework for agricultural innovation systems will be useful.

7.18 Aligning women collectives for impacts

along multiple SDGs: Over the years, the SHG model, which was initiated by the civil society and later received active policy support from the government, has been used as a tool for articulating and strategizing multiple impacts of SDGs. Issues of food and nutrition security, water, and sanitation, require convergence of various programmes and action at the local level in which women SHGs could act as agents of change and serve as an entry point for action at the local level for the realization of the SDGs. A women-centric model of local self-governance such as Kudumbashree in which women SHG undertook micro-enterprises including organic farming of vegetables, poultry, and dairy, catering, and tailoring provides a suitable case. The concept of community farms being run by JLGs is much needed in the context of predominance of fragmented and small and marginal landholdings,



and when effectively contextualized and up-scaled in different agro-ecosystems it holds potential for providing a critical avenue for revitalizing agricultural production systems and promoting sustainable development.

7.19 In drylands and other areas where there are inherent constraints to increasing productivity in the farm sector, or where land is itself a limited resource, women individually and through SHGs need to be empowered and capacitated to move along the value chain into diverse off-farm activities such as food processing and custom hiring of farm equipment. The sectoral focus should expand from 'food' to 'nutritional food', and include dairying, among others, for the full potential to be realized. The ability of SHGs to regroup as producer organizations for the purpose must be taken forward.

7.20 Representation in decision-making bodies for policymaking: Representation of women is vital in decision-making, therefore, it needs to be ensured that there is adequate representation, participation, and involvement of women farmers/ their organizations in the management and decision- making processes in Agricultural Produce

and Livestock Market Committee, District-Level Coordination Committee, Block-Level Committee, Primary Agricultural Societies, ATMA programme forums at block, district, and state levels, and other decision-making bodies related to agriculture and economic policies and programmes (Nandi 2014).

7.21 The SHGs are relatively homogeneous, and the good examples are somehow able to overcome local divisions based on caste, perhaps because of the common poverty-related interest. Being grassroots-level organizations, they are socially very sensitive, with a highly pro-poor orientation because of their composition, capable of scaling up or adapting very quickly through a federating and re-forming or re-purposing process. This makes them extremely useful in generating a socially important message on health and nutrition and education. The SHGs as they mature are potentially invaluable in the SDG-based development push, as they help in ensuring the local sustainability of literacy, sanitation and hygiene, antenatal and neonatal care, nutrition to child and mother, inoculations and vaccinations, and social hygiene. We must really invest in SHGs, and in fact we must simultaneously invest in panchayats to get the best synergistic impact.

Appendix 1

Progress under Microfinance - Bank Loans disbursed (Rs. in crore*)

Sr. No.	Region/ State	2014-15	2015-16	2016-17	2017-18	2018-19
		Loans Disbursed Amount	Loans Disbursed Amount	Loans Disbursed Amount	Loans Disbursed Amount	Loans Disbursed Amount
CENTRAL REGION						
1	Chhattisgarh	111.1	96.4	225.3	230.8	320.7
2	Madhya Pradesh	305.3	590.9	296.2	179.8	230.6
3	Uttarakhand	34.5	209.0	24.4	25.9	29.8
4	Uttar Pradesh	658.2	294.4	133.7	122.9	141.0
	Total	1109.1	1190.7	679.6	559.4	722.0
EASTERN REGION						
1	Andaman & Nicobar	3.6	4.0	8.1	6.7	8.4
2	Bihar	471.0	610.6	1323.1	2343.6	3055.8
3	Jharkhand	37.5	66.2	103.7	338.8	276.1
4	Odisha	1278.9	860.3	961.0	1516.7	1674.7
5	West Bengal	1505.0	1953.8	2335.8	4883.7	6955.8
	Total	3296.0	3494.9	4731.7	9089.5	11970.8
NORTH EASTERN REGION						
1	Arunachal Pradesh	0.6	0.7	1.2	1.2	0.4
2	Assam	146.8	158.7	249.0	309.3	232.4
3	Manipur	1.5	3.6	2.4	3.7	8.9
4	Meghalaya	0.8	1.8	7.1	2.8	1.4
5	Mizoram	3.7	4.7	6.5	10.1	13.2
6	Nagaland	1.5	13.6	10.3	14.0	4.2
7	Sikkim	0.4	0.9	1.1	6.5	8.1
8	Tripura	2.7	35.7	6.6	9.6	21.5
	Total	157.9	219.7	284.2	357.2	290.0

Sr. No.	Region/ State	2014-15	2015-16	2016-17	2017-18	2018-19
		Loans Disbursed Amount	Loans Disbursed Amount	Loans Disbursed Amount	Loans Disbursed Amount	Loans Disbursed Amount
NORTHERN REGION						
1	Chandigarh	0.1	0.1	0.2	0.1	0.7
2	Haryana	40.6	54.0	58.5	37.1	58.1
3	Himachal Pradesh	51.8	45.3	50.1	50.2	76.4
4	Jammu and Kashmir	12.0	21.8	32.1	105.4	33.0
5	New Delhi	1.4	2.2	1.6	2.0	1.6
6	Punjab	33.6	37.8	25.0	19.7	18.6
7	Rajasthan	289.2	321.8	406.5	325.9	438.2
	Total	428.7	483.0	574.1	540.4	626.6
SOUTHERN REGION						
1	Andhra Pradesh	5623.1	11505.5	10347.1	10652.0	15364.6
2	Karnataka	4803.4	6259.1	5722.0	8196.8	8445.9
3	Kerala	1444.8	1406.9	2226.5	2728.6	3400.9
4	Lakshadweep UT	0.0	0.0	0.0	0.0	0.0
5	Puducherry	37.1	34.3	81.2	79.3	78.2
6	Tamil Nadu	4016.7	4826.2	4625.9	5360.6	6017.1
7	Telangana	5494.6	5980.5	8020.6	8071.1	9555.8
	Total	21419.7	30012.4	31023.3	35088.3	42862.6
WESTERN REGION						
1	D and N Haveli UT	0.0	0.0	0.4	0.2	0.3
2	Goa	18.2	19.8	17.9	16.8	20.4
3	Gujarat	262.1	266.3	214.7	152.4	183.9
4	Maharashtra	890.5	1600.3	1255.1	1381.5	1641.0
	Total	1170.8	1886.3	1488.2	1551.0	1845.6
	Grand Total	27582.3	37286.9	38781.2	47185.9	58317.6

* In Indian currency, 1 crore = 10 million

Source: Status of Microfinance in India (various years), Annual Report published by NABARD, Mumbai

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