TWELFTH PLAN WORKING GROUP ON DISADVANTAGED FARMERS, INCLUDING WOMEN

FINAL REPORT

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Chairperson

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2. Dr. P. Kumar, Consultant, NCAP, New Delhi Special invitee for subgroup 2
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I. TERMS OF REFERENCE

(1) To identify the constraints (such as in access to land, credit, production inputs, storage, marketing, etc.) faced by disadvantaged farmers engaged in agriculture, including women farmers and tribal farmers. Difficulties faced in accessing relevant government schemes will also be considered.
(2) To examine issues relating to insecurity of tenure, land alienation, and land transfers out of agriculture, as they affect such disadvantaged farmers.
(3) To recommend remedial measures to enhance the productivity of disadvantaged farmers, including measures for increasing security of tenure and access to land, inputs, services and institutional finance, and for promoting a group approach to farming and investment (including self-help groups, producers groups, etc.).

II. PREAMBLE

This Working Group on "Disadvantaged Farmers, Including Women" (henceforth called D&W farmers) is one of the key working groups for defining agricultural policy in the Twelfth Five Year Plan. Eighty-three percent of India's farmers cultivate under 2 hectares of land. Many face insecurity of tenure and the growing threat of land alienation and pressures from urbanisation, industrialisation, and powerful interests. Indeed, they face constraints at all points in the agricultural value chain.

Most own tiny plots of land, often in fragments and unirrigated, and many are entirely landless, although agriculture is their main source of livelihood. As a result, they are unable to take advantage of economies of scale, or invest in lumpy inputs such as irrigation, technology or machinery. They lack adequate financial resources of their own and have limited access to formal credit. Hence they have few resources for land improvement, or crop insurance, or adequate inputs (seeds, fertilisers, etc). They are often ignored by extension agencies and seldom receive information on new technologies or training in skill-intensive agricultural practices. Most importantly, on an individual basis, they lack the bargaining power to deal effectively with government institutions or markets (be they markets for land, inputs, or sale of farm produce). Given these constraints, few are able to take advantage of emerging opportunities for increasing crop output, or moving to higher value products, or making profitable market linkages.

These constraints are further compounded for tribal and women farmers. Increasingly, as more men than women move out of agriculture, there is a shift toward the feminization of agriculture. Many women also serve as de-facto household heads. However, women farmers typically have little direct access to land and highly unequal access to inputs and other services. Environmental factors further disadvantage poor farmers. Water tables have been falling and soils depleting. All this is happening against the backdrop of climate change. The key question is: *how can these constraints be*

transformed into opportunities? Can the disadvantaged farmers attain sustainable livelihoods and become India's advantage for both higher growth and more inclusive development?

This Working Group addressed these questions. It sought to examine the nature of the constraints faced by disadvantaged farmers (including women) and how these constraints could be overcome. What innovative mechanisms are needed to address the particular problems of the small and marginal? What alternative approaches can take them forward, including alternative systems of infrastructure delivery, farming systems, agri-businesses, and group approaches to investment and cultivation.

The overall approach of the Working Group was to provide evidence-based assessments and recommendations, by drawing on data, existing research, and field visits by its members, to assess the constraints and identify innovative policy options.

The Working Group was divided into four subgroups, under the following heads:

- Land security
- Inputs and infrastructure access
- Agri-business and market access
- New institutional and group approaches.

The membership and subgroup chairs, as well as the broad mandate of each subgroup, are given in Appendix 1. The Working Group members met several times in their subgroups, as well as in the full group. Many also undertook field visits. Based on these inputs, this Report presents the consolidated recommendations of the Working Group.

III. IDENTIFYING THE DISADVANTAGED FARMER

III. IDENTIFYING DISADVANTAGE

The D&W farmers Working Group took a broad definition of disadvantage, based on several (often intersecting) criteria:

- Economic disadvantage: landlessness, near-landlessness, or small size of owned or operated holdings.
- Social disadvantage: gender (being a woman), caste or tribe (belonging to scheduled castes (SC) or scheduled tribes(ST))
- Ecological and regional disadvantage: located in regions which are arid, semi-arid, rainfed, disaster prone, poorly irrigated, or geographically remote

This category of farmers would include agricultural workers, owner cultivators, as well as tenants/sharecroppers who are mainly involved in farming, but not excluding those undertaking fishery, livestock or poultry farming.

Within these broad parameters, there is further heterogeneity in terms of the extent of market interactions. Some farmers produce only foodgrains for subsistence, others produce mostly commercial crops for the market and buy foodgrains to meet their needs, and yet others cultivate a mix of subsistence and commercial crops. Similarly, they vary in their dependence on purchased inputs vs. self-produced inputs, such as seeds and organic manure. Some belong to households that are entirely dependent on cultivation, others have family members who undertake wage labour or are involved in micro-enterprises to meet a part of the family's needs.

(1) Economic disadvantage

Typically farmers in India operating less than 1 ha (2.5 acres) would be considered marginal and those cultivating upto 2 ha (2.5 to 5 acres) would be considered small. In 2005-06, marginal and small farmers accounted for 83% of the operational holdings and 41% of the operated area (Table 1). About 65% of operational holdings in India are marginal (less than 1 hectare), with an average size of only 0.20 ha, while 18% are small (1 to 2 ha) with an average size of 1.42 ha. The overall average holding itself is only 1.33 hectare (Agricultural Census 2000-01).

Moreover, about 10% of rural households are reported to be entirely landless, and a large percentage to be near landless. With little or no owned land they depend on informal leasing arrangements. In India, some 15-35% of farm land is tenant cultivated. Marginal and small farmers account for 35% of total leased in area (Haque 2000). And 36% of the tenant households are landless and another 47.5% own 0.5 ha or less. Often they are not listed in government revenue records and are therefore excluded from government schemes and facilities for credit, insurance, inputs, extension etc., for which they have to depend on private sources (Kurmanath 2011).

Small size in itself is a major disadvantage since it reduces the farmer's ability to invest in lumpy inputs, or gain from economies of scale, or have the necessary bargaining power in markets and with service agencies. These disabilities are further compounded where the plot cultivated is not owned, and therefore cannot serve as collateral for credit or provide security of tenure.

(2) Social disadvantage

Lack of adequate land often overlaps with social disadvantages, especially of two kinds: gender and caste/tribe related.

Gender is a major source of social disadvantage. Few women own land in their own right due to male bias in transfer of land by families, the state and in the functioning of markets (Agarwal, 1994, 2003). Also few women have the financial resources for leasing in land on their own. Hence, on the one hand, women are major contributors to agricultural production, and increasingly so as more men than women have moved out of agriculture; and on the other hand, they have little access to the basic means of production. Women workers who are counted as "cultivators" in national statistics tend to be largely unpaid workers on family farms. In 2004-05, 36% of women farmers overall, and 39% among marginal landholding households, were so counted (NCEUS, 2008).

Caste and tribe are additional social disadvantages. Some 32.3% of marginal and small farmers belong to the SC and the ST categories, compared with 22.7% of medium and large farmers (Table 2). The incidence of landlessness is relatively higher (12.8%) among ST households, followed by SC households (11.3%) as compared with 10% of all landless households in India. This is important as they are likely to face discrimination in the delivery of public services such as credit, information, publicly provided inputs, and extension services.

(3) Ecological and regional/locational disadvantages

Marginal and small farmers, located in arid or semi-arid regions, in remote areas, or in regions with poor agricultural and infrastructural development, suffer further. Over 97% of the operational holdings in states such as Manipur and Tripura, and more than 90% in Bihar, Orissa, Jammu and Kashmir, Uttar Pradesh and Nagaland belong to marginal and small farmers (Table 3). Most of these states have had relatively poor agricultural development.

It is thus not surprising that of the 40% of farmers in India who want to leave farming as an occupation, the highest proportions are to be found among the small and marginal located in less developed regions. For instance, 42% of small and marginal farmers, compared with 28% of middle and large farmers, reported they want to quit farming; and the highest percentages were in states such as Bihar, Jharkhand, Uttaranchal, Orissa and West Bengal (Table 4). Although some farmers may want to

leave farming because they see better opportunities in non-farm jobs, most are likely to be those who get poor returns, given their small size and regional location.

However, notwithstanding the constraints they face (as elaborated further below), small and marginal farmers are generally more efficient than large farmers in terms of per hectare output and cropping intensity (Table 5; Chand et al. 2011). Hence, even though they account for only 44% of the total operated area, they produce 41% of India's total grain (49% of rice, 40% of wheat, 29% of coarse cereals and 27% of pulses), and over half of the country's fruits and vegetables (Muller and Patel, 2004). This underlines the substantial potential of disadvantaged farmers if they were to receive support for overcoming their constraints. Similarly, for women farmers, evidence from many other parts of the world demonstrates that output could be increased substantially if they were provided the same access to inputs as male farmers (FAO 2011).

The next Section elaborates on the constraints faced by D&W farmers.

IV. CONSTRAINTS FACED BY DISADVANTAGED FARMERS

IV. CONSTRAINTS

The constraints faced by D&W farmers fall broadly in the following categories:

- Poor land access
- Poor credit access
- Poor access to critical inputs, such as water, power, seeds and fertilizers/manure
- Neglect by extension services and crop research
- High production risk and little insurance coverage
- Limited market access

(1) Land constraint

Although 70% of India's population continues to depend on agriculture as its primary source of livelihood, 83% of farmers operate holdings of < 2 ha in size, and (as noted earlier) the average holding size in India is only 1.33 ha. Most own little land and have inadequate financial resources to purchase any. Hence they have to depend on leasing in small plots, on insecure terms, for short periods, sometimes only for one season.

Legally, land leasing laws in most states either prevent marginal and small farmers from increasing the area they cultivate by leasing in land, or create tenurial insecurity for informal tenants/sharecroppers (Box 1). Unrecorded tenancies are mostly held by small and marginal farmers. At the same time, absentee landlordism is high in some regions (especially the hill states and rainfed areas), causing huge tracts of cultivable fallows to lie idle. Added to this is the rapid increase in land acquisition for non-agricultural use, and the continuing shift of land from tribals to non-tribals, despite legal restrictions. Land thus remains a significant constraint for multitudes of toiling farming families.

This, in turn, restricts their access to credit, to productive inputs, and to the opportunity to move to higher value production. Women face additional limitations, since even in families with land, they typically own none, and what they might own is seldom in their control (Agarwal 1994, 2003). It is, therefore, imperative that policies be formulated to ease the land constraint as a necessary (if not sufficient) condition to easing the other constraints described below.

(2) Credit constraint

D&W farmers, even those owning small plots, face significant credit limitations. In 2005, 46% of small and marginal farmers had accounts with formal credit institutions compared with 61% of better endowed farmers. The problem was acute in Assam, Arunachal, Uttaranchal, Jharkhand, Mizoram, Manipur and Meghalaya where over 75% of the farmers were excluded from formal credit, while in the states of Chhattisgarh, Bihar, HP, J&K, Orissa, Sikkim, Tripura, and UP, 50-75% were so excluded (Sahoo 2008). According to the 2001-02 Agricultural Census, the share of marginal and small farmers in institutional credit was 14% and 28% respectively, as against around 33% among medium sized farmers (Table 6).

Moreover, within institutional credit systems, a much higher proportion of marginal and small farmers relative to large farmers depend on the co-operative credit sector (Table 7). But the share of the Primary Agricultural Cooperative Society (PACS) in farm credit has been dwindling over the years (Table 8). The percentage of farmers borrowing from PACS fell from about 60 as on 31 March 2008 to around 50 a year later, while the volume of loans issued increased by over Rs.17000 crores (30%) during the same period (NABARD, Annual Report 2010-11). The over dependence of D&W farmers on credit from cooperatives means that with declining PACS credit, they have to fall back on the mercy of money lenders.

There are also regional and social limitations to access to institutional credit. In general, access is much poorer in the north-eastern, eastern and central Indian states (Table 8). And if the smallholders are caste disadvantaged (as SC, ST or OBC farmers) they either get no credit at all, or obtain it at higher interest rates and unfavourable terms of repayment (Thorat, 2010). Women's credit access is even lower. Hence, if the farmer is small, SC/ST and female, she can be at the bottom of the pyramid in this respect.

The government's mandate of giving 40% of total bank credit to the priority sector is not implemented effectively by the banking sector. Under this policy, at least 18% of total bank credit should go to agriculture and 10% (out of 18%) should go to the weaker sections – a category to which the majority of D&W farmers belong. In practice, from 1989 (when the policy was launched) till 2005-06, only 10 public sector banks and one private sector bank had directed 18% of bank credit to agriculture. Further, only 8 public sector banks and one private sector bank met the sub-target of directing 10% of net bank credit to the weaker sections (Karamkar 2008). By the end of March 2010, 15 out of 27 public sector banks and 11 out of 22 private sector banks had failed to meet the target of direct agricultural loans, and 15 public sector banks had not met the target of lending to the weaker sections.

The share of small loans (up to Rs. 25000) declined from 35.2% of the total agricultural advances in 2000 to 13.4% in 2006. At the same time, the share of bigger loans (> Rs. one crore) increased from 14% to 30% of the total during the same period (Ramakumar and Chavan 2007). Further, the share of small borrower accounts (< Rs. 25, 000) fell to 38% of the total accounts in 2004-05 from 62% in 1991-92 (Satish 2007). This suggests a growing exclusion of small farmers from institutional credit. The 11th Plan recognized this problem and noted: '… whereas overall credit has expanded, the number of loan accounts has declined, suggesting that small farmers are not receiving adequate credit'. But the situation remains dismal.

There was also higher growth of indirect credit to agriculture (33%) as against direct credit (17.4%) during 2000-06. In fact, indirect credit accounted for one-third of the total increase in agricultural credit (Ramakumar and Chavan 2007). There is excessive lending to the agricultural sector in metropolitan areas suggesting that indirect lending for agriculture has gone up for activities such as warehouses, cold storages, irrigation, rural electrification, etc. There is also evidence that the same set of

farmers are deemed credit-worthy and can get credit easily, while new borrowers are left to struggle (Karmakar 2011).

The government's 2006 effort to revive short-term cooperative structures, following the recommendations of the Task Force on Short Term Cooperative Credit Structure (STCCS), has not been effective for D&W farmers. Independent agency and World Bank evaluations show that although the ground level cooperative credit has increased since 2006, the share of marginal and small farmers has not increased to the same extent, and the borrowing membership has actually been declining. It is the Primary Agricultural Credit Societies (PACS) that hold substantial promise in their ability to deliver to D&W farmers, and these deserve focus and strengthening.

(3) Input and irrigation constrains

The availability and quality of modern and traditional inputs is critical for better farm production. In a market driven economy, it is important to plan production to obtain high quality inputs at reasonable prices, and on time. At present, the markets often supply spurious quality seeds, fertilisers and pesticides. D&W farmers, in particular, are unable to obtain high quality inputs, even though they are intensive users. Modern farming also requires the judicious use of inputs at specific points in the crop cycle. To apply inputs skillfully requires training and testing. Again D&W farmers lag behind due to a lack of access to good extension services (as discussed further below).

Irrigation is another disequalizer. Increasingly, as seen from table 10, irrigation depends on groundwater, across states; and this creates inequity in access to irrigation given the cost of tubewells, the non-viability of investing in this lumpy input on very small farms, and the high cost of buying water. Electricity for irrigation is subsidised in many states, but the benefits of this go to the larger farmers, who can become "water lords" by selling water to small and marginal farmers. Even in the Punjab, the ratio of returns to cost in wheat and paddy cultivation is lower for marginal and small farmers in general, and even lower in groundwater depleted areas where such farmers have to pay a high price for purchasing irrigation water (Sarkar 2011).

(4) Neglect of extension services and crop research

In 2003, only about 5% of marginal and small farmers, relative to 10% of medium and large farmers, had access to extension workers providing information on modern technology. Further, only 6% of marginal and small farmers relative to 12.5% of medium and large farmers had access to any government agency providing such information (Table 11). Only 6 states have village level extension available and 40% of the extension staff posts are vacant. The extension staff-farmer ratio is 1:1500 against an estimated ideal of 1:500, and even if all posts are filled the ratio cannot improve beyond 1: 900 (Gowda 2011). Small farmers also have much lower access to newspapers or TV for information on modern technology and rely more on other sources, including progressive farmers (Glendenning et al. 2010).

Moreover, to the extent that D&W farmers have different cropping patterns and are less able to bear risks, it is essential that agricultural research focuses on crops grown in vulnerable ecological zones and by vulnerable farmers. It is especially important to produce varieties that can better withstand heat and water stress, and are less prone to disease and pest attack.

Much of the hope for increasing agricultural productivity is also pinned on technological innovations through research breakthroughs. Hence it is imperative to strengthen the innovation system. For this, an enhancement of public investment for agricultural R&D is crucial. In fact, the annual growth in such public investment has been slowing down, falling from close to 6 % in the 1990s to 3% in the last decade. Investment intensity, namely, public investment as a percentage of agricultural gross domestic product (AgGDP), is around 0.6 % for research and around 0.2 % for extension (Table 12). This is far below the investments made in countries such as China and Brazil.

Although private investment has been growing, its share is still only 15% of total investment. Research in bio-technology is attracting more private investment, but this is concentrated in pharmaceuticals, while agri-biotech commands only 14% of the total turnover. To attract private investment and foster private-public sector partnerships, an institutional mechanism for sharing costs and benefits in intellectual property rights (IPRs) is evolving. In the new IPR mechanisms, benefits are shared with the innovator, whilst protecting the rights of farmers and local communities. However, it is still too early to say how these mechanisms will play out in terms of cost-effectiveness, the credibility of the IPR mechanisms, and the capacity of the participating institutions (Pal et al. 2007). Also it is not apparent whether these partnerships will help generate crop improvements that will address the problems faced by D&W farmers.

Moving from lab to field to reach D&W farmers is another major challenge, which requires sensitivity and attention. Will the extension services reach women farmers who face conservative social norms? Will field trials be held in the fields of D&W farmers where they could be most effective as learning exercises and in providing a demonstration effect for the neighbouring farms. The effectiveness of research and extension will lie precisely in these details.

(5) Risk and insurance

Agriculture is one of the riskiest sectors but effective risk reducing instruments are lacking (Ramaswami et al, 2003)). Farmers face production risks from weather, poor rainfall, pest and disease attack, being located in dry land and rainfed areas (60% of India's cultivated area is unirrigated), in addition to various forms of ecological and environmental risks (from disasters and climate uncertainties), and so on. They also face financial risks due to inadequate availability of credit, sudden rise in interest rates, unexpected demand to repay, etc; market risks from price volatility of inputs and outputs, and market failures; and institutional risks due to unexpected changes in Minimum Support Prices (MSP). Commercial farming can also increase risk. D&W

farmers are therefore less likely to experiment with new technologies, production practices, or inputs, or venture into riskier but more lucrative high value crops or contract farming (Ramaswami et al. 2003).

While large farmers cultivate many crops and prefer high value crops which involve high costs and modern inputs, small farmers concentrate on one or a few crops, preferring traditional low risk crops for survival (Sengupta and Kundu 2006; Table 13). Non-traditional or high value perishable crops have higher production costs, and hence higher risk from crop failure. The prices of such crops are also more volatile due to thin markets (markets with low volumes of trade and fewer transactions), relatively uncertain yields, and perishability.

A number of policy and market instruments are being used in India to deal with risk, including crop/weather insurance against crop loss, State-sponsored tools e.g. Minimum Support Price (MSP) for 24 crops, Market Intervention Scheme (MIS) for other crops, and Farmer Income Insurance Scheme (FIIS). There are also market based institutions, such as a warehouse receipt system, apart from mechanisms that farmers can themselves use, such as crop diversification (Acharya 2006). But the implementation of state tools, such as MSP, has been weak, except for a few crops in a few regions. And it has usually failed farmers when they are most in need. It is therefore important to ensure MSP for standard crops, as well as new higher yielding crops (Planning Commission 2006).

Crop insurance has potential but has not worked well in India and its coverage via the National Agricultural Insurance Scheme (NAIS) was restricted to 15% of farmers in 2006-07. Paddy farmers accounted for 36% of the insured, 27% of premiums and 26% of the claims, followed by groundnut (Nair 2011).

Hence while crop insurance is important, it must be supplemented by other mechanisms. One such mechanism could be contract farming (CF) which reduces market risk by offering pre-agreed prices and an assured market. In India, in 2006, the prices of onions, tomatoes, cabbage and potatoes fluctuated highly and much more than for non-basmati paddy, castor, and wheat. This was partly because most of the latter crops had MSP protection, while the perishable crops mentioned earlier had none (Sharma 2007). It is here that CF could help, as one among other risk management mechanisms.

CF is being practiced in India in various ways, ranging from direct bi-partite contracts to tri- and multi-partite agreements in which, apart from farmers, processors/market agents, banks, or facilitators/organisers of CF, also get involved. They even include government agencies, local development agencies/NGOs, and local middlemen and franchisees. In fact, CF has been used by the government in many situations to promote crop diversification for improving farm incomes and employment (Singh 2002), and for improving access to better inputs, providing more efficient production methods, and reducing cultivation costs. But the ability of D&W farmers to

take advantage of CF benefits, without being pulled into exploitative contracts, is limited, if they are cultivating individually.

(6) Marketing constraints (including access to new opportunities)

Only 10.7% of sub-marginal and 18.5% of marginal farmers took advantage of marketing co-operatives, compared with 36.7% of medium and large farmers, and 33% of semi-medium farmers (Table 14).

Although small farmers relative to large ones produce a higher output per unit area (Table 15), they get a raw deal in markets. A recent study of wheat marketing in India revealed that though marginal holders had the highest yield per hectare, they realized the lowest prices per quintal (Gandhi and Koshy 2006).

Globalization is changing the way agricultural marketing is organized, even within relatively sheltered produce markets such as India. National, regional and local marketing systems are increasingly adopting global best practices in procurement, storage, transport, packing and the processing of food and fibre products. Food supermarkets are also emerging and although their present market share is tiny, they are likely to become increasingly important in catering to the growing urban demand for quality farm produce delivered in modern formats. This, in turn, will create pressure for higher food quality standards and usher in new procurement systems. Efforts to loosen the stranglehold of the APMC inspired *mandi* system over agricultural marketing will intensify in the near future, leading to the entry of new entrepreneurs bringing modern supply chain processes. Indian companies are also increasingly likely to try and capture larger market shares of the expanding international trade in primary commodities and processed foods. Hence, they will seek quality produce in large volumes from domestic producers. These developments could open up opportunities for D&W farmers provided they receive the needed support to take advantage of them.

Although contract farming is growing in importance (Box 2), the majority of existing tie-ups between farmers and processors/retailers involve medium and large farmers, and rather few small and marginal farmers. Also, most CF projects are in agriculturally developed states, such as Punjab, Haryana, Gujarat, Maharashtra, Karnataka and Tamilnadu, while bypassing other states, such as those in eastern and northeastern India which have high concentrations of small and marginal farmers. Small and marginal farmers also face information asymmetries and legal ambiguities, and have weak bargaining power with corporates.

Corporate and other bulk buyers of agricultural commodities, in turn, find the transaction costs of dealing a large number of small producers prohibitively high, and prefer to go with fewer bigger farmers and *mandi* aggregators. Large farmers are also preferred by contracting agencies because of their capacity to produce and supply better quality crops, given that they are more likely to use efficient and business-

oriented farming methods; have access to infrastructure, such as transport and storage; produce a large volume which reduces collection costs for the firm; and have the ability and willingness to bear the risk of crop failure (Singh 2002). Since the crops and ventures are risky, contracting companies focus on such farmers, rather than on those in need (Gill 2004). This bias in favour of large/medium farmers is perpetuating the practice of reverse tenancy in regions like Punjab, where contract farmers lease in land from marginal and small farmers for contract production (Singh 2002; Haque 2003).

Recent research shows that the contracts tend to protect contracting company interests at all costs. They do not cover the farmer's production risk from, say, crop failure. They retain the right to change prices, and generally offer contract prices which are based on local open market (APMC) prices. Even for organic produce, CF agencies offer conventional (non-organic) produce market prices to their growers (Singh 2009). Hence even a significant premium over market price may not help a farmer if market prices drop substantially, as is not uncommon in India. The market based price is offered to avoid grower default, since they can sell the produce in the open market if the contract price is the same or lower than the market price.

Retail chain penetration in the Indian farm sector is also highly selective in terms of regions, the farmers who can participate, the crops that are covered, and the information that is passed on to the farmers. For instance, the Bayer Food Chain Partnerships launched its FCP programme in those areas where retail and processing industries were most active in procuring from farmers, and where private centralized procurement infrastructure, such as collection and distribution centres, had already been set up. These areas fall within five `nodes': Punjab and Haryana; Maharashtra; Gujarat; Karnataka and Tamil Nadu; and Andhra Pradesh. Within these states, there are clusters of intensified production of a particular vegetable crop. This crop-specific focus excludes a large percentage of farmers (Trebbin and Franz 2010).

Similarly, in the emerging fresh fruit and vegetable retail chains, it is medium and large growers who are the 'contact' (not contract) growers, with a few exceptions like Namdhari Fresh which has involved small holders. Although we might expect vegetable crops to be more suitable for small holders due to their labour intensity and regular income, the market/buyer does not favour small holders. A study of Reliance Fresh, a retail chain in Karnataka, found that the average size of a retail supplier ranged between 2.5 to 8.2 ha, which was many times the average size of holdings in the state or even in the study areas (Kolar and Belgaum) (Pritchard et al. 2010). Other studies of fresh produce retail chains reach similar conclusions (Singh and Singla 2011).

The newly emergent organic produce supply chains also tend to exclude small producers due to high certification costs, small volume of output, and tighter control by the chain leaders, in the absence of any local markets for the products. In Madhya Pradesh, in the organic cotton project organized by a corporate textile chain, out of 44 farmers interviewed, only 5% were marginal (<1 ha) and 22% small (1-2 ha). The average land under contract was around 5 ha. Similarly, in Haryana, the average

contract grower for organic Basmati operates around 13 ha, while the average size of operated holdings in the state is 2.13 ha (Singh 2009).

Under the APMC Act, contract farming and direct purchase from farmers were not permitted. Hence in 2003, the Central government recommended that the Act be amended to allow CF and direct purchase from farmers, and to even set up private markets. These recommendations led to varying amendments in the Act at the state level. But, the amendments have no provisions for including small holders in CF programmes.

So what scope is there of CF reaching the small producer? At present, small farmers are approached by firms only when the region is dominated by such farmers, or because they have a cost advantage in certain areas and crops, or if there is a government directive to include them, or because small farmers are attractive due to the financial and technical support that the state provides under various development programmes.

Potentially, firms could benefit from lower costs of production on small farms due to their access to cheaper and committed family labour. In Karnataka, Tamilnadu, and Andhra Pradesh, firms worked with small and marginal farmers due to the nature of the crops (cucumber/gherkin, and broiler chicken). Gherkin requires substantial labour inputs. Sometimes agencies use large growers, rural elite, and local small processors as sub-contractors to procure from small growers. Indian seed companies subcontract small companies to procure seeds under contracts, and large farmers and traders organise seed production. For the contractors, many small farmers can help spread risk of supply failure better than a few large farmers (Singh 2002). Hence, in certain contexts, D&W farmers could gain, but at present, this is not typical.

Few D&W farmers have suitable land near the main road, irrigation, and literacy, which CF projects/schemes often require. Other factors which disadvantage small producers are high transaction costs, quality control, reduced payment for delayed delivery, high rate of product rejection, and weak bargaining power. Hence, in CF across the world, private agribusiness firms have less interest and ability to deal with small farmers on an individual basis (Hazell 2005). The promise again lies in cooperative arrangements among small farmers for production and delivery.

V. SOME PROMISING SCHEMES AND APPROACHES

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A range of efforts have been made over the years, both by government and civil society, to address the above constraints faced by D&W farmers. Some have failed, others have succeeded in particular contexts. A few of these promising initiatives are described below. This is not a comprehensive discussion of all initiatives but mainly of those which have both sought to and proved able to reach the D&W farmers, especially women. ***It is notable that all of these schemes are dependent for their success on a group approach.***

(1) Land access schemes

There have been a number of attempts to facilitate land access for D&W farmers. Some have focused on enhancing land ownership, others on leased land. But the most effective have been those which used an integrated approach for land and other inputs by promoting group farming.

Facilitating land purchase

In the 1980s the Andhra Pradesh government introduced a loan-cum-grant scheme, for which poor dalit women were eligible, provided they formed small groups to collectively buy land. With support from the NGO, the Deccan Development Society, many women's groups in Medak District took advantage of the scheme and bought land in groups. The land was equally divided and registered in the names of individual women. But they have been undertaking cultivation jointly by pooling their land.

Homestead land for shelter and small livelihoods

In the 11th Five Year Plan, the Working Group on Land Relations had recommended that 10 cents of land be distributed to each rural households which did not own a homestead. Further the land was to be given in the woman's name. There are no readily available figures on how much land has been distributed under this initiative and in which states, but the programmes of some states deserve mention. Kerala, for instance, has had a longstanding programme of giving ownership rights to the land on which a hutment/homestead stands, as part of its land reform program. As many as 4.46 lakh agricultural labour households had benefited from this and the percentage of landless families declined from 15.7% in 1971-72 to 4.8% in 2002-03. These schemes not only provided land for shelter but also for supplementary livelihoods (for kitchen gardens, goat and poultry rearing, etc.)

The West Bengal and Orissa governments have also launched schemes for allotting homestead plots to landless poor families. Orissa has been allotting 4 to 10 cents and West Bengal has allotted up to 16 cents.

Changing the law to allow selected land leasing

Andhra Pradesh provides an interesting, but flawed move to legalise tenancy. In 2009 it introduced a bill in the Assembly (Self-Help Group Tenancy Bill, 2009), the enactment of which will legally permit leasing by women's Self-help Groups. Landowners have been assured that their titles will not be in jeopardy. However, a flaw in Andhra Pradesh's 2009 Bill is that the land will be leased collectively by the group, but it can be sub-leased to group members, with the group bearing liability for the lease. This is retrogressive, since default by an individual member would make the entire group indebted. Also subleasing will fragment the holdings and undermine potential economies of scale which could accrue if the leased land is cultivated jointly.

Group approaches to access land

A range of group approaches have been tried successfully to help D&W farmers procure land, either through purchase (as described above in the DDS case) or, more commonly, by collective land leasing (such as the Kudumbhshree project in Kerala or the APMASS project in Andhra Pradesh). These projects, however, use an *integrated* approach which seeks to ease several constraints simultaneously. They are, therefore, described separately, further below.

(2) Credit access schemes

Kisan Credit Card (KCC) Scheme: The KCC Scheme was introduced in 1998-99 to facilitate farmers' access to short-term credit from formal financial institutions, with flexibility in the time of borrowing. The scheme has made rapid progress and by the end of March 2009 about 80.8 million KCCs had been issued, 44% by co-operative banks, 43% by commercial banks, and 14% by RRBs.

On an average, two-thirds of farming households possess KCCs in India. However, the distribution varies substantially across states. The highest density is observed in Punjab (2.02), the distribution being over twice the number of operating households in the state. Other well-performing states with high densities include Haryana (1.44), Andhra Pradesh (1.06) and Orissa (1.04). In contrast, the performance of states like Assam, Bihar, Himachal Pradesh and Jammu & Kashmir, in the distribution of KCCs, has been dismal. For instance, only 5% of farming households in Jammu & Kashmir, 13% in Assam, and 25% in Bihar and Himachal Pradesh received KCCs (Kumar et al, 2010). It is imperative that all efforts are made to reach D&W farmers in these low performing states.

(3) Input access and joint crop planning

PRADAN (NGO) which works with women's SHGs in several states has been undertaking joint crop planning. In 2010, about 1.25 lakh women in 4200 SHGs made farm plans collectively. These plans provide the basis for other joint activities, including collective procurement of inputs. In PRADAN's areas, about 30,000 women are formally

organised in cooperatives, producer companies, or some other collective forms, to purchase inputs for distribution among the members. This reduces input costs and assures quality (see also Box 3)

A somewhat different, but environmentally friendly, way of reducing input constraints is to reduce the need for purchased inputs, especially pesticides, by moving to non-chemical agriculture. Andhra Pradesh has taken a lead by launching Non-pesticidal Management (NPM) of crops as a promising sustainable agriculture strategy. In 2009-10, AP implemented NPM in 21 districts, covering 18.17 lakh acres and 7.38 lakh farmers. Output is also reported to have increased substantially as a result. And women SHGs are beginning to find a means of livelihood in vermiculture production for sale in neighbourhood shops.

(4) Improving marketing

There are some encouraging (albeit scattered) examples of institutional aggregation of small producers, in the form of informal collectives, formal cooperatives, or producer companies (Boxes 4, 5 and 6). A producer company can be registered under the provisions of the Companies Act 1956 (Part IX-A, Chapter one). The objective of the company can be production, harvesting, procurement, grading, pooling, handling, marketing, selling, export of primary produce, or import of goods or services. Its members can be individuals (10 or more), or producer institutions, or some combination of both. Today, there are around 130 such companies, the highest number (44) being in the western region, followed by the eastern (34) and southern regions (30). Around one-third are over two years old. But, they face capital shortages, since they cannot mobilise external equity, and have not yet been recognised as co-operatives by state agencies and banks.

This suggests that D&W farmers will not be able to take advantage of contract farming, or of retail chains, or any of the new market linking opportunities, if they depend on normal market mechanisms. To take advantage of these, D&W farmers will need to shift from being separate, fragmented, and unorganised, to becoming organised under some form of collective arrangement. Here an integrated approach in the form of group farming could be especially helpful, as described below.

(5) Group farming:
An Integrated approach to ease multiple constraints

To ease the constraints D&W farmers face in access to land and other inputs, and to enable them to take advantage of new market opportunities, we need an intergrated approach to problem resolution. The most comprehensive solution would be group farming. There are several successful examples of group cultivation in India from which lessons can be learnt and the programme expanded to other states.

The significant examples are those which relate to women's groups, farming collectively to grow cereals or fruits and vegetables, or both, for subsistence as well as

sale. The best known example is of the Kudumbashree project launched in 2007 by the Kerala Government; but several initiatives in Andhra Pradesh are also of note, such as women's group farming initiated by a UNDP-GoI project in 2001 and now sustained by the Andhra Pradesh Mahila Samakhya (APMSS) since 2005; women's group farming initiated by the Deccan Development Society in 1989; and the Gambhira farmer's collective in Gujarat, initiated in 1953 but still going strong.

Kudumbashree collective farming, Kerala (see also Box 7).

The Kudumbashree project initially facilitated land leasing by small groups of women, typically women's SHGs. In March 2010, an additional step was taken under which SHGs undertaking group farming can be registered as Joint Liability Groups (JLGs) – a NABARD scheme -- and given financial and technical support.

There are some 38,000 JLGs in Kerala today, covering 2.5 lakh women. Such collective/group farming is carried out in all 14 districts of Kerala, covering around 24,000 ha in 2010-11. Of this, 30% is fallow land which is about 9% of the total current fallow land in the state. While all communities participate in this, OBC, SC/ST and minority communities form the majority.

Each JLG has 4-10 women members from poor families, who lease in land, and also pool small plots owned by members. Leases range between 1 and 3 years. Rent on fallow land is low. The main crops cultivated are paddy (almost one-third the acreage), tapioca, vegetables (such as bitter gourd), banana and pineapple.

The state government provides support for land preparation and reclamation (linking it with MGNREGS in some districts), and subsidizes seeds, manure, electricity for irrigation, and farm machinery. The programme provides area and production incentives and training, and also support for marketing.

Group farming through joint leasing has brought substantial uncultivated land under cultivation, revived agriculture, created employment, and generated group solidarity and self confidence among the women.

The *Andhra Pradesh Mahila Samatha Society**: women's group farming*

The second significant example of successful group farming by women is that managed by the Andhra Pradesh Mahila Samatha Society (APMSS) which is today working with about 175 women's groups across 5 districts of Andhra Pradesh, involving 4,376 women farmers, belonging to small and marginal farmers and landless farm labourers. Since the project's major aim is to achieve food security, only food crops are grown. The groups mainly cultivate paddy with little irrigation and use non-chemical farming practices. The groups have sustained for 10 years. All farm operations are shared and the output is distributed among the women.

The Andhra Pradesh Mahila Samatha Society is a part of national Mahila Samakhya programme which has been working in the state, since 1993 with the principal objective of 'Education for the Empowerment of Women'. Women are mobilized into sanghams (village level collectives) and empowerment processes are facilitated through various interventions. In 2001, APMSS begun implementing a five year GoI-UNDP supported Dry Land Agriculture Project by mahila sanghams in five districts. The project covered 500 villages, with women farming in groups on jointly leased in land. In 2005, UNDP involvement ended but the programme continued under APMSS auspices.

Group farming has sustained and greatly increased food security among the participating households, which would not have been possible on an individual basis. It has also empowered the women.

However, the momentum has slowed in the absence of sustained technical support at the field level which had been provided during the project period with UNDP funding. The groups have difficulty in obtaining credit, inputs, training, and extension services. They also face insecure lease markets. APMSS has emphasized that for strengthening the programme they need state government support, as provided by the Kerala government in the Kudumbshree case. In this regard, the APMSS has made several recommendations which are incorporated in the general "Recommendations".

***The Gambhira farmers' collective**, Gujarat* (also see Box 8)

The Gambhira cooperative Society is the longest standing example of successful collective farming in India. Formed in 1953, farmers in four villages, Gambhira, Kothiakhad, Nani-Serdi, and Bilpad cultivate a stretch of fertile river-bed land of the Mahi river in Gujarat. This farming co-operative has enormously improved the socio-economic condition of its members and also of these villages.

The Society has a three tier management structure: a Managing Committee (9 persons elected in a general body); the staff of the Society; and cultivating members (291 farmers). About 90% of the members belong to the socially and economically disadvantaged Baria caste. The cultivating members form groups of a few farmers each and each group has a group leader. Some decisions are decentralised, such as labour sharing arrangements; others are made centrally by group leaders and management, such as the crops to be grown, input procurement and marketing. The group leaders work in consultation with the Managing Committee and the manager.

Food grains and tobacco are grown. The produce and profits is shared between the society and the farmer groups. The Society receives technical help from the Gujarat Agricultural University. But, as recommended further below, the government could strengthen the Society's efforts and explore the initiation of similar efforts in other regions on a pilot basis.

Fish co-operatives in Bundelkhand

Apart from collective farming, there are also examples of poor farmers groups successfully undertaking fish cultivation. A case in point is the Bundelkhand region of central India encompassing six districts of Madhya Pradesh and seven of Uttar Pradesh. Much of the region suffers from acute ecological degradation. But Madhya Pradesh is a significant contributor to inland fisheries. It has over 335,000 ha of ponds and reservoirs, an annual production of 61,500 tonnes of fish, and about 1,680 fisher co-operatives with 58,500 members (Oxfam Report).

By 2008, fisher cooperatives in Bundelkhand controlled 151 ponds, 9 run by women's groups. The programme is estimated to have benefited 12,000 households. The state government has also introduced a new law that protects the rights of traditional fishing communities. As a result, the latter regained control of over 200 ponds by the end of 2010. A "Bundelkhand fish producer company" has been formed for marketing.

Today there are over 200 cooperatives and 48 fish seed rearing nurseries owned by community members; 23 are owned by women's groups. Fish production under those cooperatives is three times higher than earlier in a large number of the tanks. The State government has also announced credit support to fishing cooperatives on par with agricultural loans. The project is supported by Oxfam through a local NGO, VIKALP.

VI. DETAILED RECOMMENDATIONS

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To transform small holder agriculture and the situation of disadvantaged farmers, it will be essential to shift from an individual oriented approach to a group oriented approach. A group approach can take diverse forms and should be promoted, where possible, at all points in the value chain, from accessing land, to joint cultivation, to crop planning, input purchase and marketing, depending on the context. India has success stories of groups undertaking all these tasks collectively at every point in the value chain. However, for replication and sustainability, government support is essential, with strong inputs from civil society and even the private sector. In particular, financial allocation from government is essential, for supporting organizations capable and willing to catalyze group formation. There is an opportunity here, waiting to be tapped, for converting disadvantaged farmers into advantaged farmers.

Our specific recommendations are given below and address the constraints faced by D&W farmers on all fronts: land, credit, production, inputs, research and extension, risk management, and marketing, including accessing new market opportunities such as contract farming and retail linkages.

(1) Easing the land constraint

Five mechanisms for easing the land constraint faced by the landless and landpoor deserve attention: (i) Land transfers by government to D&W farmers; (ii) Facilitating land purchase; (iii) Facilitating land leasing, including creating a government land bank in which land can be deposited voluntarily by owners for leasing in by D&W farmers; (iv) Protecting small holders from indiscriminate land acquisition of land for non-agricultural use; and (v) Improving land records and obtaining gender-disaggregated data.

State transfer of land to the landless

1.1. There should be a comprehensive assessment of all land available with the government, including ceiling surplus land, uncultivated wasteland, etc. Unofficial estimates by organizations such as Ekta Parishad suggest much more land is available for distribution than reflected in official estimates.

1.2 All such available land should be distributed to *groups* of D&W farmers rather than to individual families. The land so distributed could either be registered in the group's name, or it could be given to them under a very long-term lease arrangement.

1.3. The recommendation of the 11th plan that all rural families without homesteads be allotted land in the woman's name, needs to be implemented in all states, although the amount allotted could be subject to availability.

Facilitating land purchase

1.4 Apart from distributing all surplus land available with the government to D&W farmers, schemes must be instituted to enable the landless and landpoor to themselves purchase land. We recommend a loan-cum-grant scheme with 50% being given as a low interest loan and 50% being given as a grant, to help groups of landless or near landless women and men purchase land collectively. The land purchased can be registered in equal parts in each group member's name, but additional support should be given to enable the group to work jointly to improve the land, and even cultivate it as a group. A case in point is a scheme started in the 1980s by the Andhra Pradesh government, under which poor dalit women formed small groups to buy land collectively for joint farming, with support from the Deccan Development Society.

1.5. However, we recommend against the government purchasing land for leasing to groups of DA&W farmers, as attempted in Andhra Pradesh. Government entry in the land purchase market tends to hike up land prices, thus making the scheme unsustainable, and also adversely affecting poor farmers who are outside the scheme when they seek to buy or lease in land on their own.

Facilitating land leasing

Land leasing is not only a reality but can serve as a significant mechanism for bringing in fallow or little used land under cultivation, and providing land access to the landless and landpoor. This will need both legal changes and institutional innovation. The two changes could be complementary. The first is needed for legalizing tenancy in specific contexts and the second for increasing and rationalizing the supply of land for D&W farmers.

1.6 *Legal changes*

Tenancy should be legalized in specific contexts and under regulated conditions, to provide security to the tenant for the contractual period, which should be long enough to encourage investment in the land. Legalization should also protect the landowner's rights so that s/he has an incentive to lease out the land which might otherwise remain underutilised. However, ***a group approach*** to leasing and cultivating the land should be built into the system. Hence land leased by a group should be cultivated jointly by the group, so that both the liability and the benefit can accrue to all and sub-leasing to individual group members should not be allowed. Financial and institutional support should also be provided for group cultivation.

In other words, leasing by women's SHGs, or groups constituted of male or female headed disadvantaged farmer families, or production cooperatives, or other forms of group farms should be permitted. But the ban on leasing should continue to apply to large farms and corporate agencies.

1.7 *Public Land Banks: An Institutional Innovation*

Notwithstanding the legal guarantee promised to the landlord in any law, it may be insufficient to mitigate the landowner's fear of losing his/her title, especially since many of the lessors are themselves small and marginal farmers. Enacting a law to recognize tenancies could then freeze the informal land lease market in the short run.

To guard against this happening, we propose the creation of a ***Public Land Bank*** (PLB). This would take "deposits" of land parcels from landowners wanting to lease out their land, with the surety that they could withdraw their deposit when they wanted. The deposit could be for one season, one year, or 3 years and more at a time. On deposit the farmers would get a small payment as incentive, the amount varying by the period of deposit (analogous to a current account, savings account, and fixed account in a financial bank). The incentive amount could be calibrated to a percentage of the prevailing average land rent in the panchayat. The landowner would receive an additional fee when the land is leased out. Consolidated plots could then be leased out to individuals or collectives of D&W farmers, and other specially designated categories of cultivators (such as dalits and tribals). The agency managing the PLB should be a Panchayati Raj Institution, at the gram panchayat or block/mandal level.

There can be several incentives for farmers to deposit their land in this way, such as: (a) a minimum rent from the PLB even for fallow land; (b) an additional "topping up" rent for land that gets leased out; (c) development of the leased out land in terms of soil conservation etc, undertaken via MNREGA or other means. (d) government guarantee for the land to protect the owner, with owners being free to withdraw their land from the Bank with due notice, if they so wish. For the lessees, the PLB should provide a guaranteed lease and, where possible, a consolidated plot of reasonable size. This would, in itself, improve their ability to move up the value chain and taking advantage of new opportunities.

In other words, the PLB would help to match land supply and demand in a rationalized manner. On the supply side, it would address the concerns of landowners and bring under cultivation large tracts of underused or fallow land. On the demand side, it would provide D&W farmers access to land which they are not able to compete for in the open land market. In addition, the PLB could facilitate land development activities, and facilitate D&W farmers' access to government support, such as to institutional finance, modern technologies and practices, quality inputs and markets.

The PLB could be provided initial seed capital from the central and the state governments in a ratio of say, 80:20. It could be registered either as a Society under the relevant state government Act, or a body similar to the Small Farmers' Agribusiness Consortium (SFAC), and so on. ***There would be a ban on leasing of land from the PLB to corporates, large farmers and other categories, with clear guidelines to prevent misuse of the liberalized tenancy provisions by such groups.*** The amendment of tenancy laws to permit leasing of agricultural land by corporates, as done in the Punjab recently, should be reversed.

Restricting conversion of agricultural land to non-agricultural use

1.8 The draft Land Acquisition Bill 2011, currently being discussed, specifies that there should be prior consent by 80 percent of the farmers for acquiring any land for genuine public purpose, with adequate compensation and rehabilitation of those displaced. However, the following additions in the Bill are necessary for D&W farmers:

- Land transfer should require by law the consent of both spouses and not just of heads of households. Also the rights of both spouses should be recognized equally in compensation in any form (compensatory land, cash, equity, etc).
- To the extent possible, compensation should be land for land, since even farmers with resources often lack skills in setting up viable non-farm enterprises. The compensation should be adequate for an alternative livelihood.
- There should be specific safeguards for D&W farmers by retricting easy access to the land they possess.

1.9 All States should have a comprehensive land use policy to deal with agricultural land issues from a livelihood perspective.

Data issues: land records and gender-disaggregation

1.10 All land records which have been computerised should be placed in the public domain.

1.11 Gender-disaggregated information should be collected on land ownership and operation in all large surveys, such as the agricultural census, the NSS and RBI's Debt and Investment Survey.

(2) Promoting Group Farming

There are many potential advantages of farmers cooperating, ranging from joint marketing to land pooling and group farming, with various forms of cooperation in between, such as jointly investing in lumpy inputs like irrigation, or joint crop planning. We recommend that all forms of farm cooperation be strengthened. But for D&W farmers, the most effective will be group farming. Our recommendations below, take account of ground-level successful cases of such farming.

2.1. Incentives should be provided to encourage D&W farmers to pool their resources for group cultivation. The land could come either from group leasing or land pooling by those who already own small plots. Incentives could include tying subsidies on credit, technology, etc. to those cultivating in groups.

2.2 Group farming could also be integrated with MNREGS for improving agricultural land. For instance, MNREGS has been used productively for land preparation or reclamation to support group farming in Kerala (under the Kudumbshree project)

2.3 We recommend extension of the Kudumbshree and APMSS models on a pilot basis to other states. We also recommend extension of the group enterprise model to other agricultural ventures such as fisheries (e.g. group fisciculture), poultry or livestock management.

2.4 Recognizing that the setting up of group enterprises takes time and resources, funding for up to 5 years should be provided to all organizations willing to play a role in forming and mentoring institutions until such time as they become self-sustaining. The organizations playing this role could be NGOs or other agencies.

(3) Enhancing Access to Production Inputs

Development and preservation of crop varieties

3.1. There is urgent need to strengthen research focused on crops grown in semi-arid and rainfed regions, such that they can better withstand water shortages, heat stress, temperature and rainfall volatility, biotic stress, and other vulnerabilities. This will benefit D&W farmers living in drought-prone areas, as well as those without irrigation, and strengthen their ability to mitigate climate change.

3.2. Field trials should be conducted in areas with concentrations of disadvantaged farmers, and especially women's groups. This will have several advantages: relevance of the results, demonstration of the effects to the disadvantaged, and rapid dissemination.

3.3 Seeds are crucial for higher yields and cost saving. Often cooperatives of women farmers or local groups preserve seeds, but under poor conditions. Such local systems of seed production, preservation and distribution should be encouraged with financial and infrastructural support. There could even be localized marketing of seeds through SHGs, with government support. This would also help crop diversity.

Joint crop planning and Input procurement

3.4 While group cultivation involves collective organization at all ends of the value chain, there is substantial potential for gains even at lower levels of cooperation, such as in crop planning and accessing inputs. We recommend using a group approach for planning production and providing inputs.

Regional/ecological zones should be defined in a panchayat/mandal, and within each zone farmers' groups, including women's groups, should be given incentives to plan farm production. Crop planning Centers for D&W farmers could also be considered.

3.5. There should be support for formal and informal arrangements for taking credit and working with service providers to access agri-inputs such as seeds, fertilisers, pesticides, etc.

Non-chemical agriculture

3.6. Non-Pesticidal Management (NPM) of crops should be promoted, especially in those crops that have traditionally had high pesticide use, such as cotton. This would have several benefits: environmental improvement, cost reduction (and hence less economic and social stress for the farmers), and consumer satisfaction. NPM promotion should be recommended for all states, initially on a pilot basis to examine the impact on output and costs.

Irrigation

3.7. There needs to be a strong emphasis on expanding small-scale irrigation and rain water harvesting schemes, and effective implementation of Participatory Irrigation Management (PIM) to better utilize and distribute available water to D&W farmers. PIM can ensure greater water availability, more equitable distribution, timeliness and maintenance, and also benefit the village economy as a whole through groundwater recharge. PIM with Water Users' Associations should be vigorously promoted, especially to benefit D&W. Gujarat has done this effectively, with substantial impact on agricultural output and benefit to D&W farmers. It is important to extend this approach more widely to other states.

3.8. There is large potential in low cost irrigation technologies, such as human powered treadle pumps, and Kitchen-garden Drip Irrigation Kits for vegetable cultivation, etc., and these should be promoted. Human powered treadle pumps have been successful among D&W. Women can also use them easily. Drip-Tape is another low cost innovation which brings down the capital cost of drip irrigation and extends its durability, and thus helps poorer farmers adopt it and raise yields. Work by IDE (International development Enterprise, India) and PRADAN in east India shows success in raising yields of tribal farmers through this technology.

Machinery

3.9. Low cost, custom hiring of agricultural machinery and tools, including tractors and threshers (in labour scarce areas) should be especially provided for D&W farmers, with incentives to provisioning agencies to cater to D&W farmers in particular. Panchayats, Primary Agricultural Cooperative Societies, and agricultural machinery cooperatives/producer companies, agri-business clinics, even private entrepreneurs could be encouraged with loans, training and subsidies to provide such equipment to D&W farmers. Easier and wider availability of credit for second-hand machines would also be helpful.

3.10 It is important to develop or modify farming tools to fit the needs of women farmers in terms of size, weight, design, etc., for reducing drudgery, and for more effective independent use. In fact, all existing technology needs to be adapted to local needs, after discussion with the farmers. This will also make the lab to field transfer relevant, especially for D&W farmers.

(4) Enhancing Credit Access

The credit constraints faced by D&W farmers can be alleviated in two broad ways: One, through integrated credit delivery linked with increasing land access and similar schemes; and two, through improvements in standard institutional credit delivery to farmers, with particular reference to D&W farmers. Recommendations on both counts are given below:

Integrated delivery

4.1. Schemes that integrate credit delivery with increasing access to other inputs should be promoted: for instance, linking SHGs or similar groups (such as neighbourhood groups) with Banks refinanced by NABARD, as done in the Kudumbshree project for group farming, or providing loan-cum-subsidies for specific agricultural inputs, or loans for leasing in land.

Improving standard delivery

4.2. For D&W farmers who are not part of integrated schemes, it is critical to ensure that all banks, not only NABARD, as well as other government agencies, reach out proactively to such farmers.

4.3. The AP scheme of “Loan Eligibility Cards” should be extended to all farmers and replicated nationally. Under the scheme women/landless farmers who can offer no collateral can draw up to Rs. 50,000 from banks for farming.

4.4. Currently, priority sector loans meant for agriculture have been deflected to activities like cold storage and truck purchase, which cater to the larger farmers and typically exclude small holders. Loan priorities should be laid down mainly for activities identified as relevant for D&W farmers. At least one-third of all agricultural loans and 15% of priority sector loans should be earmarked for D&W farmers. In addition, 50% of the loans earmarked for the weaker sections should be targeted at D&W farmers. Financial institutions which exceed priority sector targets for D&W farmers should also be given incentives.

4.5. Credit cooperatives must be revived, with appropriate institutional reforms, to improve management quality and delivery. Special efforts need to be made to enrol D&W farmers, especially women, with at least one-third membership earmarked for disadvantaged women farmers.

4.6. Regional inequalities in access to institutional credit need to be addressed. Less served regions such as the north-east and east should receive particular focus, since these regions have a concentration of disadvantaged farmers.

4.7 Banks should allow spousal membership for women farmers along with their husbands in Kisan Credit Cards.

4.8. In the National Horticulture Mission, one third of support should be for D&W farmers, and the minimum land holding size for credit should be reduced for farmers cultivating under one acre.

4.9 An Ombudsman should be appointed at the local bank level to redress grievances of D&W farmers with respect to credit access.

(5) Extension, Training and Capacity Building

5.1. *Training* in new technologies and skilled practices is essential for increasing productivity. The system of Rice Intensification (SRI) is a case in point. This helps lower costs, raises yields, and is sustainable. It is dependent on judicious seeding, fertilizing and weeding, but requires training of farmers to make it work. For this and other emerging practices, training needs to be especially organized for disadvantaged farmers in general, and women in particular, since they tend to get left out. There is also a high grassroots demand for such training by women's farming groups.

5.2. *Resource Centres*: Special efforts will be needed by government agencies to build the capacity and knowledge of women farmers *on a continuous basis*.

Resource Centres can be set up for providing information on new technology and practices; on government subsidies or schemes for improving agriculture and land development; and on other technical inputs to women farmers, via the Krishi Vigyan Kendras (KVKs), or through a village cluster approach. Moreover, there can be continuous linkages with the agricultural departments and KVKs, to update the Resource Centre personnel with new information. Resource Centres can also function as service providers for marginalized women farmers, to enable the latter to access agricultural services. Special consultation cells should also be established where women farmers can request training and capacity building in their area.

5.3. *ATMAs*: In Agricultural Technology Management Agencies (ATMAs, which coordinate all extension services) nodal officers should be appointed at the block level, to cater to clusters of 500 farmers, at least 60% of whom being D&W farmers. The officer should have with him the profile and land record of each farmer he/she is responsible for (like health cards with doctors). This would make the officer accountable to D&W farmers and enable him/her to respond to farmers' needs, be it for advice in planning production, or for referral information to relevant agency in case of pest attack, or for information on trainings, procuring seeds, accessing

subsidies or other schemes for inputs, marketing, etc. The officers should be especially trained and sensitized to help women farmers.

5.4 Farmer field schools, the lead farmer approach, smart phone for farmers, and other existing schemes should be especially adapted for D&W farmers.

5.5 Soil Health Cards for each farmer, as undertaken in Gujarat and Tamil Nadu, should be extended to all states.

5.6. Farmers' groups (like Rythu mithra groups in Andhra Pradesh) should be formed and strengthened for collective efforts like soil and water conservation, afforestation, knowledge dissemination, etc.

(6) Risk mitigation

6.1 D&W farmers face many production and market risks from the weather, pest and insect attacks, price volatility, and poor market access. To reduce production risk, there should be weather and crop insurance cover for such farmers. Weather insurance has already been successfully tried by Development Support Centre (DSC) and the Agha Khan Rural Support Program (AKRSP) in the case of D&W farmers in Gujarat. This kind of risk protection should be extended for major crops to larger areas, with incentives given to agencies working with such farmers.

6.2 Most D&W farmers sell their produce in wholesale markets which suffer seasonal and daily price volatility. Although there is Minimum Price Support (MSP) for 25 crops, public agencies do not procure all the crops from all regions. MSP implementation should therefore be strengthened, both by procuring from all regions and all MSP crops, and by offering staggered prices for off-season sales, to encourage storage and discourage distress sale.

(7) Marketing of Produce

7.1. ***Separate member-based D&W Producers Organisations*** (D&W POs) should be set up. Most POs today take the form of agricultural cooperatives and produce a high value of agricultural produce, but with limited D&W farmer participation. D&W farmers need organizational strength to manage post-harvest storage and get better prices. D&W POs, unlike individual farmers, could leverage bargaining power to access financial and non-financial inputs and services and appropriate technologies; reduce transaction costs; tap high value markets; and enter into partnerships with private entities on more equitable terms. Forming POs could also help D&W farmers leverage their presence further up the value chain, enter post-harvest management, undertake direct retailing, storage and processing, and engage in contract production of primary agricultural produce.

All Centrally Sponsored Schemes should thus push for the formation of D&W POs, for activities at any end of the value chain, but especially for marketing. For the

latter, the infrastructure needed could include pack houses, grading centres, milk chilling plants, small cold stores, drying or freezing plants, and so on.

Promoting D&W POs will require financial support. NABARD's farmer club scheme provides Rs. 10000 per club per year for 3 years, if they form a group; of this, Rs. 2000 is given to the promoting agency (NGO/KVK). It is recommended that such incentives be provided to a range of agencies that seek to form D&W POs, including NGOs, agricultural universities, KVKs, Agricultural Technology Management Agencies (ATMAs), banks, and cooperatives.

The promoter's contribution (like by SFAC) to equity which is capped at 25% of PO's equity should be raised to at least 60% of the project cost in the case of D&W POs. Tax exemptions for D&W POs similar to those available to traditional co-operatives, could also be provided.

In addition, existing POs should be given support for capacity building, managerial inputs, marketing etc. for servicing D&W farmers. Non-financial support could be in the form of land for setting up necessary infrastructure, liberal licensing, and so on.

7.2. Existing models of D&W PO include BAIF's wadi program and producer companies. 'Wadi' refers to a 'small orchard', say of one acre, with fruit tree in the main land and forest trees as border crops. The group members' produce is marketed after value addition by the federated co-operative (see Box 6 for details).

Another form that D&W POs can take is **small producer companies** which the company law provides for. Under this law, dozens of companies already exist in many states, for selling spices, seeds, fruits, vegetables, organic inputs, etc. But many are facing problems. Eg. banks often refuse to lend without a government guarantee (which are given to co-operatives). They also face difficulties in getting Agricultural Produce Marketing Committee (APMC) licenses, and in mobilizing capital from the market.

Producer companies have enormous potential if these problems are resolved. In this context, the JJ Irani Committee's recommendation that the producer company clause be removed from the Companies Act is retrogressive. In fact it is important to encourage and support such producer organizations, especially those constituted of D&W farmers, in the same way that government support is extended to traditional co-operatives.

7.3 *APMC*: The APMC Act 1970 should be comprehensively amended to help D&W farmers. The Act regulates buying and selling of agricultural produce. But even the 2003 recommendations leave out many aspects of farmer interest, such as protection for delayed payments and deliveries, contract cancellation damages, sharing production risks, dispute resolution, etc. We recommend that the APMC Act be amended to include these provisions.

There is also need to regulate and supervise all APMC markets and provide infrastructure support to D&W farmers, such as storage space, cold storages, auction floors, loading and weighing facilities.

7.4. *Contract Farming linkages*: Contract farming is a new area for many D&Ws., Facilitation mechanisms and mentoring, as well as legal advice, will be needed to ensure non-exploitative contracts. To promote non-exploitative CF linkages with D&W farmers, incentives should be provided to companies to work with *groups* of D&W farmers rather than with individual large and medium farmers alone (which is the typical practice). These incentives could take the form of tax breaks, or even making it mandatory for companies to sign a certain percentage of contracts only with D&W farmer groups. Similarly, incentives are needed to enable D&W farmers to form groups to enter into contracts. These incentives can take many forms, including low interest loans, provision of storage for groups, provision of grading and quality assessment facilities, and so on.

7.5. For women's farming groups and women-headed farm families, it is important to provide special support by allotting space for storage and rest rooms in the market yards, transport support, information on the latest market prices and trends, etc. Support is also needed to help women farmers establish small food processing units for value addition (dal mills, grain sorters, small production units for processed food like pickle making and packing units).

7.6. Women-only farmers markets for fresh produce should be considered. In any case, stalls should be made available in every mandi for women farmers.

7.7. Products by D&W farmers should be labelled as their products, as a marketing strategy.

VII. SUMMARY OF RECOMMENDATIONS

VII. SUMMARY OF RECOMMENDATIONS

1. Promote a collective approach in agriculture for D&W farmers at all points of the value chain.

LAND

2. Comprehensively assess all land available with the government for potential distribution to D&W farmers, and distribute such land to D& W farmers *groups*. The land so distributed could either be registered in the group's name, or it could be given to them under a very long-term lease arrangement.

3. Implement the 11th plan recommendation that all rural families without homesteads be allotted 10 cents of land in the woman's name, to be used for shelter and supplementary livelihoods.

4. Institute a loan-cum grant scheme with 50% given as a low interest loan and 50% as a grant, to help *groups* of landless or near landless women and men purchase land collectively. The purchased land can be registered in equal parts in each group member's name, but incentives should be given for group cultivation.

5. Government should not purchase land to lease to DA&W farmers since that would hike up land prices, making the scheme unsustainable and adversely affect poor farmers who want to buy land on their own.

6. ***Tenancy*** should be legalized and regulated for specific categories, such as groups of D&W farmers, to provide security to the tenant while also protecting the landowner's rights. A group approach to leasing in and use of the land should be built into the system, as also financial and institutional support for such cultivation. Sub-leasing within the group to individual members should be banned, as also leasing by corporate entities.

7. ***Public Land Bank*** (PLB): To regulate and rationalise land demand and supply it is strongly recommended that a Public Land Bank be created at the panchayat level, in which land owners can "deposit" land parcels that they do not want to cultivate. The period of deposit could range from one season to several years. The depositors would receive an incentive payment per ha on deposit, varying by period of deposit (analogous to current, savings and fixed bank deposits), with an additional amount being paid if the land gets leased out. The landowner would get guaranteed protection, and would be free to withdraw the land with due notice.

   The PLB would lease out the land under its command to specially designated categories of disadvantaged farmers, such as marginal farmers, women, dalits, and tribals, whether leasing as individuals or in groups. These lessees would get a guaranteed lease, fixed after assessing land quality, and in a consolidated plot where possible. Institutional finance and other support in terms of access to quality

inputs and markets could also be provided. Leasing of land from the PLB to corporates, large farmers and other categories should be banned, with clear guidelines provided to prevent misuse of the liberalized tenancy provisions by groups other than those for whom it is intended.

The PLB should be provided initial seed capital from the central and the state governments in a ratio of say, 80:20, or 100% could be provided by the Centre in the pilot stage for 3 years. The PLB would be registered as a Society.

8. **Group farming**: Incentives should be provided to encourage D&W farmers to pool their resources for joint cultivation. The land could come either from group leasing or land pooling by those who already own small plots, or a mix of the two. To encourage group farming, incentives should be provided by tying subsidies on credit, technology, etc. to group cultivation, and also providing support for forming a group. The Programme should be adapted to local contexts by learning from successful models of group cultivation in India, in particular the Kudumbashree programme supported by the Kerala Government, and the APMSS in Andhra Pradesh. Under the Kudumbashree programme, several thousand women are doing group cultivation for subsistence as well as commercial farming in all 14 districts. It has brought large areas of fallow land under cultivation, revitalised agriculture, increased production, and empowered the women.

   The Kudumbshree and APMSS models should be tried on a pilot basis in other states. The group enterprise model should also be replicated for other agricultural sectors, such as fisheries (e.g. group fisciculture), poultry or livestock management.

9. Recognizing that the setting up of group enterprises takes time and resources, funding for upto 5 years should be provided to all organizations willing to play a role in institution formation and mentoring in the initial period, until such time as it becomes self-sustaining. The organizations playing this role could be NGOs or other agencies.

10. There are some examples of MNREGS funds being used productively to promote group farming in Gujarat and Andhra Pradesh. Such efforts to integrate group farming with MNREGS need to be encouraged to leverage such schemes better for improving land resources for agriculture.

11. ***The Land Acquisition Bill 2011***: The consent clause for land transfers should require consent by both spouses and not just heads of households. The compensation (land, cash, equity shares, etc.) should also be given equally to both spouses. To the extent possible, compensation should be land for land, since even farmers with resources often lack skills in setting up viable non-farm enterprises.

12. All land records which have been computerised should be placed in the public domain.

13. Gender disaggregated information should be collected on land ownership and operation in all large surveys: agricultural census, NSS, RBI's debt and investment survey, etc.

PRODUCTION INPUTS

14. Research should be more focused on local crops grown in semi-arid and rainfed regions to enable them to withstand heat stress, water stress, temperate volatility, reduce water intake, etc. This will benefit D&W farmers living in drought-prone areas as well as those without irrigation.

15. Field trials should be conducted in areas with concentrations of disadvantaged farmers, and especially women's groups. This will have several advantages: relevance of the results, demonstration effects to the disadvantaged, and rapid dissemination.

16. ***Seeds*** are crucial for higher yields and cost saving. Often women farmers preserve seeds but under poor conditions. Local systems of seed production, storage, preservation and distribution should be given financial and infrastructural support. SHGs could be encouraged to take this up as a group activity.

17. ***Collective crop planning***: Regional/ecological zones should be defined in *panchayats*, and within each zone, farmers' groups, including women's groups, should be given incentives to plan farm production collectively. PRADAN (NGO) which works with women's SHGs in several states provides lessons on this count.

18. ***Non-Pesticidal Management*** (NPM) of crops should be promoted to the extent possible, with particular support for enabling D&W farmers to move in this direction. Vermiculture for generating livelihoods among SHGs should also be encouraged.

19. ***Irrigation:*** There should be strong emphasis on expanding small-scale irrigation and rain water harvesting schemes and effective implementation of Participatory Irrigation Management (PIM), to give D&W farmers better access to water.

20. Low cost irrigation technologies, such as human powered Treadle Pumps, should be promoted. These are reported to have been successful among D&W. Women can also use these pumps easily. Kitchen-yard Drip Irrigation Kits for vegetable cultivation should be promoted as well.

21. ***Machinery***: Low cost, custom hiring of agricultural machinery and tools, including tractors, threshers, vehicles for transporting produce, etc. should be provided for D&W farmers. Panchayats, PACS and agricultural machinery cooperatives/producer companies, agri-business clinics, and even private entrepreneurs could be encouraged with loans, training and subsidies to provide these services. Easier and wider availability of credit for second-hand machines would also be helpful.

22. ***Farming tools*** should be adapted for the needs of women farmers in terms of size, weight, design, etc. for reducing drudgery and effective use.

CREDIT

23. ***Integrated approaches for credit delivery*** should be promoted. Cases in point are the linkage of women's farming groups with NABARD through the formation of Joint Liability Groups (as in the Kudumbshree project), or providing loan-cum-subsidies for specific agricultural inputs, or providing loans for leasing in land.

24. The Andhra Pradesh scheme of "Loan Eligibility Cards" to all farmers needs to be extended nationally. The scheme, under which women/landless farmers who have nothing to offer as collateral can draw up to Rs. 50,000 from banks for farming purposes, should be replicated nationally.

25. Under priority sector lending, loan priorities should be defined mainly for activities identified as relevant for D&W farmers. A certain percentage of all agricultural loans, and of priority sector loans should be earmarked for D&W farmers. Incentives can be given to financial institutions that exceed priority sector targets for D&W farmers.

The government's mandate of giving 40% of total bank credit to the rural sector (identified as a priority sector) and 18.5% to crop production should be made more specific to proritize activities relating to D&W farmers, rather than (as currently) deflected to activities like cold storage and truck purchase, which cater to the larger farmers and typically exclude small holders.

26. Credit cooperatives must be revived, with appropriate institutional reforms, improvement in management quality, etc. Special efforts are needed to enrol D&W farmers, and at least one-third membership should be earmarked for disadvantaged women farmers.

27. Regional inequalities in access to institutional credit need to be addressed. Less served regions such as the north-east and east should receive particular focus, since these regions have a concentration of small and marginal farmers.

28. Banks should allow spousal membership for women farmers along with their husbands in Kisan Credit Cards.

29. In the National Horticulture Mission, one third of support should be for D&W farmers, and a lower threshold of land holding should be allowed for getting credit to farmers with < one acre.

30. There should be an Ombudsman at the local bank level to redress grievances of D&W farmers with respect to credit access.

TRAINING AND EXTENSION

31. Training in new technologies and skilled practices is essential for increasing productivity. SRI (Systems of Rice Intensification) is a case in point. For this and other emerging practices, training needs to be especially organized for D&W farmers.

32. ***Resource Centres***: For women farmers, special efforts are necessary to build capacity for new agricultural technologies and practices and provide information on new farmer schemes *on a continuous basis*. Resource Centres can be set up for providing such technical inputs and support, either via KVKs or through a cluster of village approach. They can also provide information on new technologies and implements, and on government subsidies or schemes for improving agriculture/land development. In addition, they can function as service providers for marginalized women farmers, to help them access agricultural services. Special consultation cells should be set up where women farmers can go to request training and capacity building in their area.

    In addition, an officer can be appointed for each panchayat whom women farmers can call upon, if they face problems such a pest attack during the crop cycle. Pre-seasonal trainings in planning the crops, procuring seeds, accessing subsidies or other schemes for inputs, marketing, etc. should also be regularly scheduled.

33. ***ATMAs***: In Agricultural Technology Management Agencies (ATMAs) which coordinate extension, nodal officers should be appointed at the block level, to cater to clusters of 500 farmers with at least 60% of the farmer being D&W farmers. The officer should have a record of each farmer he/she is responsible for (like health cards with doctors). This would make the officer accountable to D&W farmers and enable him/her to respond to their needs, give advice in planning production, or refer them to the relevant agency for pest attacks, information on trainings, procuring seeds, accessing subsidies, marketing, etc. The officers should be especially trained and sensitized to help women farmers.

34. Farmer field schools, and lead farmer approach, smart phone use by farmers, and other existing schemes should be especially adapted for D&W farmers.

35. Soil Health card schemes for each farmer as undertaken in Gujarat and Tamil Nadu should be extended to all states.

36. Farmers' groups (like *Rythu Mithra* groups in Andhra Pradesh) should be formed and strengthened for collective efforts like soil and water conservation, afforestation, knowledge dissemination, etc.

RISK MITIGATION

37. D&W farmers face many production risks due to weather uncertainties, pest and insect attacks, price volatility, and poor market access. There should be weather and crop insurance cover for such farmers. The approach used by the Development Support Centre (DSC) and the Agha Khan Rural Support Program for providing weather insurance to D&W farmers in Gujarat should be examined and replicated as relevant. This kind of risk protection should be extended to major crops and incentives given to agencies working with such farmers.

38. MSP implementation should be strengthened, by procuring all MSP crops from all regions, and by offering staggered prices for off-season sales, to encourage storage and discourage distress sale.

MARKETING

39. ***Separate member-based D&W Producers Organisations*** (D&W POs) should be set up to give D&W farmers more bargaining power to access financial and non-financial inputs and services and appropriate technologies; reduce transaction cost; tap high value markets; and enter into partnerships with private entities on more equitable terms. They could also help the members move up the value chain, enter post-harvest management, undertake direct retailing, storage and processing and engage in contract production of primary agricultural produce. All Centrally Sponsored Schemes should thus promote D&W POs, for activities at any point in the value chain, but especially for marketing.

Financial incentives should be provided to agencies that seek to form D&W POs, just as NABARD's farmer club scheme provides Rs. 10000 per club per year for 3 years, if they form a group. Potential agencies that could promote D&W POs could include NGOs, agricultural universities, KVKs, Agricultural Technology Management Agencies (ATMAs), banks, and cooperatives. Existing POs should also be given support for capacity building, managerial inputs, marketing etc. for servicing D&W farmers.

In addition, D&W POs should be given non-financial support, say, in the form of land for setting up infrastructure, liberal licensing, etc, These could also be tax breaks for producer companies of D&Ws, similar to those available to traditional co-operatives.

40. There are models of POs already in place which could serve as the basis for expansion. One example is BAIF's wadi program. Another form that D&W POs can also take is of small producer companies under the company law.

41. ***APMCS:*** The APMC Act 1970 which regulates buying and selling of agricultural produce should be comprehensively amended to include provisions for covering

D&W farmers, such as protection for delayed payments and deliveries, contract cancellation damages, sharing production risks, dispute resolution, etc.

There is also need to regulate and supervise all APMC markets and provide infrastructure support such as storage, cold storages, auction floors, loading and weighing facilities.

42. ***To promote CF linkages*** with D&W farmers, tax incentives could be provided for companies that work with groups of D&W farmers rather than with individual large and medium farmers alone. It could even be made mandatory for a certain percentage of contracts to be only with D&W farmer groups.

On the supply side, incentives should be provided for D&W farmers to form groups to enter into contracts. These incentives can take many forms, including low interest loans, provision of storage for groups, provision of grading and quality assessment facilities, etc. Facilitation mechanisms and mentoring as well as legal advice should also be given, to ensure non-exploitative contracts.

43. ***Marketing by Women farmers***: For women's farming groups and women-headed farm families, special support should be provided for marketing, by allotting storage space and rest rooms in market yards, transport support, information on the latest market prices and trends, etc. Support is also needed to help them establish small food processing units for value addition (*dal* mills, grain sorters, small production units for processed food like pickle making and packing units).

44. Women-only farmers markets should be considered. Where this is not feasible, stalls should be made available in every mandi for women farmers.

45. Products by D&W farmers should be labelled as their products, as a marketing strategy.

REFERENCES, TABLES, BOXES, AND APPENDIX TABLES

REFERENCES

Acharya, S.S. (2006), 'Risks in Agriculture: Some Issues', *Agr. Eco. Res. Rev.*, 19(1): 1–9.

Agarwal, B. (2011), 'Food Crises and Gender Inequality', United Nations Working Paper No. 107, United Nations Department of Economic and Social Affairs.

Agarwal, B. (2010), 'Rethinking Agricultural Production Collectivities', *Economic and Political Weekly*, 55(9): 64–78

Agarwal, B. (2003), 'Gender and Land Rights Revisited: Exploring New Prospects via the State, Family and Market', *Journal of Agrarian Change* (Oxford), 3(1&2): 184–224.

Agarwal, B. (1994), *A Field of One's Own: Gender and Land Rights in South Asia* (Cambridge: Cambridge University Press).

CBGA (2009), 'How did the UPA spend our money?' New Delhi. Downloaded from CBGA (Centre for Budget and Governance Accountability) website, www.cbgaindia.org

Chand, R., Prasanna, P. A.L., and Singh, A. (2011), Farm size and productivity: Understanding the strengths of smallholders and improving their livelihoods, *Economic and Political Weekly*, 46 (26/27): 5–11.

FICCI (2010), *Corporate Interventions in Indian Agriculture*, FICCI, Delhi.

Gandhi, V.P., and Koshy, A. (2006), 'What Marketing and its Efficiency in India', Working Paper No. 2006–09–03, IIM, Ahmedabad.

Gill, S.S. (2004), 'Small farmers and Markets', (a book review), *Economic and Political Weekly*, 39(23): 2356–58.

Glendenning, C. J., Babu, S., and Asenso-Okyere, K. (2010), 'Review of Agricultural Extension in India: Are Farmers' Information Needs Being Met?', IFPRI Discussion Paper 01048, December.

Gowda, C. (2011), 'Technology transfer issues', presentation at the national seminar on 'Productivity in Indian agriculture', CAB, Pune September 2–3.

Haque, T. (2000), 'Contractual Arrangements in Land and Labour Markets in Rural India', *Indian Journal of Agricultural Economics*, 55(3): 233–52.

Haque, T. (2003), 'Land Reforms and Agricultural Development: Retrospect and Prospect', in S.Pal et al. (eds.), *Institutional Change in Indian Agriculture*, NCAP, New Delhi, 267–284.

Karamkar, K.G. (2008), 'Trends in Rural Finance', *Indian Journal of Agricultural Economics*, 63(1): 5–18.

Kumar, A., Singh, K.M., and Sinha, S. (2010), 'Institutional Credit to Agriculture Sector in India: Status, Performance and Determinants', *Agricultural Economics Research Review,* 23: 253–264.

Kumar, D., Narayanamoorthy, A., and Sivamohan, M.V.K. (2010), 'Pampered views and parrot talks: in the cause of well irrigation in India', IRAP occasional paper no. 1–0410, Hyderabad.

Kurmanath, K.V. (2011), 'Plight of Tenant Farmers', *The Hindu Business Line*, Jan. 14.

Muller, A.R., and Patel, R. (2004), 'Shining India? Economic Liberalisation and Rural Poverty in the 1990s', Food First Policy Brief No. 10, Food First/Institute for Food and Development Policy, Oakland, May.

Naidu, N.T. Sudarshan (2011), 'Successful Collective Farming: A Case of Gambhira', mimeo note, IRMA, Anand.

Nair, R. (2011), 'Risk mitigation and crop insurance in India: A performance analysis', *Journal of Social and Economic Development*, 13(1): 67–86.

NCEUS (2008), 'A special programme for marginal and small farmers', *National Commission for Enterprises in Unorganized Sector,* (NCEUS), GOI.

Pal, S., et al. (2011) 'Agricultural Growth Pattern, Dominance Of Disadvantaged Groups and Access to Inputs', Report of Subgroup of the Twelfth Plan Working Group on Disadvantaged Farmers, Including Women'.

Ramaswami, B., Ravi, S., and Chopra, S.D. (2003), 'Risk Management in Agriculture', Discussion Papers in Economics No. 03–08, Planning Unit, ISI Delhi, New Delhi.

Ramakumar, R., and Chavan, P. (2007): 'Revival of agricultural credit in the 2000s: An Explanation', *Economic and Political Weekly*, 42(52): 57–63.

Sahoo, A. (2008), 'Financial Inclusion of the Rural Poor-Role of the banking sector', a powerpoint presentation, RBI, Mumbai, n.d.

Sarkar, A. (2011), 'Socio-economic implications of depleting groundwater resources in Punjab: A comparative analysis of different irrigation systems', *Economic and Political Weekly*, 46(7): 59–66.

Satish, P. (2007), 'Agricultural credit in the post-reform era: A target of systematic policy coarctation', *Economic and Political Weekly*, 42(26): 2567–74

Sengupta, A., and Kundu, S. (2006), 'Scale Efficiency of Indian Farmers: A Non-Parametric Approach', *Indian Journal of Agricultural Economics*, 61(4): 677–87.

Sharma, V. P. (2007). 'Managing Price Risk in Indian Agriculture: Can Futures Markets Help?', Paper presented at workshop on 'Frontiers of Agricultural Development in Gujarat', IIMA February 24.

Singh, S. (2002), 'Contracting Out Solutions: Political Economy of Contract Farming in the Indian Punjab', *World Development,* 30(9): 1621–38.

Singh, S. (2009), *Organic Produce Supply Chains in India-organisation and Governance* (Allied Publishers: New Delhi).

Singh, S., and Singla, N. (2011), *Fresh Food Retail Chains in India-organisation and Impacts* **(**Allied Publishers: New Delhi**).**

Task Force on Credit Related Issues of Farmers. (2010), Government of India, submitted to MoA.

Thorat, S. (2010), Social Exclusion and Human Poverty-Safeguards through inclusive policy, *Indian Journal of Labour Economics*, 53(1): 23–42.

Trebbin A., and Franz, M. (2010), 'Exclusivity of Private Governance Structures In Agrofood Networks: Bayer and the Food Retailing and Processing Sector in India', *Environment and Planning*, 42: 2043–57

Table 1: Changes in the size distribution of owned land holdings

Year	Marginal (<1 ha)		Small (1 to 2 ha)		Semi-Medium (2 to 4 ha)		Medium (4 to 10 ha)		Large (10 ha & above)	
	% holdings	% Area	% holdings	% Area	% holdings	% Area	% holdings	% Area	% holdings	% Area
1995-96	62	17	19	19	12	24	6	25	1	15
2000-01	63	19	19	20	12	24	5	24	1	13
2005-06	65	20	18	21	11	24	5	23	1	12

Source: Agricultural census (various years)

Table 2: Distribution for social groups of farmer households by land size category, 2003

Social group	Marginal	Small	Marginal and small	Medium and large	All farmers
SC	21.6	10.3	19.3	7.8	17.5
ST	12.4	15.6	13.0	14.9	13.3
OBC	41.8	41.8	41.8	39.7	41.5
Others	24.1	32.3	25.7	37.5	27.6
Total	100.0	100.0	100.0	100.0	100.0

Source: NCEUS, 2008

Table 3: State-wise operational holdings by size categories, 2002-03 (%)

State	Marginal	Small	Medium & Large	All Farmers
Manipur	82.1	16.6	1.3	100
Tripura	92.8	4.8	2.4	100
West Bengal	86.7	9.0	4.3	100
Kerala	86.7	8.5	4.8	100
Jharkhand	79.6	15.2	5.3	100
Uttaranchal	87.2	7.4	5.4	100
Himachal Pradesh	78.7	15.2	6.0	100
Bihar	81.3	11.5	7.2	100
Orissa	77.7	13.6	8.7	100
Jammu & Kashmir	77.9	13.3	8.8	100
Uttar Pradesh	75.7	14.8	9.6	100
Nagaland	54.2	35.8	10.0	100
Assam	67.5	20.3	12.2	100
Sikkim	72.3	14.5	13.2	100
Tamil Nadu	72.1	13.9	13.9	100
Mizoram	53.6	28.9	17.5	100
Andhra Pradesh	61.5	19.1	19.4	100
Meghalaya	62.1	17.2	20.7	100
Chhattisgarh	54.2	24.6	21.2	100
Haryana	61.4	17.3	21.2	100
Punjab	61.2	15.9	22.9	100
Karnataka	53.1	22.0	25.0	100
Gujarat	54.3	20.6	25.1	100
Maharashtra	43.0	24.7	32.2	100
Arunachal Pradesh	36.5	30.9	32.6	100
Rajasthan	47.1	19.8	33.1	100
Madhya Pradesh	41.9	24.7	33.5	100
All India	66.6	16.9	16.5	100

Source: NCEUS, 2008

Table 4: Farmers dissatisfied with farming as an occupation by size of holding and state (percentages)

State	Marginal	Small	Marginal & Small	Medium & Large	All farmers
Andhra Pradesh	28.3	19.5	26.2	15.9	2
Arunachal Pradesh	25.1	16.5	21.2	32.5	25.0
Assam	43.6	32.2	41.0	40.6	40.9
Bihar	51.7	43.9	50.8	47.4	50.5
Chhattisgarh	51.4	46.9	50.0	32.2	46.3
Gujarat	43.5	24.0	38.2	16.5	32.9
Haryana	40.6	41.2	40.7	29.2	38.3
Himachal Pradesh	38.6	23.3	36.0	20.5	35.1
Jammu & Kashmir	41.7	32.4	40.3	19.3	38.5
Jharkhand	49.4	40.4	47.9	30.3	47.0
Karnataka	48.3	42.5	46.7	33.0	43.3
Kerala	34.7	18.5	33.3	25.6	33.0
Madhya Pradesh	46.9	39.6	44.1	32.4	40.3
Maharashtra	47.1	38.9	44.1	29.0	39.3
Manipur	31.0	40.9	32.5	20.4	32.4
Meghalaya	30.9	10.7	26.4	7.1	22.6
Mizoram	49.0	44.2	47.6	54.0	48.7
Nagaland	34.1	27.1	31.7	23.4	31.3
Orissa	49.0	41.1	47.9	34.6	46.7
Punjab	47.0	24.4	42.5	17.2	36.9
Rajasthan	41.3	40.8	41.2	33.8	38.8
Sikkim	37.6	27.5	35.9	32.4	35.4
Tamil Nadu	33.3	29.1	32.6	20.8	31.0
Tripura	46.1	21.9	44.9	61.9	45.3
Uttar Pradesh	44.1	33.2	42.4	21.7	40.5
Uttaranchal	55.8	48.1	55.3	15.0	53.2
West Bengal	47.4	32.6	46.1	32.0	45.5
All India	44.2	35.3	42.4	28.1	40.1

Source: NCEUS, 2008

Table 5: Input use by farm size category in 2001–02

Input/parameter	Marginal (<1 ha)	Small (1–<2 ha)	Semi-Medium (2–<4 ha)	Medium (4–<10 ha)	Large (≥10 ha)	All farmers
% Area irrigated (2000-01)	51	39	37	36	31	39
Fertilizer consumption per ha (Kg.)	175	129	112	95	68	119
Share of area under HYV (%)	72	68	65	61	47	64
Cropping Intensity (%)	139	128	126	125	121	128
Credit per ha of Gross cropped area (Rs.)*	***2748***	***3069***	***5541***	***2270***	***1386***	***3241***

Sources: Chand et al. (2011); * Pal, S., et al. (2011).

Box 1: Land leasing laws at the state level in India

Summary of Four Broad Categories of States Based on Legal Restrictions on Leasing of Land

A. Leasing of land is totally prohibited irrespective of any category:

1. Kerala – Under Section 74 of Kerala Land Reforms Act, 1963, leasing of land is totally prohibited.
2. J & K - Leasing is prohibited.
3. Manipur - Leasing is completely prohibited.

B. Leasing of land is permitted to the following category of persons:

Sl. No.	Name of State	Sections under which Leasing is Permitted	Category of Persons
1	Andhra Pradesh (Telangana Area)	The Andhra Pradesh (Telangana Area) Tenancy and Agriculture Lands Act, 1950. (Section 7)	Disable; Armed Forces Personnel; and those land owners who own not more than three times a "family holding" may lease out.
2	Bihar	Bihar Land Reforms Act, 1961	Disabled; Armed forces; SC/ST/OBC; may lease out.
3	Karnataka	Karnataka Land Reforms Act, 1961 (Section 5)	Soldiers of Seamen
4	Madhya Pradesh	Madhya Pradesh Land Revenue Code, 1959	Disabled, Armed forces personnel; or those imprisoned; others may also lease out for one year in any three years.
5	Uttar Pradesh	Uttar Pradesh Zamindari Abolition and Land Reforms Act (Section 157)	Disable; Armed forces personnel, imprisoned, or bona fide students.
6	Himachal Pradesh	Himachal Pradesh Tenancy &Land Reforms Act, 1972	Minor unmarried women, widow, divorce, disabled or defence personnel

C. States where there is no general restriction on leasing of land:

Andhra Pradesh (Andhra Area), Orissa, Rajasthan, Haryana and Punjab.

D. States where leasing is permitted but the tenant acquires right to purchase land:

i) Assam: An ordinary tenant acquires right to occupancy after three years continuous possession and an occupancy tenant has a right to purchase leased land.
ii) Gujarat: Every tenant has a right to purchase leased land within one year of tenancy.
iii) Haryana: Tenant acquires right to purchase leased land after six years of continuous occupation.
iv) Maharastra: Every tenant has a right to purchase leased land within one year of tenancy.
v) Punjab: Tenant acquires right to purchase leased land after six years of continuous occupation.

Source: GOI (2006), Department of Land Resources, Ministry of Rural Development, New Delhi.

Table 6: Percentage distribution of number of accounts from institutional sources across size-class, 2001-02

Size-class of holdings	Share of Holding	Proportion taking Institutional credit	PACS	LDB	CB	RRB
			%			
Marginal	60.6	14.0	67.1	8.2	10.8	16.8
Small	20.0	27.7	65.5	8.6	12.9	17.4
Semi-Medium	12.4	31.6	66.1	9.1	13.1	17.8
Medium	5.9	33.1	67.2	10.4	12.5	19.6
Large	1.1	29.4	69.3	13.6	13.1	22.4
All Classes	100.0	20.2	66.5	8.8	12.0	17.5
(Numbers in lakh)	(1077.1)	(218.0)	(144.9)	(19.1)	(26.2)	(38.2)

Note: PACS denotes Primary Agricultural Cooperative Society, LDB denotes Land Development Bank, CB denotes Commercial Bank, RRB denotes Regional Rural Bank.
The percentages do not add up to 100 since some farmers take loans from multiple sources. Calculations are based on estimates of credit from Agricultural Census, 2001-02.

Source: Task force on credit related issues of farmers, 2010

Table 7: Percentage Distribution of Amount of Credit from Institutional Sources across Size-Class, 2001-02

Size-class of holdings	Share across size class	PACS	LDB	CB	RRB	All
		% by source				
Marginal	17.6	54.5	12.7	9.6	23.2	100.0
Small	20.0	47.1	11.2	21.5	20.2	100.0
Semi-Medium	41.5	21.5	5.8	61.7	11.1	100.0
Medium	16.4	45.8	13.7	12.8	27.8	100.0
Large	4.4	42.0	12.2	12.8	33.0	100.0
All Classes	100.0	37.3	9.6	34.3	18.8	100.0
(Amount in Rs. crore)		20529.8	5296.5	18828.6	10318.4	54973.4

Note: PACS denotes Primary Agricultural Cooperative Society, LDB denotes Land Development Bank, CB denotes Commercial Bank, RRB denotes Regional Rural Bank. The % from all does not add up to 100 because some holdings have loans from multiple sources. Calculations are based on estimates of credit from Agricultural Census, 2001-02.

Source: *Task force on credit related issues of farmers*, 2010

Table 8: Agency-wise Ground level Credit Flow (Rs. crore)

Year	Cooperatives		RRBs		Comm. Banks		Total	
1991-92	5797	(52)	596	(5)	4806	(43)	11199	(100)
2001-02	23604	(38)	4854	(8)	33587	(54)	62045	(100)
2003-04	26959	(31)	7581	(9)	52441	(60)	86981	(100)
2004-05	31231	(25)	12404	(10)	81481	(65)	125477	(100)
2005-06	39404	(22)	15223	(8)	125859	(70)	180486	(100)
2006-07	42480	(19)	20435	(9)	166485	(72)	229400	(100)
2007-08	48258	(19)	25312	(10)	181088	(71)	254658	(100)
2008-09(P)	36762	(13)	26724	(9)	223806	(78)	287292	(100)
CAGR, 1991-92 to 2003-04	13.66		23.61		22.06		18.63	
CAGR, 2004-05 to 2006-07	16.63		28.35		42.94		35.21	

Note: P denotes Provisional, CAGR denotes Compound Annual Growth Rate. Figures in parentheses are percentage to the total; Source: Task force on credit related issues of farmers, 2010

Table 9: Access to Institutional Credit by Farmer Households- Regional Distribution

Region	Total farmer hhs (00)	Accessing credit (%)	Farmer hhs accessing credit from institutional sources (00)	% All farmers accessing institutional credit (4/2*100)
(1)	(2)	(3)	(4)	(5)
Northern	109460	51.4	27423	25.05
North East	34874	19.7	1448	4.15
Eastern	211140	39.9	39467	18.69
Central	271341	41.7	60814	22.41
Western	103662	53.8	45586	43.98
Southern	161578	72.7	69072	42.75
Union Territories	732	50.8	156	21.31
All India	893504	48.6	246654	27.61

Source: S. Pal

Table 10: Gross Irrigated Area and Well Irrigated Area for Major Indian States (%)

State	Gross Irrigated Area	Gross groundwater Irrigated Area	Percentage Contribution of Groundwater
Andhra Pradesh	5.74	2.45	42.68
Bihar	4.55	2.43	53.50
Gujarat	3.51	2.81	80.06
Haryana	5.22	2.57	49.23
Karnataka	3.17	1.19	37.54
Madhya Pradesh	4.59	3.10	67.54
Maharashtra	3.82	2.63	68.85
Orissa	2.39	0.62	25.94
Punjab	7.80	5.92	75.90
Rajasthan	6.60	4.30	65.15
Tamil Nadu	3.50	1.88	53.71
Uttar Pradesh	17.67	13.42	75.95
West Bengal	3.50	2.13	60.86

Source: Ministry of Agriculture, Government of India, 2000, cited in Kumar et al., (2010)

Table 11: Access to Extension Services and information on modern farming technology (% of Farm Households), 2003

Category	**Marginal**	**Small**	**(Marginal & Small)**	**Medium & Large**	**All Farmers**
Access to extension service Workers	4.1	8.1	(4.9**)**	10.1	5.7
Access to any government Agency	5.4	8.9	(6.1**)**	12.5	7.2

Source: CBGA, 2009

Table 12: Public investment in agricultural research, 2004-05 prices

Indicator	***2009***
Total public investment (Rs crore)	3,376
Public investment as percentage of AgGDP	58 %
Investment per hectare of agricultural land (Rs.)	240

Note: Investment intensity data are triennium averages ending in the year indicated.

Table 13: Percent area under major crops by different farm categories

Crop	Marginal	Small	Semi-medium	Medium	Large	All
Cereals	69	61	53	56	50	58
Pulses	7	10	12	11	13	10
Sugar	3	3	2	3	1	3
Spices	1	1	1	1	1	1
Fruits	1	1	1	1	1	1
Vegetables	3	2	1	2	1	2
Oilseeds	9	12	16	14	14	13
Fibres	4	7	7	7	6	6

Source: Chand et al., (2011)

Table 14: Percentage of farming households reporting organizational linkage

Organization	<0.4 ha	0.4-1 ha	1-2 ha	2-4 ha	>4 ha
Using services from co-operatives	10.7	18.5	26.6	33.0	36.7
Member of registered farmers organization	-	1.7	2.7	3.7	2.2
Member of SHG	-	4.4	5.7	5.4	4.8

Source: NCEUS (2008).

Table 15: Value of Agricultural output per ha by farm size category

Category	Output value (Rs. per ha)
Sub-marginal	25173
Marginal	18921
Small	16780
Semi-medium	15091
Medium	13564
Large	7722
All Categories	15426

Source: Chand et al., 2011

Box 2: Major Companies into Contract farming in India

Company	*Location*	*Intervention*	*Product*	*Number of farmers and area covered*
Field Fresh Foods Private Limited	Punjab, Maharashtra	CF- direct and through franchisee	Fruits and Vegetables	3,500 farmers 3,500 acres
Global Green Company Limited	Karnataka, Andhra Pradesh, and Tamil Nadu	CF- direct and indirect	Gherkin	25,000 farmers 15,857 acres
Marico	Across Nine States in India	CF	Safflower	20,500 farmers
McCains Foods India	Gujarat	CF	Potato	750 Farmers:
PepsiCo	Maharashtra; Punjab; WB, Karnataka; Jharkhand; Gujarat	CF- direct and through franchisee		12600 Farmers 16000 acres
SAB Miller	Rajasthan	CF	Barley	8,000 + farmers
Suminter India Organics	Value Chain Integration	CF	Various Organic Commodities	13,000 Farmers 69500 acres
Tina Oils & Chemicals Limited	Latur, Osmanabad, Beed in Maharashtra	CF	Soybean and Sunflower	60,000 Farmers
Desai F& V	Gujarat	CF	Banana	1500 farmers 3500 acres

Source: FICCI (2010)

Box 3: Community Owned Business Organisations: The Experience of PRADAN

PRADAN has been involved in mobilising poor people especially women into Self Help Groups. In 2010 it had 14285 SHGs with 198,698 members. Apart from savings and credit activity, these groups help their members build a vision around a better life and livelihoods. Primary level business organisations drawing members from SHGs are promoted around similar livelihood activities in the villages, with the women participating in that particular activity. These organisations function as a platform for training, sharing new ideas, learning, bulk purchase of input, aggregation of produce, selection of service producers, procurement of quality inputs, providing technical services and marketing of produce etc. In cases where activities are fairly established, business organisations are promoted: 33 such organisations were incorporated by the end of March 2011 and 10 organisations are at different stages of formation and not yet registered. In addition there are many informal village level groups providing extension, aggregation & disaggregation services. The table below lists the commercial entities, legal status and membership

Status of Producer Collectives in PRADAN as on March 31, 2011

Sectors/Commodities	Informal	PC	MAC	Society	Member
Poultry	1	2	20		6465
Dairy	2			1	3358
Agro-horticulture	5	2	2	1	30000
Tasar Silk Processing		1			2500
Tasar Rearing			2		3614
Mulberry Silk Rearing	2				185
Mushroom			1		184
Leaf Plate Making	-		1		955
TOTAL	10	5	26	2	47261
[PC = Producer Company; MAC=Mutual Aided Cooperative]					

Farming constitutes the largest proportion of PRADAN's livelihoods outreach (131,600 families in 2010). The key business services of the agro-horticulture groups (both registered and non-registered) include providing extension services and timely quality agri-inputs such as seeds, fertilisers, pesticides, etc. since in these areas markets are mostly absent. In a few cases the groups have led producers to operate in the local market by providing aggregation services.

The collectives are in different stages of growth depending on their inception, business strengths and PRADAN's engagement in the sector. In Poultry collectives, with a turnover of Rs.1053 million in 2010-11, the production system and the primary collectivization model have been well worked out, and today they are leading the industry and have started generating significant revenues for their members. The poultry apex federated structures are evolving, allowing them to venture into up-stream and down-stream activities. The management in these collectives are entirely provided outside PRADAN through the apex associate tier.

The collectives facilitated by PRADAN are distinct – membership is exclusive to poor women; collectives operate in new (hitherto non-existent) production systems; and the leadership is group based rather than individual inspired. These characteristics create a unique set of challenges for the constituent systems - membership, governance and operations in the collective. Last year PRADAN's engagement with community livelihood collectives intensified, with a specific focus on building membership, governance and business systems. As the community livelihood collectives emerge as instruments for enhancing the livelihoods of marginalised rural and tribal communities, they offer possibilities for in-situ scaling up and also making an impact on the local economy. The challenges that remain in facilitating member-owned business collectives include ex-situ management dependency, governance deficits due to capability asymmetry, and amenability of various commodities/sectors to collectivisation, such as member attribution and acceptance of collectivisation.

Source: Pradan Working Group Member.

Box 4: Some Examples of Major Producer Collectives in Marketing

Promoter	Overview of the initiative	Business model	Latest information
PRADAN	MASUTA: producer company; The reasons for forming a collective are: the producers are small and produce no more than 20-30 kg of yarn/ year; they are fragmented and distributed in remote areas; distant market; market needs supply in bulk. Also there are certain quality issues of the yarn supplied to the market. The cooperative was formed to aggregate yarn processing, and to supply in bulk to the market. It is now recognized as the largest tasar yarn producer.	Producers' owned company. BoD is supported by a professional team. The major operations are production, finance, marketing, and members' development and human resource development.	Turnover of about Rs. 10-12 crore annually.
M.P.DPIP	Farmer Producer Companies (FPC) initiative started in 2005. The key drive was to federate the Common Interest Groups (CIGs) for agri-market access. The CIGs, five member groups of poor farmers were promoted by the DPIP mostly for agri-based livelihood activities. Technical support was hired (ASA) to form, incorporate and activate the FPCs for the first three years alongwith the project team. In total, 14 FPCs were formed in 14 districts of M.P, covering nearly 32000 small holders. They were registered with RoC under Indian Companies Act-1956 (Amendment 2002).	For each company, there is a professional team to support BoD for business activities Mainly crop based business model with a focus on seed production (soy bean, wheat, gram) & agri-input supply. Very limited intervention on produce aggregation and sale largely due to Govt. intervention in procurement of wheat, paddy (MSP higher than market). Problems faced include getting enough working capital and volatile market prices.	The average annual turnover of an FPC is Rs.100 lakh. Some of them have reached upto Rs. 250-350 Lakh/ annum.
Cooperative Development Foundation(CDF) Hyderabad	Women's dairy co-ops: While the construction of Mulukanoor Dairy was still in progress, CDF began helping women develop women`s dairy cooperatives in Wardhannapet and Narsampet areas of Warangal District. In late 2004, the second all-women cooperative dairy was started in Illanda Village, Wardhannapet Area. Now, there are over 100 women dairy cooperatives (WDCs) with 4000 members. Wardhannapet Women`s Cooperative Dairy had started its milk procurement, processing and marketing from 2006.	This cooperative is completely led and managed by Women milk producers. However, professionals are hired for business operations. It is contributing significantly to the milk supply of Warangal.	The average current annual business turnover is Rs. 300 lakhs. Now cooperatives are meeting all their expenses and making a surplus every year.

Box 4 Continued/-

Farmers' produce Promotion Society (FAPRO), Hoshiarpur (promoted by state agril. and horticulture deptt)	Since 2001, this co-operative has been procuring and processing turmeric for member farmers and retailing it in nearly villages and towns. It also produces and sells honey and jaggery.	The co-operative procures the turmeric crop, processes it at its own plant and sells the turmeric powder with its own retailers. A farmer can make a net profit of Rs. 2 lakh per acre from this crop, after meeting all expenses. It procures turmeric seed from Maharashtra and some local farmers.	1000 acres are under turmeric. In 2010, 2645 tonnes of turmeric powder was produced.

Sources: Compiled by Action for Social Advancement (ASA), asa@asabhopal.org www.asaindia.org. Also fieldwork observations by Prof. Sukhpal Singh (working group member) on the Hoshiarpur group.

Box 5: Koutla (B) MACS: Member Owned Cooperatives Promoted by *BASIX*

In 2000, cotton was cultivated in one fifth of india's crop area, but consumed 50% of the total pesticide used in farming. Adilabad district in Andhra Pradesh is one of the most backward districts where cotton cultivation is the major livelihood source for a large number of farmers. Cotton is grown in around 4 lakh acres annually, much of it under rain-fed conditions, with an average yield of 4-5 quintals/acre. In 2001, after a number of farmer suicides, BASIX studied the problem and concluded that farmers were using chemical pesticides indiscriminately, borrowing in kind from pesticide dealers and losing heavily. In addition, farmers faced high input costs, low prices for output, and fluctuating prices. BASIX thus selected cotton as a sub sector to work in.

Some salient features of and significant steps taken under Koutla-B:

- Started with 51 farmers in 2003-04
  - Support for introducing Integrated Pest Management (IPM) practices in cotton cultivation
  - Resulted in savings of Rs. 1,000 per acre
- Undertook retail business for input supply in 2004-05
  - Tied-up with Pest Control of India (PCI) for supply of Pheromone Traps and NPV for Integrated Pest Management
  - Tied-up with pesticide and fertilizer companies for direct sales in the area in 2005-06.
  - Dealerships:
  - Seeds: Nuziveedu, Mahyco, Pioneer, Tulasi, Raasi, Bejo-Sheetal, Monsonto
  - Fertilizers: Nagarjuna, Godavari, Coromondal.
  - Pesticides: DuPont, Cheminova, Nova Agritech, NFCL, Nirmal, Syngenta, Dhanuka, Sudarshan

- Output marketing
  - Installation of electronic weighing machine in 2004-05
  - Linkage with Super Spinning Mills, Coimbatore leading to better prices (5% higher)- 2005-06
  - On-field support to farmers to harvest clean cotton
  - Value addition through aggregation of produce and its ginning 2006-07
- Market Intelligence through installation of ***a price display terminal-*** 2007.
- Entered the cotton value chain by Ginning:
  - 5 MACS participated (200 farmers)
  - 670 Quintals of raw cotton ginned
  - Raw cotton value – Rs. 13.3 lakhs
  - 422 qtls Seed sold – Rs. 3.6 lakhs
  - 65.23 candy lint produced –Rs. 11.6 lakhs
  - Total income – Rs. 15.3 lakhs
  - Operating cost – Rs. 1.2 lakhs
  - Net profit – Rs. 14.1 lakhs
  - Net profit/Ton – Rs. 1090.
- Own Building worth Rs 11 lakhs in July 2007.
- Pure drinking water plant worth 8 lakhs established with a government grant on 28th November 2008.
- Future Plans:
  - To establish super market by with an investment of Rs.5 lakhs
  - To take up Ginning and a ware house for better Market price

Share capital: Value of each share when started: Rs. 1000
Today's share value estimate: Rs. 65,000

(Source: BASIX internal documents)

Box 6: BAIF's Wadi Programme for Orchards

Started in 1982 by BAIF, DRF works with tribal communities in South Gujarat and today benefits over 25,000 families from 300 villages under this model. The costs involved in orchard development on 0.4 ha are about Rs. 20,000. The 11 co-operatives add value to farm produce, They have 2,569 members and a capital equity of Rs. 8,48,948, with share capital of Rs. 1,28,450 and a reserve fund of Rs. 20,49,336.

The products from the Vasundhara co-operative (federated) are marketed under the brand name "*vrindavan*". The co-operative has a turnover of Rs. 4 crore and all co-operatives together have a turnover of Rs.16 crore. Of processed food products, mango accounts for 25% and cashew for 75%. About 40% of the total pickle sales are in small pouches of 10 grams each priced at Rs. 1 and packed in a bunch of 15. The remaining 60% sales are sold in retail packs of 250, 500, 850 gms or bulk packs of 5 kgs. each. Of the total sales, 30% are in retail and 70% in bulk to institutions such as hospitals, companies and exporters. This co-operative has now been converted into a producer company called VAPCOL.

Box 7: Kudumbashree JLGs under the *State Poverty Eradication Mission, Kerala*

Collective (Group) Farming initiated by Kudumbashree, now organized as Joint Liability Groups (JLGs) of women, has brought about in a silent revolution in agriculture in Kerala. Initiated in 2006-07, the Collective farming project seeks to encourage small/marginal farmers and landless agricultural labourers to lease in land for cultivation. It was popularly known as lease land farming till March 2010 when the name was changed to collective farming and NABARD concept of the JLGs was adopted. Now all the Kudumbashree collective farming groups of women are being converted into JLGs based on simple guidelines approved by NABARD.

The Kudumbashree Mission, launched in 1998, was conceived as a joint programme of the Government of Kerala and NABARD, to create a state-wide base of community organizations of women that would work in tandem with local self-government for poverty eradication and women's empowerment. Kudumbashree developed an innovative methodology to identify the poor using non-economic parameters. The poor thus identified are organised under a well networked Community Based Organization (CBO) which has a three-tier structure:

The lowest tier is the Neighbourhood Group (NHG) consisting of 10-20 women members from economically backward families within the community. The second tier is the Area Development Society (ADS) formed at the ward level by federating all the NHGs in the ward. The activities of the ADS are decided by the representatives of the women elected from various NHGs. The third tier is the Community Development Society (CDS) formed at the Panchayat/Municipal level by federating all ADSs in the Panchayats. The CDS is registered as a Charitable society. It is the representative structure of the vast network of NHGs in the Grama Panchayat/Municipal areas. It serves both as a dissemination organ for government programmes and as an enunciator of community needs in governance issues.

A group with 4-10 members (generally 5-7) is formed from one or more NHGs and is registered with the CDS and is given an UID based on the GP number or code, ward number (ADS), group number and group name. There is a separate form for linkage with the bank. For the bank loan a "Sammadapatram" or agreement between the JLG and the lessor is essential on a white paper. The lease by a group is generally for one year with or without payment. The agreement is necessary also for the area/production incentive given by Kudumbashree.

JLGs operate primarily through (a) leasing in land; and to some extent (b) pooling in small bits of land of members who are largely small/marginal farmers. Land leased in by a group may not always be contiguous. Often the land was previously fallow, private or public. Land may be leased in from more than one landowner. For each JLG, the area cultivated has to be at least 50 cents for crops and 25 cents for vegetables/medicinal plants, with a maximum of 5 hectares. Farming can be done in a maximum of 3 plots. Typically groups have 5 or 7 members cultivating between 2.5 to12.5 acres. Sometimes, members lease their own small plots to the group.In a few cases, group members have been able to buy land.

Leases vary from one to three years, with payments in cash or kind. In some districts, groups are cultivating paddy for subsistence, in other districts they are growing pineapples, bananas, or various vegetables mostly for sale. Some are also doing multicropping across seasons. All members contribute labour and divide the surplus equally among the members as also the proportion of the produce kept for self consumption. Those contributing land get an extra amount for the lease (which is often below market lease rates).

Group farming is now carried out in all 14 districts of Kerala. In 2010-11 almost **24262 hectares** of land have been brought under cultivation, of which 7172 hectares was fallow land (about 9 % of current fallow land) land cultivated by the **38,054 JLGs** across the state, comprising **2.5 lakh women.** Almost all communities are represented but dominated by OBC, SC/ST and minority groups.

The main crops cultivated are paddy, tapioca, vegetables (including new regional crops such as cauliflower and cabbage), banana (of various varieties), pineapple, and tubers, including turmeric and ginger. Paddy cultivation is mainly for subsistence and vegetable and other crops are market oriented.

For group farming to succeed access only to land is not enough. The group also needs resources for cultivation (land preparation, harvesting and threshing and marketing. Kudumbshree helps provide a range of services, financial and technical help for land preparation; enhancing access to the credit market by roping in more banks into the JLG scheme; subsidized seeds, fertilizer and manure, pesticides, access to machinery through machine stations when needed, subsidized credit, and support for marketing, including minimum support price for paddy; effective insurance against loss of crop, in particular vegetables; micro irrigation facilities in areas where water is a problem; training in the science of cultivation as needed, and so on. In some districts there has also been linkage with MNREGA for land preparation. Most groups reported they shared earnings equally. If some of the land leased by the group was owned by a member, then she received an 'extra' share of the produce.

Benefits of Group Farming by Women

- Brought in fallow land under cultivation leading to an increase in agricultural output; if sustained it will arrest the decline in agricultural production in the state;
- Helped in the revival of agriculture in Kerala, with every district going in for some type of agricultural activity- growing paddy, or vegetables, banana or tapioca;
- Improved food security and improved nutrition;
- Generated new employment and fuller employment of women;
- Raised productivity through group's ability in mobilizing labour at the right time so that the different operations (land preparation, transplanting, watering, weeding, harvesting, etc.) can be performed on time resulting in a 10-20 percent increase in output;
- Gave women 'voice' and the self-confidence to tackle their problems which they could not as individuals. There is also palpable synergy and enthusiasm generated in working together. No woman wants to sit in the house now; they know that they can earn a livelihood through group cultivation.

The main constraints that the groups face are of finding land to lease, the short term and insecurity of the leases, and the ad hoc rents charged. The groups also face labour shortages for peak operations, especially during harvesting and threshing. Some groups have access to mechanised harvesting and threshing via local machine stations, but others are requesting such services.

Sources: Kudumbshree Reports, and fieldvisits by working groups members: Prof. Mridul Eapen (during May to August 2011) and Prof. Bina Agarwal (in August 2011).

Box 8: Collective Farming: The Case of Gambhira

Anand district is known for its cooperatives and is home to Amul. However, the case of the Gambhira cooperative society is unusual in that they are also cultivating collectively. Located on the banks of Mahi river in Ankalav taluka, Anand district, the farming co-operative has enormously improved the socio-economic condition of its members and also of these villages. The Gambhira coop society has been functioning since 1953, making it the longest standing collective farming venture in India. Villages such as Gambhira, Kanthiakhad, Nani Sherdi and Bilpad, located on the banks of Mahi River, suffered frequent and heavy floods during the 1940s and early 1950s. Due to constant sedimentation and infiltration of waste materials, the fertile layer of soil was washed away, and the land became unculturable. As a result the farmers depending on agriculture and livestock lost their livelihoods.

The villagers persistently appealed to the King of Vadodara for reduction of land revenue tax. The Land revenue settlement Act was changed to reduce the tax. After Independence they appealed to the Government of India to distribute the wastelands to flood affected farmers. The government used to auction its land annually to the highest bidders or sublet the land to tenants in small plots on a 50: 50 crop-share basis. But recurrent floods destroyed the soil and made it unculturable.

A local Gandhian social worker, Mr.Chaganbhai Muljibhai Patel, persuaded the state government to stop auctioning and distribute 246 acres (about 100 ha) of river-bed land individually to 176 cultivators of the four villages in 1951. Each farmer received 2 bighas (0.6 acres) of saline land. Initially, they cultivated the land individually. However, the farmers lacked capital to improve the land or obtain the inputs to make the land productive on an individual basis. To overcome this problem a Group Farming Society was formed and registered under the Co-operative Societies Act in 1953. Later more land was added with reclamation.

The farmers of different villages came together and registered a co-operative society under the C-operative Societies Act. **The Mahisagar Bhatha (wasteland) Collective Co-operative Farming society** was registered on 14-10-1953. Initially there were 176 members. Later 84 additional persons enrolled raising the membership to 260 in 1958-59. After allotment of 160.75 acres (65 ha) Kharland to the society, 31 landless persons from Kanthiakhad village were also admitted as members. Members are predominantly from socially and economically backward communities. Their caste composition is as follows: Baria 272, Macchi 8, Harijan 3, Rawal 2, Muslim 1, Patidar 2 and others 3.

The society divided the total of 246 acres of land initially into 17 plots. Similarly, members were divided into 17 groups with 10 to 17 members. Each group had been assigned a plot. Currently, there are 30 groups with a group size of 8 to 14. Each group elects its own leader, based on integrity of character, experience in farming, economic status and ability to command, etc. The group leader prepares the crop plan in consultation with the managing committee and Chairman of the society. Group executes this plan under the general supervision of the group leader. Each group team leader and group members are responsible for sowing, weeding, cultivating, harvesting, and cleaning of crop produce from their respective plot size. The group leader distributes the tasks among the members. To avoid laborious accounting, the labour schedule is so devised that every member of the group puts more or less equal amount of labour. Absence from work gets penalised. The leader also ensures that all field operations

are carried out in time. He is paid a special bonus based on the productivity of the group as a whole.

At present, the Society has 291 members—most are from Gambhira and Kanthiakhad villages. The society cultivates about 526 acres (212 ha) of land on one side of Mahi riverbank. Members of each group jointly cultivate the plots and the society supplies inputs such as seeds, seedlings, fertiliser, irrigation facilities, and tractor services.

The society does not give daily wages for their daily work but distributes 60 percent of crop produce among the members. The remaining 40 percent of crop produced is kept for meeting land taxes, production and administrative costs, expenditure for buying agricultural equipment, irrigation equipment, improved seeds, chemical fertilizers, pesticides, gypsum etc., and to hire tractors to cultivate lands, to pay irrigation charges, land revenue tax, leased-in land charge, marketing, transporting cost, godown cost etc. Some portion of the surplus money is used for development work in villages. The co-op distributes bonus to members if there is any surplus.

The Society distributes food grains in kind directly to the farmers through the leaders. For tobacco, prospective customers come to assess the quality of the standing crops and the Society sells the entire crop in bulk to the highest bidder. This method has three benefits: (a) the farmers receive a higher price than possible with individual sales; (b) all groups get the same price irrespective of the quality of the produce; hence the cost of disadvantages faced by any group in terms of say poor land quality are borne by all equally; (c) everyone gets a bonus from the Society, after meeting the Society's costs and contribution to a reserve fund from its 40% share.

The Society also spends on village development activities such as building an Aanganvadi and rooms for primary and secondary schools, constructing small bridges across roads, the river, nallas, canals etc, building drainage, sewage and gutter lines, buying medicines for primary health centres, etc.

The Gambhira Cooperative demonstrates the ability of farmers to sustain cooperation over long periods.

Sources: Naidu (2011); and field visit in August 2011 by Prof. Raju and Prof. Bina Agarwal (working group members).

APPENDIX 1:

COMPOSITION OF THE TWELFTH FIVE YEAR PLAN (2012-17) WORKING GROUP ON "DISADVANTAGED FARMERS INCLUDING WOMEN", PLANNING COMMISSION, GOVERNMENT OF INDIA

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Coopted members

1. Prof. Raju, IRMA, Anand, Gujarat
2. Dr AK Singh, Director, GIDS, Luncknow
3. Prof Vasant P Gandhi, Professor, IIM, Ahmedabad
4. Dr KJS Satyasai, General Manager, NABARD, Mumbai

Special invitees
1. Dr N G Hegde Sp. invitee from subgroup 4
2. Dr P Kumar, Consultant, NCAP, New Delhi Special invitee for subgroup 2
3. Dr Rajvir Singh, Member, CACP, Shastri Bhavan, New Delhi Special invitee subgroup 2

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WORKNG GROUP CHAIRPERSON: Bina Agarwal

SUBGROUP COMPOSITION

(1) Land Security
This subgroup examined issues relating to insecurity of tenure, tenancy reforms, land alienation, Land Acquisition Act, land transfers out of agriculture, and redistribution of ceiling surplus land, with particular attention to tenure insecurity faced by women, tribal and dalits.
Chair: Dr. T. Haque; *Members*: Dr. Bachittar Singh, Swami Shashankananda, Mr. Joe Mediath, Mr. Rajgopalan, Mr. Y.C. Nanda, Mr. H.L. Pyrtuh

(2) Production inputs and infrastructure access
This subgroup focued on the constraints that disadvantaged farmers (including tribal and women) faced in getting access to credit, fertilizer/manure, seeds, technology, water, extension services, storage and marketing; diversification, and risk management. The potential and problems of existing government schemes in overcoming these constraints, and prospects of organic farming were also examined.
Chair: Prof. Suresh Pal; *Members*: Dr. M. Suramani, Mr. G. Perumal, Prof. Prabhat P Ghosh, Dr. Swaran S. Vepa, Dr. Indira Hirway. *Coopted members*:.Dr AK Singh, Prof Vasant P Gandhi, Dr KJS Satyasai. 2. *Special invitees*: Dr P Kumar, Dr Rajvir Singh

(3) Agri-business and market access
This subgroup examined the constraints poor farmers face in taking advantage of market and business-oriented schemes, as well as contract farming arrangements and value chain development, and how those constraints can be overcome. It also examined marketing cooperatives and the potential of using homestead land for cultivation for the market.
Chair: Mr. Pravesh Sharma; *Members*: Mr. R.P. Singh, Dr. J.S. Rana, Prof. S. Singh, Mr. C.K. Anil

(4) New Institutional and Group approaches
This subgroup examined the potential of group approaches to farm investment and cultivation, including the role of SHGs, women's sangams leasing in land, land pooling arrangements by marginal land owners, and producers cooperatives.
Chair: Prof. Bina Agarwal; *Members*: Smt. N. Suneja, Mr. V.K. Madhvan, Mr. Anish Kumar, Ms. Rukmini Rao, AP Mahila Samakhya, Dr. Mridul Eapen.
Coopted member: Dr. K.V. Raju; *Special Invitee*: Dr. N.G. Hegde