Ind. Jn. of Agri. Econ.
Vol. 69, No. 4, Oct.-Dec. 2014

Indicative Outlines of Subjects Selected for Discussion at the 75th Annual Conference/Platinum Jubilee Conference of the Indian Society of Agricultural Economics

The 75th Annual Conference of the Indian Society of Agricultural Economics will be held under the auspices of Punjab Agricultural University, Ludhiana (Punjab) from November 19-21, 2015.

The following subjects are selected for discussion:

(a) Disadvantaged Regions and People: Is There a Way Forward?
(b) Role of Technology, Institutions and Irrigation in Agricultural Development.
(c) Economic Contribution of Women in Agriculture.

Research Papers on the above themes are invited from members and other paper-writers for discussion at the Conference. The scope of each of the three themes is spelt out in the enclosed Indicative Outlines below. The Indicative Outlines are also available on the Society's website www.isaeindia.org.

Three copies of each paper (not exceeding 3500 words or 10 pages), with its Summary in triplicate not exceeding 250 words need to be submitted. The last date for the receipt of the papers at the Society's office is May 15, 2015.

SUBJECT I

DISADVANTAGED REGIONS AND PEOPLE: IS THERE A WAY FORWARD?*

More than six decades of development experience has left with us substantial experience to analyse our development strategies. Over these decades, we have experimented not only different ideological pursuits but also variety of development models. It is not unexplainable that there are some regions and groups that have gained and witnessed good progress and, at the same time we have some proverbial backward regions and groups in rural areas that have remained away from the mainstream development. Across the sectors, agriculture sector has witnessed this medley of phenomenon more intensely than other sectors. Overall, the country has witnessed: good growth in crop output, changing of farming practices and the poverty ratio decline; but these were actually confined to a few regions and benefitted only a

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few groups of farmers. In the process of planning, host of schemes were designed and implemented across the plan periods but it requires to document and find the net outcome of these as also the reasons why these attempts could not solve the regional or intergroup backwardness issue. We are aware that some of these efforts are directly targeted and others are umbrella efforts covering all regions and people, but the hiatus between the quick absorbing regions/people and the others has not been dented. The question thus emerges is why it is so?

Research papers under this theme can focus on the following:

(i) Differential impacts of programmes and opportunities in rural areas.
(ii) The transaction costs and differential accrual of benefits.
(iii) Inherent regional and social weaknesses in mainstreaming the efforts.
(iv) Faults and clefts in designs of schemes and process of implementation.
(v) Appropriateness of the development models and their failure to note the grassroots issues.
(vi) Supply and demand side arguments about the interventions.

DETAILED OUTLINES

More than six decades of development has left with us substantial experience to analyse our strategies. Over these decades, we have experimented not only different ideological pursuits but also variety of development models. It is not unexplainable that there are some regions and groups that have gained and witnessed good progress and, at the same time we have some proverbial backward regions and groups in rural areas that have remained away from the mainstream development. Across the sectors, agriculture sector has witnessed this medley of phenomenon more intensely than other sectors. Overall, the country has witnessed: good growth in crop output, changing of farming practices and the poverty ratio decline; but these were actually confined to a few regions and benefitted only a few groups of farmers. In the process of planning, host of schemes were designed and implemented across the plan periods but it requires documenting and finding the net outcome of these as also the reasons why these attempts could not solve the regional or intergroup backwardness issue. We are aware that some of these efforts are directly targeted and others are umbrella efforts covering all regions and people, but the hiatus between the quick absorbing regions/people and the others has not been dented. The question why we could not overcome these inequalities, seeks answers.

There was a plethora of programmes for agricultural development since the Grow More food campaigns of the fifties, broadly moving in tandem with the changing development thinking of the policy makers nationally and globally. These include- Intensive Agricultural District Programme (IADP) and Intensive Agricultural Area Programme (IAAP) and High Yielding Varieties Programme (HYVP) of the sixties; Small Farmers Development Authority (SFDA), Marginal Farmers and Agricultural

Labourers (MFAL), Drought Prone Area Programme (DPAP), Desert Development Programme (DDP), differential rates of interest schemes of the seventies; Training and Visit Programme (T&V), watershed development programme, Oilseeds Production Programme, horticultural development schemes under national horticultural board for commercial horticulture, cold storage, and nursery maintenance of the eighties; watershed plus approach and micro-irrigation schemes of the nineties; and new extension programme in the form of ATMA, Cotton Technology Mission, National Rainfed Area Authority (NRAA), *Rashtriya Krishi Vikas Yojana* (RKVY), National Food Security Mission (NFSM) of the first decade of the new millennium. How far these together or individually impacted the backwardness of the disadvantaged regions?

Several other schemes have been in operation to encourage marketing of agricultural commodities through National Agricultural Cooperative Marketing Federation (NAFED), Cotton Corporation of India (CCI), Rubber Board, Jute Corporation of India (JCI), Coffee Board, Spiced Board, and other such initiatives. Some of the initiatives like National Rural Livelihoods Mission (NRLM) offer succour to farmers through group approach, though not directly aimed at agricultural development. Some funds are established to help agricultural sectors in the form of accelerated irrigation benefit fund (AIBF), Rural Infrastructural Development Fund (RIDF). Though Mahatma Gandhi National Rural Employment Guarantee Scheme (MNREGS) is not a programme for agriculture *per se*, debate is centred on its positive and negative impacts. The changes in the programme seem to be aimed at factoring in the needs of individual farmer-producer's requirements into the scheme. Direct Benefit Transfers (DBT) or cash transfers, as a vehicle of different schemes including in the agricultural sector, is the programme under development. There is always a differential impact of these schemes across the regions and one requires to know the factors that dictate intensity of such impact.

It is no secret that the brunt of the poverty and deprivation is borne disproportionately by the dry land regions and backward regions that constitute even today 60% of the total net sown area. No less demeaning is the suffering of Dalits and Tribal communities in far flung areas, as well as people living in backward regions in many of the so-called better performing states. Studies indicate that women have been playing bigger role in agriculture as men leave for better opportunities in services and manufacturing. It is well-known that they have differential access to land, input markets including credit as well as output markets.

Design of many of the programmes is beset with the top down approach that does not factor in the interests and requirements of the agricultural populations. Most of the programmes are tailor made for well-endowed and irrigated areas excluding the resource poor areas and farmers. The programmes designed keeping in view the requirements of the dry lands also suffer from the untenable assumption of homogeneity among these regions and their people, without any regard to the diverse livelihood patterns. Though there have been some efforts, of late, to involve district

level people's representatives and administrators in the planning process, PRIs are completely left out. Structural transformation presents its own challenges with the backward states and backward regions within states moving slowly out of agriculture. This in turn carries a heavy burden on the agriculture sector having negative implications for productivity and incomes of the people. Links are more important now compared to the earlier periods as the farming communities are depending on non-farm incomes.

Situations under the increased role for market forces paving the way for corporate entry in input and output markets warrants different treatment for which the present policy framework is not bespoke to. Globally, discussions are centred on how to make the small farm agriculture sustainable by withstanding the rise of supermarkets and private control. Upgradation of infrastructure, skills, and changing attitudes is going to be crucial in this new phase. All this discussion assumes heightened importance as the present government is trying to rework the centrally sponsored programmes on agricultural development by merging and redesigning the extant ones.

The objective is to have analyses focusing on retrospect with potential lessons for the programme building to smoothen theon-going agricultural transformation as a consequence of structural transformation, technological change, climate change and resource degradation, increased role for market forces with the entry of private sector and so on. Researchers may also analyse successful civil society interventions, if they have the potential to be scaled up to a pan-Indian level with necessary policy support. They may keep in mind the fact that analysing the reasons for failure of programmes is equally, if not more important in charting the ways ahead.

Research papers under this theme besides above issues can also focus on the following themes, keeping in view the overarching objective of policy formulation for the ways forward in the country's agricultural sector:

- Appropriateness of the development models and their failure to note the grassroots issues.
- Faults and clefts in designs of schemes and process of implementation.
- Supply and demand side arguments about the interventions.
- Inherent regional and social weaknesses in mainstreaming the efforts.
- The transaction costs and differential accrual of benefits.
- Differential impacts of programs and opportunities in rural areas.
- Needed course corrections to the on-going interventions as well as present innovative models that can be scaled up to take the agricultural sector forward in the changed circumstances.

SUBJECT II

ROLE OF TECHNOLOGY, INSTITUTIONS AND IRRIGATION IN AGRICULTURAL DEVELOPMENT*

Macro level studies using concepts like total factor productivity (TFP) have largely pointed towards contributions of technology, irrigation, institutions and individual inputs, but a lot remains to be understood about their differential behaviour across regions and over time. Even after decades of experience we cannot say that economic role of irrigation or actual cost of water use; role of micro vs macro institutions and the exact measurement and accounting of technology have been adequately accounted for. Therefore, the accounting of the role of these three components as also the growth path traversed is quite an important area for analyses.

Many research studies focusing on surface water assume certain opportunity cost of water but neither water applied to crops is measured nor the cost / value of water is properly collected from farmers. In such situation the veracity of approximations come under a cloud of doubts. This is true across the sources of irrigation and hence should be accounted from variety of perspectives. Role of institutions here becomes vital in accounting the role of water or irrigation in enhancing TFP growth. Precious little is attempted both in terms of innovative methodologies or analyses to bring forth the role of water management institutions and their interaction with the production process.

Technology is another major contributor to the TFP but again the issues pertaining to the measurement and quality are bothering researchers. The variables used as a proxy for technology could always be questioned as also specification of the envisaged models. The differential adoption and impact of technology have been well recognised but the puzzle about its incidence remained unsolved. As a result we largely have supply-driven technologies dominating the field than those spurred by the demand for them. Here again the role of technology disseminating institutions and various conduits get into picture. Effectiveness of technology adoption largely depends on functioning these institutions. Formation of such institutions and the role of private - public agencies, and emerging markets in this area assume greater importance.

Research papers under this theme can focus on the following:

(i) Accounting the role of water across various sources of irrigation and their differential impact.
(ii) Explaining differentials of TFP and the role of various inputs like water and technology
(iii) Role of irrigation and water pricing in enhancing the TFP and aggregate agricultural growth.
(iv) Role of institutions in increasing the effectiveness of irrigation, technology and reasons of failures.
(v) Growth and process of development of technology in agriculture.

(vi) Role of public- private institutions, emerging markets as conduits of technology and catalysts for TFP growth.

DETAILED OUTLINES

Among the drives of agricultural development technology, institutions and water have assumed proportionately high role. Technology is a prime non-price factor promoting agricultural growth. While it played an impressive role during green revolution, there has been deceleration in technology since the 1990s as reflected by falling growth rates in production of rice, oilseeds and pulses. Crop productivity has reached plateau resulting in falling per capita output. This points to depreciation and obsolescence of green revolution technologies in Indian Agriculture. During green revolution, upscaling of technological successes was not as much affected by the law of diminishing marginal returns (LDMR) despite low levels of capital on the farms. That has raised many questions about the efficacy of the philosophy behind the technology.

However, in the post green revolution period, we are confronting limits across different regions of India. With anecdotal evidences of rich gains due to technological innovations, the upscaling is fraught with limitations. It was relatively easier during green revolution period to push ahead the technology but now it is not so. It is essential to estimate the extent of uneven spread of technology, its sub-optimal performance, the economic reasons and implications of slow/sluggish performance of agricultural technologies. In NARS across different agro-climatic regions, despite projection of relatively high IRRs for research investments, there is plateauing of productivities and that seeks answer along with suggestions for the correcting factors in agricultural research, extension and education.

We also seek answers to the declining contribution of Research, Extension, irrigation to TFP over time in different agro-climatic regions and the reasons as aslo economic implications on livelihood and economic security. The seminal study by Evenson, Carl Pray and Rosegrant (IFPRI Research Report No. 109, 1999) provides some of the important clues and leads for the answers we are seeking today. The results indicated that the greatest contributor to TFP (during 1956 to 1987) was Extension (as an institutional intervention). With some appropriate changes in the framework and variables used, it will be useful to estimate the contributions to TFP in the recent past, but TFP alone need not be the methodological platform for seeking the answer to the role of technology. Surely, there are other transparent and simple methods that could be employed. Such approaches have a broader involvement of various disciplines. Research papers can focus on innovative approaches as well as innovative methods of quantification of micro level implications of R and D as well as S and T in agricultural development. Often scientists and technologists in NARS system overestimate the technological contributions, as they discount the role of the law of diminishing returns, and do not incorporate the depreciation of technology,

probability of performance in the field, rate of adoption of technology by farmers. By including these and other appropriate variables, is it possible to arrive at realistic estimates of the contributions of technologies and are required to convince the policy makers. Researchers could also focus on the methods or approach and the interpretations of the economic role of technology to attract investments to public research in the NARS system for the benefit of farming community.

Role of Institutions

Economic understanding of institutions is formal/informal rules and regulations governing in the society. For proper working of organizations, appropriate institutions need to be in place. The research need to focus on both the aspects as these are complementary. While organisations are the hardware, institutions are the software influencing development. Institution building is an onerous task as it involves the appropriate investment in physical, economic and human capital focusing development. Estimating the contributions of institutions is crucial for institutional development.

It will be important to document the institutions and their role in the agricultural development especially of those governing land resource, water resource, labour resource, technological inputs, markets, roads and rural roads, credit, extension, agro-meteorological services, others and their economic contributions in development. These institutions are at regional, state and national levels. Their impacts are also dependent upon the level/s of (good) governance. Institutions relate to the transaction cost reducing mechanisms in development and this preposition needs substantiation. What are the transaction costs of institutions in development and what institutional innovations can be suggested to reduce such transaction costs and how; are the questions that seek answers.

The analysts can also consider the performance of institutions over time covering their changing role in the context of economic liberalization, green revolution, at different levels of governance. Which are the institutional innovations that are responsible for growth or otherwise and what changes need to be brought in with the least transaction costs. Transaction costs and Institutions are the two sides of the coin of institutional development. The study by Evenson, Pray and Rosegrant (1999) provides interesting guidelines in the understanding the role of institutions through many variables. Certainly, the use of appropriate variables to represent institutions is crucial. The papers can focus on new appropriate methods and methodologies for measuring contributions of institutions in agricultural development, as also separate the factors contributing to the hardware and software of institutions including the role of governance.

Studies concerning the relationship of the benefits from developmental programs to rural people with the transaction costs involved in obtaining the benefit are crucial. Transaction costs inter alia include information costs, contractual costs and

enforcement costs at the micro level and costs of administration and governance at macro level. Can transaction costs be interpreted as the cost of efforts put by the applicants in realizing benefits from developmental programs, and in that case whether there is positive relationship between the transaction costs and benefits realisable? What is the elasticity of benefits received with respect to transaction cost incurred and to what extent this varies across different types of beneficiaries and categories of farmers; are some of the interesting research leads that could be tracked.

Is there an institutional void in agriculture development and what are the empirical evidences to reflect the economic history of evolution of workable institutions in agriculture? A few state governments have brought amendments to the APMC act, incorporating liberalisation. However, to what extent such amendments to institutions have brought benefit to the farmers. What is the stake for farmers in decision making concerning institutional innovations and their implementation and in what manner such stake can be improved towards democratic institutional development.

Role of Irrigation

Large parts of India are becoming water stressed due to increase in the demand for water by users. As water is a prime natural resource, and a precious national asset, planning, development and management need to be governed by national priorities. This requires the need for well-developed information system for water related data at both macro, and micro levels covering both demand and supply sides. Studies have pointed towards contributions of technology, irrigation, and institutions. However, their differential impact across regions and over time are yet to be accounted for and appreciated. Even after decades of experience, the economic role of irrigation and/or actual cost of water use in irrigation in different parts of the country are nebulous. The role of institutions, measurement and technology have also not been adequately accounted for. If farmers are adequately aware of all the properties of water as a natural resource, that it is unique, indispensable (hence has no substitutes), irreversible (once exhausted, difficult to recoup in a reasonable time frame), expensive (as it needs to be extracted and used), sustainable (needs to be used with wisdom over space and time across users and uses), then they would impose rules on themselves and use technologies to cultivate the resource economically optimal crop combinations and output levels. Otherwise, due to mismatch between the three, due to lack of markets, institutions, technologies, there can be lopsided use of water resulting in unsustainable use. Thus, accounting for direct role and synergistic (interactive) role of technologies and institutions for demand and supply sides of water are crucial areas for research (Table 1).

TABLE 1. MARKET, TECHNOLOGY AND INSTITUTIONAL MATRIXIMPACTING ON DEMAND AND SUPPLY SIDES OF WATER RESOURCE FOR IRRIGATION

Demand side of water resource (1)	Supply side of water resource			
		Market	Technology	Institutions
	(2)	(3)	(4)	(5)
	Market	M^2	M & T	M & I
	Technology	T & M	T^2	T & I
	Institutions	I & M	I & T	I^2

The off-diagonal elements of the matrix influence the role of market, technology and institutions in demand and supply side of water. It should be noted that the combinations as also the direction is also important here (I&M is not the same as M&I). Considering market, the demand side of water is represented by water market. Supply side of water is represented by market for augmenting water resource, which has not yet emerged. Demand side of technology is demand for micro irrigation, and supply side of technology is supply of water recharge technology. Demand side of institutions is formal/informal rules controlling water use for irrigation and supply side of institutions is formal/informal rules of water augmentation/savings (example of *Pani Panchayat*). The interactive of demand side of market with supply side of technology, for instance, is farmers having both drip irrigation to save water and the same farmers adopting borewell recharge technology to augment groundwater supplies. The interactive of demand side institution with supply side institution is farmers sharing borewell water as well as a following a rule that they should augment the supplies of the borewell.

Studies on economic contributions of augmenting groundwater through recharging borewells, mulching and laser leveling in saving water use reflect the uncovered areas of coping mechanisms in sustainable use of the resource. Empirical micro level studies focusing on farm level indicators of 'economic scarcity of water' across seasonal and perennial crops in different water scarce regions to sensitize farmers on sustainable use are required. In regions of water adequacy or surplus, empirical micro level studies need to focus on equitable and efficient use. Farm level studies reflecting the way it is being used for different crops and attempt towards its economic value are useful to farmers as demand side indicators, compared with macro level indicators which are reflective of the supply side.

Economists often are eloquent agronomists quoting 'more crop per drop' rather than how to secure the 'highest net return per rupee value of water'. Economists need to generate information on realistic estimates of how valuable or expensive is water resource on the farm and accordingly to what use water needs to be put to across different enterprises, crops, soils, seasons on the farm.

What is the method followed by CACP in costing surface water / groundwater for irrigation? Do the RT forms seek adequate information on volumetric water applied to crops? How the depreciation of irrigation structure is estimated and how the expected age or life of the well is estimated to compute the depreciation. To what

extent there is subjectivity in this computation and is left to the discretion of the Field Assistant in filling the RT forms (440, 441). But does this information enter the costing of irrigation? There is no information on volume of groundwater yield of well/s extracted by farmer. Thus, the need to internalize the reciprocal externalities due to groundwater overdraft. Does the CACP methodology properly account for irrigation cost? Thus, does MSP announced for various crops adequately account for the cost of water is still a basic question to be addressed.

Economists can explore whether there is Jevons paradox in irrigation: i.e. whether improvements in water use efficiency have led to over use of water rather than its savings or conservation in different agro-climatic conditions. Empirical estimates of the losses to farmers due to inefficiency in surface irrigation system, poor drainage, physical deterioration of canals, to what extent farmer's income can be improved by system performance are required. What measures are taken to improve their recovery through Water Users' Associations? Which are the success stories of institutional innovations incorporating water use efficiency and farmers realizing their importance in letter and spirit? What is the cost of water governance by the Government and to what extent this can be reduced through water user associations, what are the success stories? Whether formation of Water Users' Associations served the purpose adequately and what are the workable solutions to rectify?

With respect to groundwater use which forms around 70 percent of irrigation and 85% of drinking water needs, neither there is a proper estimate of magnitude of volumetric use nor there an estimate of use of electricity to pump the same for irrigation. In many states, Electricity Boards do not have measurements of electricity use in agriculture due to lack of electric metering, and hence estimate energy for irrigation pumpsets as residual and include the T and D losses, which boost up use of energy for agriculture. The research should focus on what proportion of water cost is the cost of energy and what proportion is the non-energy component so that it is possible to come out with reasonable estimate of subsidy for famers and associated implications especially in hard rock areas, where groundwater scarcity is acute. Whether the real cost of groundwater is falling over time which is responsible for large scale drilling of borewells? Whether incorporation of externalities in real cost of groundwater rises the cost of groundwater and how does that impact on small and marginal farmers using borewells. Recently some of the states have enacted legal framework pertaining to the use of ground water. What is the analytical position such legislations create towards the water use and regulation of water extractios?

Climate change may also be responsible for increasing the cost of water. However, there are no field level evidences of increase in cost of water resource or reduction in returns to water due to climate change? How does these influence the economics of crops and enterprises and what are the equity implications on small and marginal farmers due to economics of climate change. There needs to be innovative way of addressing the methodological predicament of measuring the role of 'water' in the aggregate productivity.

SUBJECT III

ECONOMIC CONTRIBUTION OF WOMEN IN AGRICULTURE*

Neo-liberal policies have brought in several bold as also subtle changes in the farming sector. The role of women farmers and farm labourers is emerging strongly as male farmers prefer to migrate to cities and urban areas. Over generations women have been contributing significantly in the farming as also in building the rural economy. However, their economic contributions have hardly been recognised but more intriguing is the drudgery that they undergo as against the wages that they draw. Casualisation and feminisation of labour force is only one aspect whereas, the joint management of farm and household by females is another. Their employment, wage trends and participation in rural economic activities is strongly emerging. The role of women in the form of Self Help Groups has been widely analysed but could they become similar catalysts for group farming in agriculture, is a question that seeks answers. Their participation in precision farming and farm product processing is also quite an important aspect. A few good studies dealing with some aspects on women in agriculture are available but there is a lot that remains to be analysed.

Studies need to focus on the following aspects:

(i) Women farmers and their growth over years and their joint management of farm and home.
(ii) Women wages in the farm sector
(iii) Role of women farmers in neo-liberal economic structure.
(iv) Role of women SHGs in financial and non-financial sectors.
(v) Women in agro-marketing and agro-processing

DETAILED OUTLINES

Historically, women have always played a central role in agriculture. In fact, some of the development economists argue that it was women who invented agriculture but their pivotal role in agriculture largely goes unrecorded and neglected, which is not very surprising in view of the overall low status accorded to women. Arguably this needs to be rectified and for that investigated thread bare. Further, women's role and involvement in agriculture and the rural economy has been changing in the face of technological and institutional changes. So, women's contribution has not remained stagnant in quantum and structure, whether we consider various centuries or various decades.

Specifically, the Indian economy embarked upon the path of opening up almost twenty five years back; and possibly even more if we pin the neo-liberal policies to the mid-eighties. These policies have brought in several bold as also subtle changes in the farming sector. The focus of this session would be on the emerging issues

related to the changing contributions of women in the context of changing agriculture and changing rural economy both in terms of quantum and structure.

In the urban sector, the recent manifold increase in the demand for labour is both a cause as also a result of high rate of growth of the economy. As a result, migration of men from rural areas to urban areas has increased at a steep rate. In such a scenario, the entire farming is done by women who are left behind. Also, the migration of men usually occurs from the backward areas with vulnerable agriculture (like Bihar, or Drought-prone regions) rather than developed agriculture (like Punjab). Thus the women left-behind inherit not only social backwardness but also backward and poor agriculture. It would be pertinent to examine what changes the migration of men has brought about in the manner in which farming is done. Management of farming by women can lead to many interesting outcomes like changes in crop patterns (where ever possible), responses to technology, better management of resources, increased cooperative activity and more resources being devoted to children. It would also be interesting to find out how they cope with single-handed management of the farms and the households.

The phenomenon of women working as farm labourers has also been showing a rising trend. This feminisation of agricultural labour has happened along with it is casualiSation of the women workforce is accompanied. In the recent past, there has also been a rise in the employment available to women under the MGNREGA. This employment guarantee scheme has a wide coverage and is expected to change the dynamics of rural employment. It would be pertinent to examine how this has impacted the rural economy and the household economy of the women labourers. The participation of women in MNREGS is not free of many hardships and that has not been documented. It is a matter for further research to find the extent to which this has happened. Related issues need to be examined in detail across regions so that some policy prescriptions could be made.

In the current scenario, the wage rates of women labourers have also undergone important changes. Ultimately, it is the wage rate that brings about changes in economic well-being and status. Thus, it will be interesting to know the factors that have impacted the wage rates and document the patterns of the impact.

After the Green Revolution, certain areas in India have taken advantage of advanced and rich agriculture. The obvious examples would be Haryana and Punjab. What has been the implication of technological advance for women then and how has their role changed? This needs to be examined in the context of extremely poor sex-ratios in some of such states like Haryana. Also, what does poor sex-ratios mean to the female agri-labourers, is also a question that seeks answer.

Another trend that can be discerned over last few decades is the increase in agri-exports. Engaging in agri-exports implies increased risk and returns. How have women contributed to this emerging sector could be one area of focus. Additionally, role of women in agro-marketing and agro-processing also needs to be studied. These two areas are still in nascent stage and hence it is expected that they would grow

exponentially. Increased agro-marketing and agro-processing are expected to lead to great value additions to the farmers, including female farmers. More specifically, they offer great opportunities with respect to female employment.

The Hindu Succession (Amendment) Act, 2005 made the daughters coparcener or joint heir by birth, giving them equal rights as sons in inheriting ancestral property. Over a period of time some states like Maharashtra and most South Indian states have also brought about changes in their property inheritance laws .These changes are pro-women but their implications have not been studied. It would be challenging to examine the extent to which the landed property is actually transferred to the daughter and the impact that it has had on the farming practices.

Self-help Groups (SHGs) have been championed by the government and NGOs as one of the ways in which the life of rural women can be improved. To what extent have SHGs played this role and what are the constraints under which they operate needs to be studied. An important issue that needs examination is if the SHG kind of women-led institutional framework can be followed in marketing or farm insurance. In this context, the general need for women-specific credit schemes for agricultural purposes by the NABARD, needs to be discussed.

It is well known that the Dalit women face extremely discriminatory conditions in the villages. Their situation is even worse than men as they seem to be doubly cursed. They form the majority of the farm labour power in rural areas and their contribution in agriculture needs to be culled out and centred upon separately. This kind of a focus would fill up one gap in our understanding.

The rural scenario has undergone a change since the passing of the 73rd Amendment to the Constitution which has made the elected gram panchayat an important link in India's political system. Under this, different states have reservations for women Sarpanchs (mukhia) and members between 33 to 50 per cent. It will be necessary to understand the changes in rural areas due to this amendment and its impact on agriculture as also related activities.

In the final analysis, one needs to remember that the farming in rural way of life means an enormous amount of drudgery for women. This gets worsened due to their poor health conditions, frequent pregnancies, responsibilities with respect to the old and psychologically debilitating low social status. We can look into the position of women in agriculture in this context and search for alleviatory paths if any.