



## **The Indian Society of Agricultural Economics**

### **80th Agricultural Economics Conference**

**November 26-28, 2020, Coimbatore (Tamil Nadu)**

The Indian Society of Agricultural Economics (ISAE) is pleased to announce its 80th Annual Conference to be held in Coimbatore (Tamil Nadu) during November 26-28, 2020. This Conference is being organised by Centre for Agricultural and Rural Development Studies (CARDS), Tamil Nadu Agricultural University, Coimbatore (Tamil Nadu). Dr. Vasant P. Gandhi, NABARD Chair Professor, Centre for Management in Agriculture, Indian Institute of Management, Ahmedabad (Gujarat) is the Conference President. Dr.K. R. Ashok is the Local Organising Secretary of the Conference.

#### **Conference Theme**

- Institutions and Efficient Supply-Chains for Agricultural Development
- Agricultural Labour, Skill Development, Labour Productivity and Employment.
- Agricultural Trade with Special Reference to Plantation Crops and International Trade Agreements.

#### **Dates to Remember**

- Last Date for Submission of papers  
**June 30, 2020**
- Communication from ISAE about Acceptance of Paper  
**August 31, 2020**
- Last Date of Registration  
**September 30, 2020**

#### **Pre-Conference Workshop**

This year it has been decided to organise a pre-Conference workshop on experimental economics/RCTs for the young researchers to help design and implement randomised evaluations and to promote research transparency.

#### **Conference Duration**

As has been the convention every year the Conference will start at 9.30 am on November 26, 2020 and will conclude by 1 pm on November 28, 2020. Delegates and members who desire to attend the pre-Conference workshop are advised to reach

Coimbatore two days prior to the Conference and schedule their departure for the evening of November 28, 2020 or the morning of November 29, 2020.

### **SUBMISSION OF PAPERS**

- The Conference is open to research scholars both from India and abroad. The papers may relate to India at the macro level or regional level.
- The papers should be submitted by email on the Society's email id at [isaeindia1939@gmail.com](mailto:isaeindia1939@gmail.com)
- Length of the paper should not exceed not exceeding 3500 words or 10 pages and should adhere to the current writing style of The Indian Journal of Agricultural Economics (IJAE). For further details, please visit <http://www.isaeindia.org>
- All papers should include a summary not exceeding 250 words. As usual the summaries of all accepted papers will be included along with the Full Length Papers in the Conference Number of our Journal.
- Authors must ensure that their submissions are original. Please note that all papers will be screened for plagiarism and accordingly accepted or rejected. Further, authors are solely responsible for violation with respect to plagiarism. A final undertaking will be sent to all papers accepted for full length.
- **Best Paper Awards and Fellowship:** Every year Indian Society of Agricultural Economics (ISAE) gives best paper awards – Dr. N.A. Mujumdar Prize Award to young scholars below 40 years for the best paper on each of the Conference theme and ISAE fellowship to a senior Indian scholar who has made outstanding contribution in the field of agriculture and rural development.

### **Presentation by Ph.D. Scholars**

In view of the overwhelming response received last year, it is proposed to continue to organise a special session containing paper presentations by Ph.D scholars from different Universities of India.

The award to the maximum best 10 presentations would consist of a memento and a certificate.

It is mandatory for Ph.D. Scholars who present their papers to be a member of the Society. The student's concessional membership fee is Rs. 800/-

In this context, we invite paper presentation from Ph. D Scholars in the form of Abstract as well as ppt presentation on the basis of their Ph.D Research or any relevant topic pertaining to Agricultural Economics at the 80th Annual Conference of ISAE at Centre for Agricultural and Rural Development Studies (CARDS), Tamil Nadu Agricultural University, Coimbatore (Tamil Nadu) during November 26-28, 2020.

Entries for the presentation along with the membership fee in the form of Abstract along with their ppt should be sent before September 30, 2020:

Hon. Secretary and Treasurer Indian Society of Agricultural Economics, C-104, First Floor, Sadguru Complex I, Near Vageshwari, Gen. A.K. Vaidya Marg, Goregaon (East), Mumbai-400 063. Tel.: 022 28493723.

Email: [isaeindia1939@gmail.com](mailto:isaeindia1939@gmail.com)

### **Panel Proposals**

During the conference, it is planned to organise a panel session including a pre conference event. Proposals for panels are invited from scholars and institutions.

Each panel proposal should contain the following:

- Title of the panel and a description of the panel's theme
- Titles, authors and abstracts (within 500 words) of the papers to be presented
- Names, affiliations and short biographies (100-150 words) of the proposed presenters and discussants/commentators
- Name and contact information of the panel organiser

Note: A panel session will comprise of 4 – 5 paper presentations. The organisers / coordinators of each Panel Session are expected to be in charge of the Panel Discussion, including raising resources for speakers' travel and other expenditure. The proposals may be emailed to [isaeindia1939@gmail.com](mailto:isaeindia1939@gmail.com) by 20 August 2020.

### **Travel Arrangements**

The Indian Society of Agricultural Economics does not have any regular source of funding. As such, it is expected that the the Conference Presidents, the Keynote paper-writers, Rapporteurs , paper presenters, resource persons and other participants will fund their travel costs through their own institutions or other sources.

### **SOCIETY'S MEMBERSHIP**

The rates for Membership is as follows:

Life Membership Fees	Rs. 10000
Annual Membership Fees	Rs. 1000
Student Membership Fees	Rs. 800

### **MODE OF PAYMENT**

The Society's fee may be paid by way of NEFT/RTGS transfer/Demand draft (DD) or local cheques.

#### **Details for NEFT/RTGS transfers:**

Account Name	: The Indian Society of Agricultural Economics
Account Number	: 54025434745
Bank Name	: State Bank of India
Branch	: Dalal Street, Mumbai

IFSC Code : SBIN0040433  
MICR Code : 400002467

Kindly inform us when the amount is remitted to our account.

**Details of payment through demand draft or cheques**

Demand draft/cheque may be sent in favour of “Indian Society of Agricultural Economics” payable at Mumbai at the following address:

The Indian Society of Agricultural Economics,  
C-104, First Floor, Sadguru Complex -1,  
Near Vagheshwari, Gen. A. K. Vaidya Marg,  
Goregaon (E), Mumbai - 400 063.  
Tel.: 022-28493723  
Email: [isaeindia1939@gmail.com](mailto:isaeindia1939@gmail.com)

**Conference President**

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### **SUGGESTIVE OUTLINES ON CONFERENCE THEME FOR PROSPECTIVE CONTRIBUTORS**

The 80th Annual Conference of the Indian Society of Agricultural Economics will be held under the auspices of Centre for Agricultural and Rural Development Studies (CARDS), Tamil Nadu Agricultural University, Coimbatore-641 003 (Tamil Nadu) from November 26-28, 2020.

The following subjects are selected for discussion:

1. Institutions and Efficient Supply-Chains for Agricultural Development
2. Agricultural Labour, Skill Development, Labour Productivity and Employment.
3. Agricultural Trade with Special Reference to Plantation Crops and International Trade Agreements.

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](http://www.isaeindia.org).

The soft copy of the paper (not exceeding 3500 words or 10 pages), with its Summary not exceeding 250 words need to be submitted. The last date for the receipt of the papers at the Society's office is June 30, 2020.

#### SUBJECT I

#### INSTITUTIONS AND EFFICIENT SUPPLY - CHAINS FOR AGRICULTURAL DEVELOPMENT

Agriculture in India is dominated by small and marginal farmers, many of

whom are poor. They often depend on multiple sources of income (farming, rearing of livestock, wage and salary from casual work) for their livelihoods. On account of their small land holdings, divided attention and other factors, their farming increasingly shows specialisation in certain crops (farm level specialisation). Different regions, depending on the resource characteristics and market signals among others, also show specialisation in production of certain crops. As a result today, there are increasing number of different cereals, oilseed and pulse growing regions in the country. On account of such crop-specific specialization, certain post-harvest infrastructure is required in the region. However, Government is often preoccupied with food management for the population in the country, has hardly enough resources to create suitable (need-based) infrastructure in the region. Therefore, the role of non-government organisations as that of collectives, co-operatives and corporate, that can improve supply of desired commodity from field to fork, becomes important. However rules and incentives referred to as institutions are important for organisations to remain in business.

Accessibility of farmers to factor and product markets is also often constrained due to tiny holdings and

other associated factors. Access to common property resources are often denied owing to the dearth of suitable institutions. Many of these restrict growth of farm productivity and profitability; whereas the national priority of increasing farmer's income prevails. In this situation, it will be good for farmers to become a part of certain kind of collectives (self-help group, associations, interest group, producers' organisation). The collective besides other advantages, improves scale economy of farmers and helps in the formation of suitable rules for use of common resources.

There is enough evidence of the role of collectives of different kinds in the organisation of production. They help increase the productivity and profitability of farmers through more efficient utilisation of water in water market. Productivity of land has increased with the changes in land tenure system. The land kept fallow has been used with the collectives of women (*Kudumbashree*). The instances of custom hiring of machines for farmers are also reported. However, examples of such collectives are limited, considering the size of the country. The replication of successful collectives requires detailed discussion on the context of collectives and factors responsible for differential growth of collectives in the country.

Producers' group, farmers' club, federation of self-help groups are one set of examples of a collective. Whereas farmer's owned business, joint ventures and management contracts to benefit farmers from agri-business opportunities

are another set of examples. The collectives of different type often form larger assemblies to benefit from economies of scale. They often become part of big (global, distant market) supply chains to market commodity at distant places. Such outward looking development is a prerequisite for high rate of growth in agriculture. An institution like future market helps farmers in their orientation towards the market; but their participation in the future market requires them to form assemblies. Futures market thus, provides impetus to farmers to form associations.

Government facilities like creation of warehouse and provision of warehouse receipts; encouragement to "contract farming" and "direct purchase" by retail chains and similar other buyers; changes in APMC and similar Acts for representation of producer companies in APMC and similar markets, may improve supply chain of commodities. The collectives are often supported by the government, the self help group - bank linkage programme being an example. Government facilities as that of Agri-clinics, Kisan call centres and exchange of information with them have the potential to solve production and market related problems and improve supply chain for farmers. Such improvement in the supply chain, if any, needs to be analysed and discussed.

Advantages to farmers on becoming a part of such a bigger groups and chain are immense. A sustainable supply chain enforces certain standards (phyto-sanitary and others), technologies (cost

reducing and natural resource conserving) and similar requirements for its members. The requirement for many of these standards start with the stage of sowing, quality of inputs used thereby making one believe that the quality of produce is ensured by the concerned collectives / co-operatives and corporate in the supply chain of the commodity.

The increased digitalisation has many advantages. The networking of stakeholders has become easier and this helps farmers in reduction of their cost of production and marketing in the supply chain of a commodity. Digitalisation with advances in space technologies has empowered organizations to undertake many difficult jobs such as risk assessment, quality testing, weather forecast etc. The increased digitalisation must have encouraged start-ups that help farmers in improving the supply chain of the commodity.

Our development experience suggests that the vicious cycle of small producers associated with low return (because of high cost of production and marketing) has been broken at many places with the help of different kinds of institutional arrangements mentioned above. Besides, farmer's household incomes can increase significantly if they reorganise their production and marketing structure as per the requirement of an institution. Numerous studies confirm direct correlation between the rate of growth in income on the one hand and reduction of poverty on the other.

In the above discussion institutions are set of formal and informal "rules"

and organisations are "actors"; they together establish the basis for production, exchange and distribution. The present conference assesses the role of different kinds of collectives, associations, cooperatives and corporate (other than government and regulated markets) in developing an efficient supply chains of agricultural commodities. This implies that organisations' engagement with farmers is dictated by a set of formal and informal rules. The supply chain referred to here is from the supplier's perspective with a focus on production, logistics and coordination of moving products efficiently from farm to fork. The role of institutions for efficient resource management and supply chain for agriculture development in India has not been discussed adequately in the recent years. Therefore the 80<sup>th</sup> Conference of Indian Society of Agricultural Economics (ISAE) invites members to contribute papers on the following areas of research:

- 1) The role of institutions in management of common pool and natural resources that relates to utilization and control of the resources, reflects real scarcity of the resources, and a more equitable distribution in use of the resources.
- 2) Role of institutions in agriculture input market that reduces market imperfections and market failure.
- 3) Studies that highlight the role of institutions in supply of credit and other services to agriculture and rural sector, in order to make this service more viable and attractive.

- 4) Studies that illustrates the role of institutions for research and extension that will encourage strong innovative efforts, to address the real needs and constraints of farmers.
- 5) Studies that highlight the role of institutions and networks in production, processing and output marketing that will lead to reduction in the transactions cost and increased returns to the farmers.
- 6) Studies that explain the role of institution in development, that are more effective in serving various development needs of farmers.
- 7) Studies that illustrate the role of institutions with new generation start ups in innovations in the supply chain.
- 8) Studies that presents the role of institutions in providing different kinds of benefits (training, investment) to farmers so that they have started earning significantly from non-farm sources.

The above points are illustrative, and members may also send papers in closely related areas which can be included under the theme of Institutions and Efficient Supply Chains for Agricultural Development.

#### SUBJECT II

AGRICULTURAL LABOUR, SKILL DEVELOPMENT, LABOUR PRODUCTIVITY AND EMPLOYMENT

#### (a) Agriculture Labour:

Agricultural sector not only plays an important role in improving the growth of rural economy but also the overall growth of the economy in India. This sector promotes economic change and development in India through its causal links with factor and product markets. Among the ten major sectors of Indian economy, the contribution of agriculture is the highest, both in employment as well as in value added output. It employs about half of the work force, but contributes to only about 15 per cent of the Gross Domestic Product (GDP). In the economically weaker states, however, its contribution to state domestic product and to employment is much higher. Relatively low productivity in agriculture led to a concentration of the poor in this sector. Agricultural productivity improvement contributes to growth and provides, thereby, a route for poverty reduction. Therefore there is requirement for specific set of skills in the field of agriculture. It is also possible to reduce poverty as well as expand domestic market for industry by raising labour productivity in agriculture and spreading its gains among the low-income groups (Radhakrishana, 2019). Therefore, growth and development of agriculture is significant for transformation of Indian economy and for inclusive development (Chand, 2019).

Traditionally, agriculture is the prime sector of rural economy and rural employment. Agricultural labour constitutes, numerically, the most important single element among the gainfully employed population in India,



as it is the principal source of livelihood for around 55.3 per cent of the households in India as per the 68<sup>th</sup> round of NSSO (2014) data. As per the Census 2011 data, 54.6 per cent of total workers in India were part of the agriculture sector with a decline of 3.6 per cent point as compared to Census 2001 (GOI, 2018). Out of total agricultural workers, 54.9 per cent were agricultural labours and rest were cultivators (45.1%). Last decade (2001–2011) has seen a steep decline in the number of cultivators (by 8.5 million) and high increase in the number of agricultural labourers (by 37.5 million), after the decade of 1961–1971. This is disturbing development for agriculture country like India. For the first time since independence, agricultural labourers (144.3 million) have outnumbered the cultivators (118.8 million). Compared to 2001 census data, there has been increase of 44.33 per cent in the male population of agricultural labourers, while for females the number has increased by 24.56 per cent. There are many reasons for this development such as falling size of land holdings over time, farming becoming uneconomical increasing agricultural wages, rampant selling of agricultural land and shift of employment from the agricultural to non-agricultural sector. There is a marginal increase in the number of household industry workers but high increase in the number of other workers. Therefore, cost-reducing and labour-absorbing technical progress is essential for developing country like India. If rural non-farm sector and urban industrial sector grow at sufficiently higher rates, they can absorb the surplus

labour and surplus food (Radhakrishna, 2019).

The pattern of livelihoods of rural people has changed as a result of the changes in occupational pattern of rural workers. Agriculture is no longer the major source of income of almost half of the rural households. Employment in agriculture has declined not only in relative terms, but also in absolute terms in recent years. But overall demand has increased due to relatively faster growth of employment in non-agricultural activities. More and more households have joined the ranks of labour households due to reduction in the size of their landholdings which now employ them only for a minor part of the year. The share of workers in the category of wage and salary earners has increased vis-a-vis that of the self-employed. There are evidences of labour market tightening, but surplus labour continues to be a widespread phenomenon. Yet, wages, not only nominal, but also real, have shown notable increase. Studies from different parts of the country reveal that agriculture labour markets are no longer characterized by coercive and exploitative relationship between employer cultivators and the labour; or, at least, that these relationships are not shaped by non-economic factors. Phenomenon of ‘unfree’ labour is becoming increasingly rare, and even when contracts are for longer periods, the terms are mutually agreed and not dictated by the employer cultivators (Papola, 2014). What are the factors responsible for these changes?

Labour availability is one of the important factors influencing farmers’

decisions to adopt new agricultural technologies. Often peak season labour scarcity (at the time of sowing, harvesting and weeding operations) causes operative constraints in crop cultivation (Mehta, 2019). Uncertainty in labour availability can also often explain the adoption of new labour saving crop technologies (Feder *et al.*, 1985). In addition, the adoption of labour saving technological innovations is justified on efficiency grounds, as hired labour accounts for the lions' share in cost of cultivation (Binswanger, 1982). During the last decade, the agriculture sector in India has experienced a sharp drop in the availability of labour ([www.icrisat.org](http://www.icrisat.org)). Government programme like the Mahatma Gandhi National Rural Employment Guarantee (MGNREGA) has seen to have added to the tightening of the labour market in rural areas, in general, and in agriculture, in particular; and, contributed to 'secularization' of the labour market relations with increase in the bargaining power of labour (Papola, 2014). Most of the farmers as well as industrial associations have long been complaining about a shortage of farm labour because of the MGNREGA for a long time, but the figures present a completely different picture. The drop is in large part due to increased opportunities in the non-farm rural sector with the service and manufacturing sectors wooing the shrinking labour force with higher wages and more regular incomes.

On the labour supply front, the following developments need to be noted. First, the rate of population

growth has declined resulting into a decline in the growth rate of persons in working age. Second, labour force participation rates have shown a secularly declining trend over the past four decades, especially in the case of women, as a result of, among other things, increasing enrolment in educational stream at different levels. Third, an increasingly larger number of persons from cultivating households are joining the ranks of wage labour; in fact the number of labour households has been continuously increasing. Fourth, partly as a part of this process but also as a general trend, share of wage workers, especially of the casual category has significantly increased. Fifth, rural to urban migration has increased. The number of persons commuting to urban areas for work has also steadily increased. And rural to rural migration from labour surplus to labour deficit regions/states to work in agriculture has emerged as an important form of migration. Sixth, labour supply to agriculture has been constrained on account of increase in employment opportunities in other activities and lately, it is contended, in MGNREGA works. And, seventh, an increasingly larger proportion of rural labour is getting educated and would be looking for jobs of different kinds, out of agriculture and in urban area. Thus, both kind of developments, some augmenting and others constraining labour supply seem to be in operation. The total number, of course, has seen an absolute increase: Rural labour force has increased from 200 million in 1972-73

to 294 million in 1993-94 and to 341 million in 2009-10 (Papola, 2014).

Demand side trends are also mixed. First, in agriculture, overall, there has been a decline in demand for labour, on account of mechanization, and a decline in the size of holdings with increase in small and marginal holdings operated mostly on self-employed basis. Second, diversification within agriculture from food to commercial crops has led to change in the nature and quality, though not necessarily in the quantity, of labour demand. Third, with emergence of agriculture as a year-round activity in many parts of the country, there has been an increase in demand for labour, even if not workers. Fourth, new form of farming, contract and corporate, have also led to a change in demand for labour, at least of the qualitative, if not quantitative, kind. Fifth, there has been an increase in the demand for labour, often of the skilled variety, in off-farm activities due to commercialization of agriculture. Sixth, and most important, the faster expansion of the non-farm activity has led both to an increase and a change in the nature of demand for labour. Seventh, MGNREGA has, in recent years, raised demand for labour, often in competition with agriculture (Papola, 2014). Though MGNREGA is causing serious labour shortages in agriculture as is often claimed, but it has made significant positive impact on wages in rural areas by 'setting higher benchmark for setting wages' by guaranteeing the statutory minimum wages to those employed in the works under the guarantee (Chand and Srivastava, 2014).

There is no doubt that the emergence of the non-farm sector as an important source of employment and livelihoods which has played an important role in raising wages, by creating new demand for labour and in the process reducing labour supply to agriculture. It is also true that higher agricultural productivity provides basis for higher wages. Yet, in spite of rising labour demand in the non-farm sector and emerging constraints in labour supply, there still prevails a significant magnitude of labour surplus in rural areas, as in indicated by relatively high person-day rates of unemployment. Another important dimension of labour supply in rural areas, especially to agriculture, is the changing educational composition of the rural labour force. It is generally observed that more educated workers are less interested in working in agriculture; and, therefore, their increasing proportion is also likely to constrain supply of labour for agricultural operations. What has been the impact of the above changes in demand and supply of labour in rural India? How far have the labour market trends influenced the levels and trends in wages in agriculture and other activities? What has been the role of institutional factors such as minimum wages, public works and trade unionism? Need detailed analysis on these issues.

*(b) Employment:*

Employment in agriculture and allied activities has declined not only in relative terms but also in absolute terms. Out of the 472.5 million workers (rural

plus urban) in 2011-12, 224.4 million (47.5 per cent) were employed in agriculture and allied sectors. Whereas in 2004-05, 257.7 million workers were employed in agriculture and allied activities and their proportion in total workers was 56.3 per cent. Of the net fall of 33.3 million workers between 2004-05 and 2011-12, about 19.2 million net fall of workers was from self-employed workers in agriculture and allied activities, and about 13.5 million net falls from casual agricultural workers. This has contributed to a moderate increase in the share of self-employed workers in the total agricultural work force.

Rural female workforce in agriculture has also declined by about 27.2 million (17.5 million self-employed and 9.7 million casual workers) between 2004-05 and 2011-12. Withdrawal of female from labour force was highest amongst agricultural labour households followed by cultivators and non-farm households both in percent and absolute terms, while in case of male, withdrawal from workforce found only among the agricultural labour households (Chand *et al.*, 2017). It is claimed that women withdrew from agriculture and were attending to domestic duties in their own households due to an improvement in the availability of income-earning opportunities for male members of the family and perhaps to avoid heavy manual work in agriculture. There is a degree of segmentation of agricultural labour market with female workers mostly engaged in repetitive and strenuous agricultural operations. Even with the progressive withdrawal of

female workers, there has been feminisation of agriculture due to the shift of male labour from farm work to non-farm work. While Chand *et al.*, 2017 argues that rural workforce witnessed de-feminisation. One of the reasons for fall in female LFPR is reported to be their increased enrolment in education (Rangarajan *et al.*, 2011). Need to have more insights of same and the reasons for the withdrawal of female from labour force ('not-in-labour force').

NABARD (2018) survey of NAFIS 2016-17 findings reflect that for all households combined, the average monthly income stood at Rs. 8059/-, with that being higher for agricultural households (Rs. 8931) as compared to non-agricultural ones (Rs. 7269). The figures presented above highlight that wage labour was the most remunerative source of income for all households contributing a major proportion of roughly half of the total household income, the contribution being higher among non-agricultural households as compared to the agricultural ones. For the agricultural households, cultivation remained as the most prominent source contributing roughly 35% of the overall monthly income, followed by wage labour (34%) and Government/ private services (16%). Among the non-agricultural ones, it was the Government/ private service which contributed maximum (32%) to the total household income after wage labour which made up for roughly 54% of the total income.

Availability of employment opportunities outside agriculture also

increases demand for labour within agriculture as a result of its becoming a year round activity and diversification into labour intensive crops are likely to have improved the bargaining position of labour to secure more favourable terms not only in terms of wages, but also of regularity of work and greater transparency, clarity and formality of labour contracts. It is also expected that interlinking of markets-land, credit and labour-leading to unfavourable terms in labour contract has weakened as these markets have evolved independently of each other and labour does not need to enter into interlinked contracts leading to unfavourable conditions in the contract for work. And, above all, the economic and labour market changes as well as social change in rural areas could have contributed to a decline in, if not disappearance, of the coercive conditions based on non-economic reasons resulting into one or the other kind of 'bondage' or 'un-freedom'. It is estimated that percentage of agricultural workers of total work force would drop to 25.7 per cent by 2050 from 58.2 per cent in 2001 (Government of India, *Economy Survey*, 2018a). With the decreasing labour force in agriculture, increasing yield or productivity is the key to growth, which has to be accelerated. Shortage of labour and finding solutions thereof should become a major focus.

With economic growth and structural transformation, it is expected that the employment in the economy will shift from agriculture to industry and services. But, agriculture continues to be a dominant activity in rural India

with 59.4 per cent of male workers and 74.9 per cent of female workers engaged in it in 2011. However labour is highly differentiated in terms of its own attributes. Agriculture provides employment to not only the adult males of a household but also to women on the households (<http://ficci.in>). Women work extensively in production of major grains and millets, in land preparation, seed selection and seedling production, sowing, applying manure, weeding, transplanting, threshing, winnowing and harvesting. With the economic progress and development of non-farm activities, there is a decreasing trend in the proportion of both male and female workers in agriculture; however proportion of female workers has always remained higher than the male workers. This may be due to increasing outmigration of males from rural areas to urban areas in search of better paying jobs. As women labours are mostly unskilled and lack mobility, they tend to stay in the village, doing households chores and engage themselves in agricultural activities to support their families. Average daily wages for casual female workers have generally been around two-thirds of the male wages. Large variations across states have been an important feature of rural wage situation in India. Have different features and trends in the male and female labour market as noted earlier had any effect on gender difference in wages?

On other hand it has been reported that agricultural labourers have to face the problems of unemployment and underemployment. For a substantial part

of the year, they have to remain unemployed because there is no work on the farms and alternative sources of employment do not exist. Agricultural wages and family incomes of agricultural workers are very low in India. In recent years, MGNREGA has also been considered responsible for causing labour shortage in agriculture, as due to the guarantee of employment at statutory minimum wages, which, most often happens to be higher than wage rates in agricultural operations, workers are attracted to MGNREGA works away from work in agriculture. The extent to which work under the Guarantee leads to a shortage of labour in agriculture would, of course, depend on the magnitude of employment under it vis-a-vis the overall supply of labour in rural areas. Livelihoods of labourers and also poor peasants remain precarious. Despite opening up of employment opportunities in non-farm activities, prospects of securing reasonably remunerative stable jobs are bleak. Agriculture is no longer a remunerative vocation for many of them still involved in it and manufacturing has not grown fast enough to generate enough jobs. During the period from December 2014 to December 2018, the average real wages of agriculture and rural workers grew at a rate of 0.5 per cent point per year compared to a rise of 6.7 per cent per year during the previous five years (2009-2013) (Damodaran, 2019; Nagraj, 2020). Under MGNREGA in rural areas, average days of employment provided per household during 2018-19 was 50.88 days with average wage rate per day per person of

Rs. 179.13 while corresponding figure for the 2019-20 was 41.06 days with Rs. 181.52 per day respectively. The latest NRCB (2018) data which comes under Ministry of Home Affairs (MHA), revealed that a total of 12,936 unemployed persons committed suicide in 2018, which accounted for 9.6 per cent of the total suicides i.e., 1,34,516 suicides and were aged below 18 years to above 60 years, while corresponding figure for farmers suicides was 10349 (7.7%).

#### ***Labour Productivity:***

Labour productivity is one of the various dimensions of productivity. Increase in labour productivity is important but not necessarily with a decrease of employment in agriculture especially in a labour surplus rural economy such as that of India. The disparity between a farm and non-farm worker in India remains high in the country. Studies report that this wide variation in worker productivity arises due to composition in rural output, overdependence on agriculture sector and nature of the work performed by different categories of workers. In year 2011-12 per worker income varied from Rs. 33,937 for agricultural labour to Rs. 1, 71,836 for rural non-farm workers. In the same year a cultivator earned 2.27 times the income earned by a labourer from agriculture (Chand *et al.*, 2017). At the same time, per capita income of non-farm workers was more than twice the income of cultivators. These results show that among rural workers, agricultural labours are at the bottom in terms of worker productivity. Rural non-

farm sector offers 2.76 times productive employment than the farm sector. The disparity in worker productivity between different categories of rural workers remained consistently high during the past four decades. Nevertheless after 2004-05, disparity among different categories of workers (except between non-farm workers of rural and urban areas) witnessed declining trend. With such low productivity of agricultural workers, the monthly per capita income pushes major part of workforce below poverty line. With link to low productivity in the agriculture sector is the availability of number of diploma and graduate in agriculture and related field, who obtain degree from State Agricultural University or other recognised institute. The agricultural graduate and diploma holder consider as skilled personnel often difficult to find suitable employment, and at the same time the agriculture sector paralysed due to poor extension services. During the last two decades the nature of agriculture has been changing rapidly and farmers requires support in the form of input availability, marketing, organisational, financial, technological and entrepreneurial front. The long-term convergence of productivity between agriculture and non-agricultural workers depends on improving land productivity and promoting mobility of labour from agriculture to non-agriculture for decent employment. Such a transition can be facilitated by labour intensive economic growth including promotion of producer companies and equipping the farm youth with skills in demand. Such a transition would be the right path to eliminate

rural poverty and address the widening inequalities.

The wide variation in worker productivity arises due to composition of rural output, overdependence on agriculture sector and nature of the work performed by different categories of workers. It is to be noted that disparity between non-farm workers and agricultural labours reduced by 2.86 percentage points as compared to 1.07 percentage points reduction in disparity between non-farm workers and cultivators between 2004-05 and 2011-12. The reason for a steeper reduction in disparity between non-farm workers and agricultural labours was a higher rate of withdrawal of agricultural labours as compared to cultivators from the agricultural workforce (Chand *et al.*, 2017). Another reason was a significant increase in the wages rates and therefore wage earnings of the agricultural labours during this period (Chand and Srivastava 2014). One of the measures to accelerate non-farm employment and reduce dependency on agriculture is to impart skills and technical know-how to the largely unskilled agricultural labours in the rural areas.

#### *Skilled Development:*

Engagement of labour force in gainful employment is a critical determinant of development as it helps generate desirable resources and capitalise on available opportunities. The importance of formal training for improving the work output and productivity of individuals can hardly be over-emphasised. Agriculture needs to be made more profitable, attractive and

enterprising so that not only the rural to urban migration is reduced but also farmers start taking pride in their profession. For this to happen, there is a need to develop skills among our farmers in various aspects of farming so that the traditional, time and cost consuming methods are replaced by scientific, modern, economic and efficient methods. Rural youth once skilled in farming and related enterprises can choose self employment in their own villages with Government help instead of migrating to unknown cities leaving their families behind. In agriculture, cognitive skills are required to make better decisions, technical skills required for handling various implements and interpersonal skills required for exchange of farm related information. Government has been implementing various Skill Development Initiatives to provide training to people to develop skilled manpower in various sectors including agriculture, food processing, apiculture, animal husbandry, farm machinery, etc. NAFIS 2016-17 survey of NABARD (2018) findings reflect that merely 11% of the members reported to have received any training for the reported usual activity that to hardly about 9% members in agricultural households. Agricultural households reflect a greater need for skill building when compared to their non-agricultural counterparts.

Skill development is the priority of the hour to revive Indian agriculture from agrarian distress. As the government focus is on Doubling Farmers Income, the skill development of farmers and rural youth is of

paramount importance particularly in the field of seed production, marketing, cold chain, fisheries, livestock production etc. Agriculture sector need trained labour force in many areas like production procedures and practices, post-harvest management, value addition and food processing as well as farm machinery. Effective utilization of farm machinery requires more than transfer of information. There are acute shortage of skilled manpower to operate tractors, power tillers, combine harvesters and self-propelled like paddy translators, power weeders, reaper binders and for its repair, maintenance and periodical services thereof. In India, about 8 lakhs of tractors, 0.52 lakh of power tillers and about 5 thousand combined harvesters are sold in the market. Till now, 1.6 lakh trainees have been trained at FMTTIs under the various skill development programmes. Skill training helps individual farmers to reduce the cost of repair and operation. It also creates equipment demand for the industry by making farmers more receptive and by enabling farmers to derive full economic benefits from their equipment. For the nation, training can reduce wasteful use of fuels, and help energy conservation. There is a need to estimate the gap of skill manpower in the agriculture sector for farm mechanisation to cover falling job rolls.

Skill development is also an important driver to address poverty reduction by improving employability, productivity and helping sustainable enterprise development and inclusive growth. It facilitates a cycle of high productivity, increased employment



opportunities, income growth and development<sup>1</sup>. Agriculture Skill Council of India (ASCI) works towards capacity building by bridging gaps and upgrading skills of farmers, wage workers, self-employed & extension workers engaged in organised / unorganised segments of Agriculture & Allied Sectors. GOI has implemented Agri-Clinic & Agribusiness Centre scheme (AC & ABC Scheme) in the country since 2002 with an objective to create gainful self-employment opportunities to unemployed agricultural graduates, agricultural diploma holders, intermediate in agriculture and biological science graduates with PG in agri-related courses. It is reported that agri-venture have been established in 31 states under 32 different categories related to agriculture and allied sectors. On an average for the India as whole, out of total candidate trained, 40.98 per cent of candidates started their ventures. ACABC scheme also contributes a lot in providing agriculture extension services to the farmers of the country.

With this background, the indicative topics are suggested as follows:

- What are the reasons for high increase in number of agriculture labour and decline in number of cultivators? Assess the fast pace of casualisation of workforce in agriculture in India.
- What is the pattern of growth of cultivators and agricultural labourers for the states and its impact on agricultural growth?
- What are the factors responsible for migration of farmers from agriculture sector?
- Changes in agricultural workforce growth in labour productivity and factors responsible for lower productivity of agricultural workers? Is there convergence in the productivities of agricultural and non-agricultural workers?
- Whether there is scarcity of labour in agriculture sector and if yes, what is its impact on cost of cultivation of crops?
- Rural areas are witnessing varied experiences in terms of feminization of agriculture. Micro level studies are required to analyse the dynamics of woman employment in agriculture and its implications.
- Assess the effect of agricultural development and technological change on gender inequality in agri labour market/ Gender disparity in agri labour market/ Labour market imperfections and wage differentials
- Incidences of indebtedness among rural agricultural labour households; measures to improve the economic and social conditions of agricultural labour and its impact
- Education and skill development play an important role in absorption capacity of farm workers. Research on mapping of skill requirement at sub-national level, evaluation of on-

<sup>1</sup>[https://niti.gov.in/sites/default/files/2019-01/Skill\\_Workforce.pdf](https://niti.gov.in/sites/default/files/2019-01/Skill_Workforce.pdf)

going skill improvement schemes, etc is required. The studies may also focus on how agriculture and agribusiness education along with creating rural entrepreneurship can enhance rural livelihood opportunities. Need to map the Institutional arrangements in the area of education and training for agriculture and understand how women in agriculture could harness more from the present structure, enhance their skill and therefore prove to be more productive in their work.

- Availability of skilled manpower for different job roles under farm machinery sector and estimate the requirements and gap of skilled manpower for different job roles under farm machinery sector; strategies and programmes that may be required for filling up gap of skilled manpower in view of rapid mechanisation of agriculture in up coming periods.
- Status of implementation of Agri-Clinic & Agribusiness Centre scheme across the States of India; status of establishment of ventures/activities by agripreneurs and factors responsible for same; various benefits of extension services provided by agripreneurs through the Agri-Clinic & Agribusiness Centre to farmers and constraints faced by agripreneurs in setting up of ventures/activities.
- Various rural and social development programs, especially MGNREGS, have contributed in

reducing distress, creating infrastructure and accelerating the rural livelihoods. The evidences may be provided how these programmes have direct or indirect role in increasing wages & employment. The studies may also focus on how implementation of agricultural and rural development programs could be significantly improved.

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### SUBJECT III

#### AGRICULTURAL TRADE WITH SPECIAL REFERENCE TO PLANTATION CROPS AND INTERNATIONAL TRADE AGREEMENTS

Agricultural trade is assuming increasing importance for the agriculture sector and the economy in the recent years. The economic reforms of 1991, the subsequent Agreement on Agriculture (AoA) of the WTO and the proliferating Regional Trade

Agreements (RTAs) have made the country move rapidly in the direction of free trade and opened Indian agriculture into global competition. According to the WTO Regional Trade Agreements Information System, there are 303 RTAs which are in force globally and the number of active RTAs for India is reported as 16. The AoA and RTAs gave hope to developing countries like India that the opening up of the sector would remove discrimination against tradable agriculture and would lead to benefits through increased exports. Due to reduction in tariffs and imposing some discipline on subsidies, it was expected that the developing countries would be benefited due to their comparative advantage in agriculture. However, the outcomes were not as expected and have frequently not been beneficial for developing countries. This could be attributed to higher domestic agricultural subsidies and increased emergence and use of Non-Tariff Measures from the part of importing countries, often to restrict trade.

Plantation crops (coconut, arecanut, oil palm, cashew, tea, coffee and natural rubber and the minor ones like cocoa) assumed prominence in Indian agriculture largely due to their export orientation. With the opening up of Indian agriculture and high level of integration of domestic markets with the world markets, the policies were targeted towards promoting international competitiveness of these products.

India is the leading producer of plantation crops in the world and these crops account for 15 per cent of the area under horticultural crops in the country

and about seven percent of the value of output of horticultural crops in India. Plantation crops account for about 3 per cent of the area under cultivation in India.

Plantation crops provide direct and indirect employment to people. Moreover, considering that vast majority of growers are small and marginal farmers, the functioning of the plantation sector can impact the life of 12.5 lakh growers and equal number of labourers. The plantation industry in South India plays an integral role in the economy of three states, Tamil Nadu, Kerala and Karnataka as these three states account for over 70 per cent of the area under plantation crops. The share of South India in estimated value of output of plantation commodities is about 60 per cent.

But, the sector has been facing several challenges during recent years. It has been losing out external markets and the domestic market is facing import competition. According to the annual report of the ministry of Commerce and Industry for 2018-19, the value of export of plantation crops decreased from US\$ 1,819.82 million in 2017-18 to US\$ 1,664.25 million in 2018-19, while the import increased from US\$ 1039.28 million to US\$ 1057.26 million. This is mainly due to the increased imports of Natural Rubber which has a share of 82.60 per cent in total plantation imports. The share of plantation crops in total export earnings of India decreased from 13.09 per cent in 1970-71 to less than 5 per cent in recent years.

Plantation sector problems are often highlighted as that of declining profit

margins due to rising costs of cultivation, declining productivity and unfavourable price conditions. The gradual conversion of plantations to tourism and other alternate options are being reported. There are instances where the owners voice for relaxations on restrictions on land tenures, land ceiling and transfer. Low productivity, inadequate processing and market infrastructure, and low level of value addition and produce quality are some of the constraints that limit international trade in plantation commodities.

On the export front, India has a relatively poor performance in agricultural exports. There is substantial export potential for a number crops but the farmers are not benefiting sufficiently from this. The difficulties and issues include those of quality which are often related to residues, farm practices and lack of traceability. Other issues include those of poor marketing efficiency created by supply chain inefficiencies, weak logistics and excessive taxes. The export sector also suffers from lack of adequate and up to date market intelligence and poor image abroad.

On the other hand, agricultural imports are also becoming a significant concern. Large imports are affecting farmer prices and incomes substantially in a number of crops, and the potential for farmer income generation is also lost in the process. There appears to be a lack of good and active protection including through tariffs and other restrictions. Part of the reason for imports is poor productivity (technology) and production in a

number of important crops, and lack of cost competitiveness.

For getting better prices and realization in exports, there is need to improve export Infrastructure across the value chain for export potential crops. There is need to have green logistics corridors for perishables at ports/airports. There is also a need to review the Essential Commodity Act for products with substantial export potential. There is need to establish a system for better forecasting of demand, supply and prices so as to support strong production for agricultural exports, as well as reducing dependence on imports.

For improving quality, rigorous extension works is required for improving farming practices, and implementing systems such as GAP certification to achieve reliable quality. Centralized online databases of SPS and other import standards are required along with dissemination of this information across stakeholders. Traceability systems need to be established to assure buyers of high quality and discourage bad practices and negligence. There is also a need for strengthening the support and help from Indian Embassies in major export markets.

For a stronger export performance there is great to strengthen market intelligence to identify the opportunities and specific needs in export markets. Product demand needs to be identified and market intelligence is also required to understand customer behaviour and preferences. With this, there is need to undertake and guide production based on the actual international demand.

Some super foods produced in India need special promotion abroad. Overall, there is need to project India's products and undertake brand promotion in the international markets.

Special export clusters have proved very useful and there is need to for expansion of the clusters from existing 34 to 170. Integrated facilities in clusters & seaports/airports are required including pack houses, cold storage, sorting/grading facilities. Better linkages with sea ports/airports are required especially for horticulture and floriculture including reefer wagons in all long distance trains. Special efforts are required for the currently important exports including rice, buffalo meat, spices, oil meals, vegetable and fruits.

To keep an eye on imports, good market intelligence is required for all important imported commodities. Promotion of crops where imports are large (oilseeds, pulses) is required and farmers may be given some protection through appropriate tariff instruments and special safeguard mechanisms (SSM). The objectives of sound management of agricultural trade would be better prices, bigger markets and higher incomes for the farmers, increase in employment, better food security, more stable markets & prices, and reduction in farm distress.

Trade liberalisation policies have been operating mainly through prices and it has been argued that free trade creates high volatility in the world prices of agricultural commodities. This volatility would be directly transmitted to domestic prices due to the increased integration with the world markets. This

eventually would lead to rise in the volatility of domestic prices, which would have serious implications for price stability and trade competitiveness. Frequent interventions by the government in the domestic markets have helped to check the sharp fluctuations in agricultural prices in the past, which would have been much more volatile had they been left to the market forces.

The vulnerability of the developing countries to fluctuations in international prices, whether as commodity exporters or food importers, has arguably increased as the liberalisation of markets has shifted price risk from governments to households. A high degree of variability in commodity prices and export earnings has serious consequences in the efficiency of resource-use, terms of trade, real incomes and fiscal position of commodity dependent countries and complicate the task of development planning in such economies. Countries prefer price stability even with trade as consistently higher producer surplus and consumer surplus can be realized only when the prices in the international market are reasonably stable.

Greater integration with the world market has also led to sharp decline and high volatility in prices of many crops that in turn inhibited investment, as noted by the Taskforce on Plantation Sector. As a result, the plantation sector which generates massive employment especially for women labour and located largely in ecologically fragile regions, became economically and socially vulnerable. This is reflected, among

others, as the incidence of large number of suicides among farmers and agricultural workers.

RTAs are expected to improve economic ties and improve pre-existing trade relations between countries by further integrating into regional production networks and increasing its participation in Global Value Chain (GVC). But, India's GVC participation, especially in plantation crops, have been found to be comparatively low despite the RTAs. The export share of India with FTA partners have not increased much as that of the import share. Due to low MFN tariff levels and India typically facilitating greater imports than exports, tariff preference provided under its FTAs have not benefitted India significantly and also many of the commodities exported from India overlapped or matched with that of other FTA partners. According to the Asian Development bank the utilisation rate of India's FTAs varies between 5 and 25 per cent and the major reasons attributed for the under-utilisation were lack of information on FTAs, low margins of preference, delays and administrative costs associated with Rules of Origin, and non-tariff measures.

Large number of small and marginal farmers, agricultural labourers and value chain operators depend on this sector for their livelihood, mainly in the rural fragile ecosystems. Extreme volatility in commodity prices, affects small and marginal farmers and labourers whose wages are not index linked. These farmers with low propensity to save and poor access to efficient saving instruments cannot cope with the

revenue instability resulting from fluctuation in output prices. The volatility in the producer prices has been primarily dissuading farmers from undertaking long term investments in agriculture. The flexibility in the cropping pattern to adjust with market conditions, in the short and medium terms, is also limited in the case of many of the trade dependent cash crops which are perennial, causing apprehensions among the various stakeholders. For instance, the cropping pattern of Kerala is characterized by the cultivation of plantation crops, natural rubber, tea, coffee, cardamom and coconut which, in general are either export oriented or import substituting. Consequent to the removal of Quantitative Restrictions (QRs) on import, plantation crops in general are facing the threat of low quality imports and the circumvention of Rules of Origin by simple accounting manipulation are also not appropriately taken care of. Thus, the states growing plantation crops stand apart in respect of its sensitivity to changes in the national and international trade environment. Many of these commodities are of low elasticity of demand and supply and hence don't respond adequately to changes in prices. Therefore, even small initial changes in prices tend to cause magnified effects.

Reduction or elimination of these distortions can help reduce the unevenness in world production and partially mitigate geographical risk. With the replacement of QRs by tariff and price based mechanisms, there are apprehensions that tariff regime alone would have serious implications for

farmers in the developing countries, as a combination of poverty and low risk taking ability makes the farmers vulnerable to any exogenous shocks. To minimize the risks, the Special Products (SP) and Special Safeguard Mechanism (SSM) were the defensive instruments made available to the developing countries in the Doha Round to help them protect the livelihood and food security of their farmers. Even though WTO framework provides possibility of reducing major distortions in agriculture and improving disciplines required for greater predictability and stability, the impasse of the Doha round, especially in matters concerning to Special Products and Special Safeguard Mechanism, have greater implications on containment of import surges and price fluctuations in agricultural markets. Nonetheless, the mere availability of safeguard instruments may not be sufficient for ensuring protection. Developing countries need proper mechanisms and infrastructure to take advantage of these instruments. The policy instruments of exclusion list and negative lists that are agreed in connection with RTAs also were unable to take care of the import threats and the resultant price decline.

The Uruguay Round agreement has initiated a process of deregulation of trade in tropical commodities, especially among the producing countries. The FTAs among the developing countries would deregulate trade further and heighten competition among tropical commodity producers. It will make tropical plantation commodity producers more vulnerable, besides pushing down the share of producers in the value

chain. The pressure of adjustment would be severe if the FTA members have competitive economies specialising in same set of products and sectors. The new FTAs among South and South East Asia might further aggravate competition in the upstream of the tropical commodity chains and thus run down value realised in these countries, especially by the farming communities. At the farm household level, the impact of price change depends on whether global and border price trends are passed through to the producer at local level and whether improvements in productivity and production are able to compensate in the context of falling prices.

For ensuring produce quality of agricultural commodities, there are different types of national and international regulations and requirements which is implemented through regulatory mechanisms like certification and labeling. The SPS Agreement aims to ensure the quality aspects while preventing unnecessary effects on international trade and from being misused for protectionist purpose. However, the implementation of SPS have acted against the trade interests in developing economies because of the lack of capacity to develop institutional arrangements that permit them to meet their SPS related commitments, which are also costly to implement.

The plantation labour force, mainly women workers are paid less than the minimum wages (often) and are subject to exploitation at different levels. With poor living conditions and inadequate food, they are vulnerable to

communicable diseases and remain malnourished. Exposure to harmful chemicals used in the plantations for pest management lead to health issues among them. The facilities for medical support, quality education and decent life are often denied to these groups of workers as they are marginalised communities (either migrants from neighbouring states or tribes) and their bargaining power is poor. Kerala, a state where the share of plantation crops in cropping pattern is substantial, have seen the agitation of women plantation workers demanding higher wages and demanding fair living conditions. Ensuring social justice and equity to these farm workers, is an integral part of plantation management.

Plantation crops are generally grown in the fragile ecosystems (high ranges) in the major growing areas, which signifies their role in ecosystem management. Thus, even though international trade agreements have an important role to play in guiding agricultural trade, they need to be guided by market analytics and in convergence with the ongoing development activities and livelihood considerations in the plantation agriculture. The role of agriculture is to be viewed in the wider sphere of its social, ecological and economic significance.

In the backdrop of the above discussed concerns, the paper writers can contribute research papers covering the issues raised with specific focus on the following questions/areas:

1. Analysis of trade performance of various crops



including plantation crops in the context of multilateral and regional trade agreements. Whether the globalised policy regime has benefitted the interest of the society and resulted in improvement in /increase in farmer welfare?

2. Implications of FTAs and RTAs on production, consumption, employment and welfare using partial and general equilibrium approaches on individual plantation crops and the plantation economy

3. Implications of trade liberalisation on price volatility, integration and transmission to the domestic market and impact at the farm level in plantation crops.

4. Why does India have a relatively poor performance in agricultural exports? Even though there is substantial export potential in a number of crops, why are farmers not benefiting? What are the issues of quality including residues, farm practices, traceability? What are the difficulties in marketing efficiency including supply chain, logistics and taxes? In what ways can the market intelligence be improved and the poor image of Indian products be overcome.

5. Are large imports affecting farmer prices and incomes? What is the potential for farmer income generation is lost? Is there lack of good protection (tariffs & other restrictions) and how can this be better managed? What are the problems of poor productivity

(technology) and low cost competitiveness in export crops and how can this be overcome?

6. What are the problems of export Infrastructure across value chains and how can this be improved? Is there need for green logistics corridors for perishables at ports/airports? How does Essential Commodity Act affect the export potential products? What systems need to be established for forecasting demand, supply, prices?

7. What kind of extension work is required for improving farm practices and need and benefits of systems such as GAP? What kind of centralized online database of SPS and import standards is required and how can it be disseminated across stakeholders? What is the need and experience with traceability systems? What kind of strengthening is required in the Indian Embassy support in major export markets?

8. What kind of market intelligence can help agricultural exporters and farmers? What is the need for understanding product demand, customer behaviour and preferences for exports? How can the production be reoriented for international demand? What is the scope for promotion of super foods and the scope and need for product and brand promotion in international markets?

9. What is the experience of export clusters and is there a need for

expansion of the cluster approach? What kinds of facilities are critical to have in clusters and where, such as integrated facilities in clusters and seaports/airports including pack houses, cold storage, and sorting/grading? What are the linkages required for horticulture/ floriculture products such as reefer wagons in all long distance trains? What is the performance of India's major exports including rice, buffalo meat, spices, oil meals, vegetable and fruits and how can this be improved?

10. What kind of market intelligence is required for imports? Is there scope for promotion of crops where imports are large (oilseeds, pulses)? How can farmers be effectively protected through mechanisms such as appropriate tariff instruments and Special Safeguard Mechanism (SSM)?

11. What is the scope and approach possible so that sound management of agricultural trade can contribute to better prices, bigger markets and higher incomes for the farmers, increase in employment, better food security, more stable markets and prices, and reduction in farm distress?

12. Plantation labour: issues in the context of trade liberalisation and gender issues

13. Trade competitiveness of various crops

14. Non-Tariff measures and various crops including plantation crops – legal and policy dimensions

15. Legal status and restrictions on ownership, management and labour in plantation sector and the political economy

16. Production Management practices in and trade impacts

17. Challenges and approaches towards sustainable management of plantations ensuring ecosystem health and trade off with alternate sectors (tourism/mining etc.)

18. Impacts of climate change on product quality and output from plantation sector

19. Defining plantation crops- legal and commercial dimensions and way forward

20. Ecosystem services from plantations and significance in changing climate scenario