*Indian Journal of Agricultural Economics*
*Volume 76, Number 1, January-March 2021*

**INAUGURAL ADDRESS**

# Agricultural Resurgence in Post-COVID Era: The Role of Institutions, Non-Farm Sector and Rural Infrastructure*

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I

INTRODUCTION

At the outset, I would like to thank the Indian Society of Agricultural Economics and Tamil Nadu Agricultural University for inviting me to deliver the Inaugural Address during the 80th Annual Conference I deem it a great honour and privilege for having been given the opportunity to deliver the lecture during this conference which provides a platform for researchers, academicians and policy planners to share their views and research h finding on issues concerning agriculture, rural economy and aspects related to them. This Conference becomes even more important, since we are meeting at an occasion when the world is swiftly moving towards path of economic recovery, after reeling under the catastrophic influence of novel Coronavirus (COVID-19) pandemic for almost a year.

The impact of this once-a-century pandemic has been severe on almost all countries of the world, adversely affecting the lives and livelihoods of millions across the globe. Nearly 90 per cent of the countries are expected to experience a contraction in GDP per capita in 2020 (Economic Survey 2020-21, Vol.II). The World Bank has estimated the world economy to contract by 4.3 per cent in 2020 and IMF has pegged this figure at 3.5 per cent. India too, witnessed a 23.9 per cent contraction in GDP in Q1, but bounced back sharply in Q2, with contraction in GDP being restricted to 7.5 per cent in 2020-21, thus raising the likelihood of a V-shaped recovery. The revival of the economy has been facilitated by the strong fundamentals of the economy, which was well supplemented by the proactive steps by the Government. Considering the potential of the pandemic to adversely affect both the demand and supply side of the economy, a slew of measures was announced by the Government to support both the supply side and demand side of the economy. On the supply side, measures were aimed at strengthening various stages of the supply chain. On the demand side, at the outset of the pandemic India's policies focused purely on necessities (Economic Survey- Vol. II, 2021).

*Inaugural Address delivered at the 80th Annual Conference of the Indian Society of Agricultural Economics held under the auspices of Centre for Agricultural and Rural Development Studies (CARDS), Tamil Nadu Agricultural University, Coimbatore (Tamil Nadu) on February 10, 2021.

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## II

## AGRICULTURE SECTOR: THE SILVER LINING AMIDST DARK CLOUDS

Amid such pandemic induced adversities, India's agricultural system has demonstrated remarkable resilience. The continuous supply of agriculture commodities, especially staples like rice, wheat, pulses and vegetables, backed by the comfortable 'buffer stocks' that had been built over the years ensured the food security of the nation. Also, the agriculture sector has been leading the economic recovery. During 2020-21, while the GVA for the entire economy is expected o contract by 7.2 per cent, the growth in GVA for agriculture is expected to continue at positive 3-4 per cent.

The economic implications of the novel Coronavirus (COVID-19) pandemic have brought the agricultural sector into sharp focus and heightened its responsibility to feed and employ thousands who might have lost livelihoods. In the previous year, when sectors of the economy were reeling under the catastrophic impacts of the pandemic, the growth of agricultural sector continues to be promising and cushioning the economy. For instance, the data relating to area sown under all major *Kharif* and *Rabi* crops is encouraging and the total foodgrain production in 2020-21 may surpass the production of nearly 296.65 MT recorded in 2019-20. Similarly, the data pertaining to economic growth indicates that the impact of pandemic on agricultural sector has been limited.

Since the agricultural sector continues to be one of the bright spots amidst this pandemic, I believe that prioritising agricultural sector at this time is essential to ensure speedy economic recovery of the country. Given the strong interlinkages of the agricultural sector with the secondary and tertiary sectors of the economy, prioritising agriculture sector may be crucial to fuel economic recovery. Thus, it is important to find solutions to many of the contemporary challenges facing the agricultural sector through innovative approaches.

## III

## WHAT CONSTRAINTS AGRICULTURE GROWTH?

The performance of the agriculture and allied sectors has been below its potential in recent years and has often been characterised by fluctuating growth. After achieving a growth of 5.6 per cent in 2013-14, GVA growth at constant (2011-12) prices from Agriculture and Allied Sector declined to -0.2 per cent and 0.6 per cent in 2014-15 and 2015-16 respectively (Table 1). Growth rate has picked up in subsequent years but has remained below the aggregate growth rate of the economy, signally a massive untapped potential.

TABLE 1. GROWTH OF GVA OF ECONOMY AND AGRICULTURE AND ALLIED SECTORS AT CONSTANT (2011-12) PRICES

(*in per cent*)

| S. No. (1) | Year (2) | Growth of GVA of total economy (3) | Growth of GVA of agriculture and allied sector (4) |
|---|---|---|---|
| 1) | 2013-14 | 6.1 | 5.0 |
| 2) | 2014-15 | 7.2 | -0.2 |
| 3) | 2015-16 | 8 | 0.6 |
| 4) | 2016-17* | 8 | 6.8 |
| 5) | 2017-18# | 6.6 | 5.9 |
| 6) | 2018-19@ | 6 | 2.4 |
| 7) | 2019-20** | 3.9 | 4 |
| 8) | 2020-21*** | -7.2 | 3.4 |

Source: Based on data of DAC&FW. Retrieved from Economic Survey (Vol.II) 2020-21.

Note:*Third revised estimate. **As per the provisional estimates of annual national income 2019-20 released by CSO on 29th May 2020. @As per the first revised estimates of national income, consumption expenditure, saving and capital formation for 2018-19 released on 31st January, 2020, #Second Revised Estimate. ***First advance estimates of national income released on 7th January, 2021.

Low and fluctuating growth of the agricultural sector is an indication of the structural constraints facing the sector. The constraints stem from the fact that supply chains of agricultural commodities in India are fraught with challenges stemming from the inherent problems of the agriculture sector like dominance of small/marginal farmers, fragmented supply chains, increasing degradation of resources, low input productivity of crops, low level of processing/value additions, etc. The need of the hour is to find innovative solutions to the challenges facing the agricultural sector and take them to the field.

## IV

## ACHIEVING HIGHER AGRICULTURAL GROWTH: ROLE OF INSTITUTIONS, LABOUR MARKET AND AGRICULTURAL TRADE

### I. *Role of FPOs and Agri Cooperatives*

### A. *Farmer Producer Organisations*

In India, nearly 126 million marginal and small farms together operate on 74 million hectares of agricultural land, with 0.58 hectares of average size of holding. Being small entities in terms of landholdings, they face numerous challenges in the form of poor access to markets and finances. Many of these constraints can be mitigated by aggregating the farmers by forming farmers' groups and then linking these groups to an integrated value chain that brings different actors across the chain together.

As of January 2021, nearly 8,500 farmer producers organisations (FPOs) have been promoted in the country by various agencies. In fact, NABARD alone has promoted 4,868 (around 56.67 per cent) FPOs under various promotional initiatives, while the remaining have been promoted by other institutions. Out of the 4868 FPOs promoted by NABARD, 3,586 FPOs are registered (73 per cent) under different legal formats. Of these, 2,857 (nearly 79 per cent) are registered as Producers' Companies and remaining as Co-operative Societies, Trusts, etc.

*NABARD Study on FPOs*: while the time is opportune for the formation and nurturing of new FPOs, there must also be a concurrent evaluation of whether some course correction is required. With this objective in mind NABARD conducted an internal study on FPOs in four states of Kerala, Madhya Pradesh (MP), Odisha and Rajasthan. The study covered 1886 farmers having membership to 39 FPOs and 971 farmers having membership to FPOs. The study also included interaction with FPO-executives to gain greater insight into various issues being faced by the FPOs. The objective of the study included various aspects related to FPOs, including understanding the economic and social impact of FPO-membership on farmers. We believe that these study findings may be useful for drawing the future action plan related to FPOs.

*Economic Impact*: the study corroborates many theories regarding the impact of FPO-membership on farmers. Farmers reported receiving a higher average price for their produce after containing membership to FPOs. For instance, farmers in Madhya Pradesh reported an increase in average (per quintal) price by nearly 7.5 per cent in *Kharif* (2019) season and 12.5 per cent in the *Rabi* (2018) season, while in Kerala, average price was reported to have increased by nearly 45 per cent. In Odisha too, average price was reported to have increased. Correspondingly, the farmer's income was also reported to increase, for instance by 13.5 per cent in Odisha and 25 per cent in Rajasthan.

The farmers also reported a reduction in dependence on informal source of credit. For instance, sample farmers in Kerala were heavily dependent on informal sources of credit in their pre-FPO phase; with farmers in 9 out of the 10 samples FPOs reporting load from moneylenders. This changed drastically after containing membership to FPOs with none of the farmers from the sample FPOs reporting any loan from moneylenders. Similarly, in Odisha, farmers in 6 FPOs reported taking loans from moneylenders in the pre-FPO phase which, post their FPO membership got reduced to farmers of only one FPO. In Madhya Pradesh while in the pre-FPO phase, the average loan borrowed by the members from moneylenders was ₹ 39,135, the same has reduced to an average of ₹ 5000 in the post-FPO stage. Farmers also reported achieving higher crop yield, saving on input cost and reduced cost of cultivation.

*Social Impact*: Farmers with FPO membership have also reported improvement in their social engagement after being associated with FPO. For instance, nearly 72 per cent of the sample FPO-members in MP, 74.3 per cent in Kerala and 74 per cent in Odisha reported having started their participation in Village-level meetings and other similar local-government initiatives. Similarly, nearly 74.2 per cent of sample

FPO farmers in Kerala, 80 per cent in Odisha and 100 per cent in MP reported increased awareness about issues related to health sanitation, hygiene, education, etc.

*Recommendations*: this study recommended that the future strategy needs to be based on the twin pillars of forming new FPOs and nurturing the existing ones, since a large proportion (for instance, nearly 66 per cent in Odisha) of sample farmers without FPO membership cited ‘non-availability of FPOs in their village’ as the reason for not joining FPO, the target set by the Government of India of forming 10,000 FPOs by 2024 is expected to be well-received as the ground level, the formation if new FPOs needs to be supplemented with the removal of the existing bottlenecks in the transition of FPOs from the nascent stage to a mature one. Concerted efforts are needed to make provisions for institutional credit at a reasonable interest rate to FPOs, assisting in the diversification of activities from the present over-reliance on input aggregation to other aspects such as value addition.

B. *Agri Cooperatives*

Agricultural cooperatives have played an important role in the rural India for decades, and have become an integral part of its social structure, a priori, cooperatives can contribute greatly to the development of modern agricultural production-base, help enhance self-sufficiency in terms of major staple foods, and strengthen farmers’ market access, improve their access to inputs markets, help them adapt their operations o technological innovations and encouraging democratic decision-making processes. In short, well function cooperative institutions can play an important role in ensuring successful implementation of many agricultural development programmes.

However, the cooperative institutions in India are yet to realise their true potential. In order to lay greater stress n structural and functional transformation of cooperative institutions, NABARD has been making great strides. Some of the recent initiatives are outlined below:

*Developing PACS as Multi-Service Centres*

The concept of PACS as multi-Service Centres for their members was envisioned by NABARD in 2011-12. PACS were conceived to play an important role in providing all the facilities required by the farmers. The idea is to increase the business portfolio of PACS so as to make it a self-sustainable entity. Towards this end, it was considered essential that the PACS should provide additional services like offering agriculture implements on hiring basis, enabling collective purchase of inputs, having good quality storage capacity as per Warehousing Development and Regulatory Authority (WDRA) norms, etc. NABARD is aiming to transform 35,000 PACS into multi service centre (MSC) in a phased manner spanning over 3 years starting from 2020-21 in order to develop PACS as one stop shop to support farmers on post-harvest and marketing activities. NABARD's scheme of PACs as MSC has also been dovetailed with the Agriculture Infrastructure Fund (AIF) Scheme of the Government of India. Consequently, the PACs would be in a position to create last mile storage and processing and other post harvest infrastructure at an effective interest rate of just 1 per cent p.a. I am happy to share with all you that our scheme has received an overwhelming response and we have been able to sanction these projects in more than 3000 PACS in a short span of time.

*Computerisation of PACS*

The computerisation of PACS has been on the cards ever since recommendations to that effect were made by the Committee headed by Shri Vaidyanathan on revival of the short-term cooperative credit structure. Implementation of computerisation is expected to lead to more transparency in financial reporting and improvement in governance. A few state governments have made attempts in the past but the momentum is getting traction now. In order to fast track PACS computerisation, NABARD has recently decided to extend a grant of ₹ 5 crore for each state under the Cooperative Development Fund (CDF) with a matching contribution from each State government. This would lead to computerisation of 150 PACs ion each state and this will serve as a model scheme which can be expanded and replicated with further support from Government of India and State Government. However, some of the states have decided to fully computerise all the PACS in their State using the ERP model.

II. *Role of Rural Labour Market: Focus on Non-Farm Sector for Generating Employment Opportunities*

Rural development critically depends on the functioning of labour market. Since an overwhelming section of the rural households do not own any agricultural land and that agricultural work is seasonal, well-functioning labour markets are a prerequisite for a prosperous rural India. The provision of productive and long-term employment opportunities in rural to urban can potentially reduce distress migration from rural to urban area and allow the economy to reap the benefits of demographic dividend.

While the importance of agricultural labour market cannot be denied, the future of rural sector crucially depends on the growth of non- farm sector. Rural non-farm employment is considered particularly important to the landless, small and marginal farmers. There is a close relationship between development and change in occupational structure from agriculture to industry and from industry to service sector, as explained by Kuznets. Similarly, the importance of transition of labour from traditional sector to modern sector had been discussed by Arthur Lewis (1954). It is, thus, important to augment the size of rural non-farm sector.

It may be pertinent to mention that NABARD organised a Panel Discussion on the theme ‘Engaging Rural Youth Gainfully’ on the 38th Foundation Day of NABARD (12 July, 2019), which received participation from eminent panellists. I take this opportunity to share with you some of the issues and important recommendations from the discussion on the sub-theme ‘Skilling of Youth for Entrepreneurship’.

a) To expand employment, there is need to focus on rural industries. In this case, we may take a clue from China, where industrial revolution has started as town and village enterprises (TVEs). For sixty years (1978-84) they primarily focused on reforming their agriculture. Within six years, they doubled farmers’ real income and halved the poverty. The massive demand for industrial goods came from rural areas which triggered industrial revolution in China.
b) There is a need for undertaking skill mapping in the country. Expansion of skill development framework in the country will get a boost with the creation of skill development indicators, since it would facilitate laying down of mass skilling programme. After completing skill mapping, there is a need to provide capability-based skill/training and to establish link among industry, academia and skilling agencies.
c) While there exists more than 500 Rural Self-Employment Training Institutes (RSETIs) and nearly 10,000 other institutions imparting vocational training to youth, various components of trainings address primarily the traditional areas which are not much in demand. They need to be modified suitably to cater to the aspirations of youth. The skill development of individuals should be capability-based and focus should be beyond agricultural occupation to include courses on data analysis paramedical fields like nursing, etc.
d) Agri-graduates (numbering about 40,000 to 50,000) from Indian Council of Agricultural Research (ICAR) system or state agricultural universities may be engaged in agri-related rural entrepreneurships.
e) Mere provision of training may not be sufficient to benefit the youth. It needs to be complemented with other support, including handholding support, facilitating credit linkage to ensure a translation of skill development into entrepreneurship creation.
f) About 75-80 per cent of Indian’s population resides in non-metros whereas 90 per cent of performing incubators who promote start-ups in the country are metro based which is incompatible with the objective of encouraging rural entrepreneurial capital, start-ups needs to be based out in rural areas also. Suitable incentives to start-ups and creation of appropriate eco-system in these centres may be thought of. Private sector should be encouraged to set up incubation centres in rural areas.

## III. *Agri Trade as an Engine of Agri Growth*

With the dismantling of quota and opening up of agricultural trade as a consequence of the formation of General Agreement on Trade and Tariffs (GATT) and later World Trade Organisation (WTO), new opportunities have emerged for agri business and agri exports in the country. Of late, horticultural crops are leading the way in diversification of agriculture and its production has surpassed the food grains production in the country. The Agri Export Policy, announced in 2018, aims to double agricultural exports from $30 billion to $60 billion by 2022 and reach $100 billion in the next few years thereafter, with a stable trade policy regime. In addition, it aims to diversity the export basket, promote novel agri products exports, etc.

### *Growth of Agri Exports*

Giant strides have been made in agri export since independence. India's agriculture export is one of the major earners of foreign exchange for the country as our exports of these commodities exceeds imports on an annual basis. In 1950-51, India's agri export was about ₹ 149 crores which has risen to the level of ₹ 2.53 lakh crores in 2019-20. As per WTO's Trade Statistics, share of India's agricultural exports and imports in the world agriculture trade in 2017 was 2.27 per cent and 1.90 per cent respectively. The agricultural exports as a percentage of India's agricultural GDP have increased from 9.4 per cent in 2017-18 to 9.9 per cent in 201819. While the agricultural imports as a percentage of India's agricultural GDP have declined from 5.7 per cent to 4.9 per cent indicating exportable surplus and decreased dependence on import of agricultural products in India.

### *Issues Remain*

There has been substantial increase in export of almost all the agricultural items in the last 15 years, but despite being one of the top producers of agricultural products, India does not figure among top exporters of agricultural produce. For example, India holds second rank in the world wheat production but ranks 34th in export. Similarly, despite being world no.3 in production of vegetables, the export ranking of India is only 14th. Same is the case for fruits, where India is the second largest producer in the world but export ranking is 23rd. To reach the ranks of top exporting nation in Agriculture, commensurate with the production, there is a clear and categorical need to undertake proactive interventions.

*Factors Constraining Agri Exports*: Some of the constraints limiting the agricultural exports included lack of sufficient and imbalanced use of chemical fertilisers making Indian products unfit for import in many countries, lack of awareness among farmers regarding the norms and producers to be followed for exporting their produce, etc.

*Identification of Commodities and Developing Clusters*: There is a need to initiate steps such as identifying commodities in which India holds a global comparative advantage and develop clusters in states to create value chains for these commodities. As per a research conducted at ICRIER, eleven commodities – marine products, rice, meat, spices, cotton, fresh fruits and vegetables, sugar, coffee, groundnut, oilmeals and cashews comprised more than 80 per cent of the country's agri-export basket.

*Supporting Agri-Exports with Environmental Sustainability*- In an environment of increasing adverse climate change conditions, there is need to support agri-exports while ensuring environmental sustainability. While marine products, meat, oilmeals, groundnuts, cotton, spices, fruits and vegetables do not pose environmental problems, export of rice must be evaluated in right perspective. This is one of the most water guzzling crops (requiring 5000 litres of water for 1 kg of rice in Punjab and Haryana) leading to drastic fall in the groundwater table. Therefore, exporting large quantities of common rice is equivalent to exporting billions of cubic meters of water. To ameliorate this kind of situation, it is advisable to gradually rationalise power and irrigation subsidies and move towards a regime of direct income support to farmers.

## V

## CREATION OF INFRASTRUCTURE HOLD THE KEY

Our Honourable Prime Minister has given a very profound slogan of Aatmanirbhar Bharat. But, we need to recognise that Aatmanirbhar Bharat happens with creation of Aatmanirbhar Kisan and Aatmanirbhar Kisan happens with creation of Aatmanirbhar infrastructure at the ground level of irrigation, connectivity, agri-marketing and social sectors. Towards this end, govt of India very graciously accepted our proposal to enhance the allocation from ₹ 30,000 crore to ₹ 40,000 crore to the rural Infrastructure development Fund being managed by NABARD for last 26 years. Further, the corpus of the Micro Irrigation Fund was increased by ₹ 5,000 crore to ₹ 10,000 crore. All these are going to accentuate the agriculture production and productivity in a much profound manner.

Recognising the importance of capital formation, the Union Budget 2021-22 has very aptly reiterated the focus on creation of infrastructure assts. Hon'ble FM proposed to significantly enhance capital expenditure to ₹ 5.54 lakh crore in the next fiscal, a sharp increase of 34.5 per cent over ₹ 4.12 lakh crore in 2020-21 (BE), besides creating institutional structures and giving a big thrust to monetising assets to achieve the goals of the National Infrastructure Pipeline (NIP). A sum of 20,000 crore has been provisioned in the Budget to capitalise on the proposed development financial institution (DFI). Further, the launch of a "National Monetising Pipeline" was also announced for potential brownfield infrastructure assets, stating that monetising operating public infrastructure assets is a very important financing option for new infrastructure construction.

*Capital Formation through Agriculture Credit*

In addition to provision of support by the Government, private sector can be an effective player in creating such value chains through own resources as well as Bank credit. But it needs to be enabled by institutional reforms. The agricultural credit flow target for the year 2019-20 was fixed at ₹ 13,50,000 crores and against this target the achievement was ₹ 13,92,470 crores. The agriculture credit flow target for 2020-21 was fixed at ₹ 15 lakh crores and so far about ₹ 11.5 lakh crore was disbursed during the year. However, skewed regional distribution of the agricultural credit towards southern states and very low share of north-eastern states are a cause of concern.

It must, thus, be emphasised that the future of agricultural sector depends on agri investments through Bank Credit. Major investments are needed to create infrastructure for global and domestic value chains, ranging from produce aggregation to its sorting and grading packaging, storing and linking the hinterlands to ports for export markets. In fact, there is need to adopt a holistic approach for overall enhancement of export logistics in terms of creating cold chain facilities for transportation and storage needs to be adopted.

*Need for Policy Shift towards Rationalising Agriculture Subsidies*

The main policy instruments used for supporting Indian farms remain that of subsiding key farm inputs (such as fertilisers, power for irrigation canal waters, agricultural-credit and crop insurance) on one hand and minimum support prices (MSP) for major (23) crops, on the other. However, these policy measures have had some unintended undesirable consequences. Large increases in fertiliser consumption, often driven by highly subsidised fertiliser prices, especially urea, have inflicted significant cost as unduly low pricing of urea, have inflicted significant costs as unduly low pricing of urea has led to imbalanced use of soil nutrient. This has resulted in soil degradation and deficiency of secondary macronutrients in soil. Similarly, subsidy on water for agriculture has resulted in inefficient usage of water resource in India (for both surface and ground water). This does not augur well for sustainability of Indian agriculture. The rapidly rising input subsides to agriculture have squeezed public investments in agriculture.

To understand the ideal strategy of public expenditure in order to attain higher agricultural GDP growth or reduce poverty faster, an empirical exercise was conducted by Dr. Ashok Gulati, Dr. Marco Ferroni and Dr. Yuan Zhou, the results of which were released in their book entitled ‘Supporting Indian Farms the Smart Way’. The results of the modelling exercise reveal that the marginal returns in terms of number of people brought out of income poverty or higher agricultural GDP growth are almost 5 to 10 times more if the public money is spent through investment in agricultural-R&D, or roads, or irrigation, etc., compared to if the same money is spent as subsidies.

Higher investment in R&D and extension from Lab to Land – Our global competitiveness in agriculture can be bolstered by investment in agri-R&D and its extension from lab to land. Currently, India spends roughly 0.7 per cent of agri-GDP on agri-R&D and extension together. This needs to double in the next five years as returns are enormous.

## CONCLUSION

The famous advice given by Winston Churhill that 'Never Waste a Good Crisis' stays relevant today. We are critically poised at a juncture when we are slowly trying to exit the scars of deleterious impact of COVID-19 pandemic and move towards a new equilibrium. The much-needed push to infrastructure by measures such as creation of Agri Infrastructure Fund to improve farmgate infrastructure as well as recent Budget proposal to permit APMCs to utilise the fund, increasing corpus of RIDF and Micro-Irrigation fund (MIF) also signals the resolve of the Government to improve rural infrastructure. Provision of quality infrastructure should act as an enabler for the private sector to engage in value addition of the agricultural produce. The government has also laid tremendous emphasis on the agric8ulture sector under the Aatmanirbhar Bharat initiative and rightly so. In my opinion, Aatmanirbhar Krishi is the most important pillar of Aatmanirbhar Bharat and concerted efforts from all stakeholders are needed to achieve this. In doing this, it is also important that greater stress is laid on taking the research for lab to the field.

I have briefly shared my views on certain crucial aspects before the experts in the audience and will look forward to enrich my understanding with your views. I once again thank you for providing me this opportunity to share my thoughts before this august gathering. I wish all success to this Conference.

Thank you

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