

# Decoding Agrarian Crisis: Emerging Challenges

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No. 143/2021

Dr. Shashi Bala



**V.V. Giri National Labour Institute**



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NOIDA



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## Preface

The land of India is gifted with rich natural resources but due to mismanagement, imprudent utilization and lack of development oriented policies, the agriculture of India is lacking development. This is the result of many underlying problems and all these hidden problems have given rise to a relentless crisis termed as Agrarian crisis in the books of researchers and policymakers.

The nature of agriculture in India is considered to be backward in nature due to lack of education and invention in the sector. Also, it is difficult to locate investment resources in agriculture. The landholding is disproportionately divided among the Indian farmers, where small landholding farmers are large in numbers. The agriculture and its allied sectors have massive engagement of workers as there is very less employment opportunities specifically in rural areas.

Present research study focuses on the grass-root analyses and detection of agrarian crisis. It can be said that the agriculture is no more a profitable economic activity as the cultivators are not able to draw adequate amount of income to meet their expenditures. The Agricultural activities need to be commercialized, as many farmers are able to cultivate to feed their own families only and they are not able to make this an economic activity.

In a nutshell, agrarian crisis can affect the majority of the population, industries and economy of the country. Hence, it is a crisis for the country as a whole and is one of the biggest challenges for the Government. The revolutionary changes in the economic policy of the nation could be a solution to the problem. There is a requirement of new-agro technology and up-gradation of rural infrastructure by creating employment in non-farming sector which will fix the poverty among the rural households. We are hopeful that the present research will be beneficial for all the stakeholders in their endeavor to develop a strategy for the dynamic and sustainable development of Agriculture.

I congratulate Dr. Shashi Bala (Fellow) and her team for endeavor in these directions.

**Dr. H. Srinivas**  
Director General  
V.V. Giri National Labour Institute, Noida



## Acknowledgment's

Agriculture in any part of the World plays a role of promoter of welfare in the society, provider of employment to the masses (especially poor), sharer of historical agricultural experiences, supplier of food, goods and raw materials, etc. The agriculture, which is currently passing through a crisis in the present times in our country, requires support, adequate investment from both private and public sector and sustainable development.

Our endeavor with this report is to examine the existing conditions of agriculture from different dimensions to develop a strategy for its dynamic and sustainable development in the selected districts of Uttar Pradesh. We would like to express our deepest gratitude to Dr. H. Srinivas, Director General, V. V. Giri National Labour Institute, Noida for providing us the opportunity to initiate this study and to the VVG NLI team for their support to conduct and complete this important study.

A special thanks to the entire project team Ms. Nimra Khan (Research Associate) and Ms. Manju Singh (Computer Operator) for their concrete, continuous and tireless efforts in shaping this report. I also express my Gratitude to Shri B. S. Rawat for indepth editing and proofreading of this report.

Finally, to my pillars of support, my family, who has always illuminated me, especially when I extend my work beyond office hours. Their personal supports are valuable treasure to me.

**Dr. Shashi Bala**

Fellow

V. V. Giri National Labour Institute



## Chapter 1: International

### Labour Inspection (Agriculture) Convention, 1969

A system of labour inspection in agriculture shall be maintained by every member of ILO who has signed this convention. This system of labour inspection shall apply to an agricultural undertaking in which employees or apprentices work. Agricultural undertakings are those which are involved in cultivation, animal husbandry consisting of livestock production and care, forestry, horticulture, agricultural product's primary processing by the operator of holding or any other type of agricultural activities. Any member who ratifies this convention, accompanying its ratification in a declaration, does undertake the one or more of the following categories of persons working in agricultural undertakings to be covered by labour inspection:

1. Tenants who do not employ the outside help, sharecroppers and other type of agricultural workers.
2. Persons participating in a collective economic enterprise, such as members of a co-operative.
3. The family members of the undertaking's operator, as defined by national law or regulations.

### Safety and Health in Agriculture Convention, 2001

According to this convention, the employer should perform a duty to ensure the health and safety of workers in every aspect related to the work. According to this convention the workers in agriculture shall enjoy the following rights:

1. Information and consultation regarding safety and health matters including risk from new technology.
2. Participation in application and review of measures of health and safety and to be selected as representatives in safety and health committees.
3. To remove self from danger deriving from their work.

The convention also states that the competent authority shall advice concerned machinery, equipment including personal protective equipment, appliances and hand tools used in Agriculture should comply with standards of safety and health and are appropriately installed, maintained and safeguarded. The manufacturers, importers and suppliers should also comply with the standard and should provide adequate and appropriate information such as hazard warning signs, etc. and also to ensure that the workers receive them and understand them properly. The convention also talks about establishment of safety and health requirement for the handling and transporting of materials; regarding preventive and protective measures



for the use of chemicals and its handling at the undertaking level; to ensure risk related infection, allergy or poisoning prevention in handling of animals, livestock, stabling areas, etc.; construction, maintenance and repairing of agricultural installations; the age for employment in agriculture shall not be less than 18 years; to ensure similar protection standards for all temporary, seasonal and permanent workers of Agriculture; the special needs of women such as pregnancy, breastfeeding and reproductive health must also be taken into account and also advices to cover the workers with an insurance or social security scheme against fatal and non- fatal occupational injuries, diseases and health risk, etc.

### **Right of Association (Agriculture) Convention, 1921**

This is the only convention in agricultural field that is ratified by India. This convention fixes the rights of association and combination of agricultural workers to be similar in extent to the rights of industrial workers and cancel any statutory or other provisions that limit such rights in the case of agricultural workers.

### **WTO Agreement on Agriculture**

The World Trade Organization's Agreement on Agriculture came into force in 1995; it represents an important step for improving agricultural trade by creating it fairer and competitive. India is its member since 1995. The members of WTO have taken the steps for reforming the agriculture sector, to address the subsidies and high trade barriers that distort agricultural trade. The overall aim of this agreement is to improve the livelihoods of farmers and to build a fairer trading system that will increase market access around the globe. For further reforms, members of WTO are continuously conducting the negotiation. A historic decision was adopted by the members in 2015 to end agricultural export subsidies and to set guidelines for other forms of farm export support. The agreement covers three pillars:

- 1. Market Access:** For the reduction of tariff and non-tariff barriers to trade.
  - 36% average reduction in developed countries with a minimum of 15% per tariff line reduction in following 6 years.
  - 24% average reduction in developed countries with a minimum of 10% per tariff line reduction in following 10 years.
  - Least Developed Countries (LCD) were exempted from these reductions but they either had to convert their non-tariff barriers to tariff or bind their tariff by creating a limit that could not be increased in future.
- 2. Domestic Support:** The domestic support is divided into two categories namely trade distorting and non-trade distorting and the subsidies are divided by boxes on the basis of the consequences of production and



trade: amber (linked to the production levels), blue (limiting programs that still distort trades) and green, (minimal distortion). The payments in the amber box has to be reduced and green boxes are exempted from reduction commitments.

3. **Export Subsidies:** To reduce export subsidies by developed countries at least by 36% (value) or 21% (volume) over six years and by developing countries at 14% (volume) and 24% (value) over 10 years.

### BRICS and Agriculture

BRICS conducts a meeting called Agricultural Ministers Meeting with the objective of meeting of Agricultural Expert Working Group (AEWG) in order to develop a roadmap ahead of the meeting of the Ministers Agricultural and develop the agenda for discussion. AEWG was advised to be set up in the Agricultural Minister's meeting of Moscow (March, 2010). First AEWG meeting was held in Chengdu, China 2011 and a draft action plan for 2012-16 was drafted and submitted during the meeting for its approval. The plan was approved and following areas of co-operation were identified by them to take action by BRICS countries:

- Development of a general strategy for ensuring access to food for the most vulnerable population (**COORDINATED BY BRAZIL**)
- Trade and investment promotion (**COORDINATED BY RUSSIA**)
- Enhance agricultural technology cooperation and innovation (**COORDINATED BY INDIA**)
- Creation of Basic agricultural information exchange system of BRICS Countries (**COORDINATED BY CHINA**)
- Reduction of negative impact of climate change on food security and adaptation of agriculture to climate change (**COORDINATED BY SOUTH AFRICA**)

DARE/ICAR hosted meeting of experts on Agro products and food security of BRICS (2012) and BRICS AEWG. The suggestion for creating a "framework document for establishing BRICS strategic co-operation alliance on Agriculture science and technology" and was evolved circulated to all the BRICS countries for their comments.

During the 7<sup>th</sup> BRICS summit held in Russia (2015), Prime Minister Shri Narendra Modi proposed to establish BRICS Agriculture Research Centre which aims to promote sustainable agricultural development and poverty alleviation through strategic co-operation in agriculture to provide food security in the BRICS member countries. The MOU for the same was signed in the 8<sup>th</sup> BRICS summit in 2016.

### SAARC and Agriculture

One of the SAARC's areas of cooperation is cooperation under Agriculture, rural development and food security. According to 2014 statistics, South



Asia's almost half workforce is employed in Agriculture sector and 42% of South Asia's landmass is under agriculture operation. In the 18th Summit, it was agreed that for enhancing productivity to ensure food and nutritional security in the region, investment should be increased, there should be promotion of research and development, facilitation of technical cooperation and application of innovative, appropriate and reliable technologies in the agricultural sector. Also, the importance of sustainable Agriculture was emphasized.

SAARC has taken many initiatives in Agriculture and related areas:

- There have been many ministerial meetings on food and agriculture since 1996.
- There is a study group on agriculture that started in 1981 and later named as Technical Committee on Agriculture and Rural Development (TCARD). It is a sectorial technical committee that deals with all the co-operation issues relating to Agriculture and rural development in South Asian region.
- To develop comprehensive linkages among research, extension and farmers of the region Inter Governmental Core Group on Agricultural Research Extension – Farmer linkages (IGCG-REF) was formed.
- SAARC seed bank agreement which proved regional support in regional seed security efforts, regional shortage of seeds, inter-country partnerships and increased seed replacement rates.
- The South Asian Association of Regional Co-operation (SAARC) has a regional organization called SAARC Agricultural Centre (SAC) which started its functioning in 1988 with the objective of information management primarily in the field of Agriculture and its allied discipline. It is a knowledge and information hub in South Asia. The SAC since many decades is working on human resource development, policy guidelines, project implementation, SAARC food bank, seed without border, essentially related to Agriculture and allied sectors.

With the passage of time, the objectives of SAC have been enhanced with agricultural research and development, policy planning and knowledge management. The goal of SAC is to alleviate poverty and to ensure sustainable development of Agriculture by promoting research and development in Agriculture as well as dissemination of technological initiatives.

The SAC provides policy inputs to the SAARC higher authorities for meetings on Agriculture, promotes outreach programs through its websites, regular publication, production of audio-visual media, hosting of various workshops, seminar, symposiums, etc.



## Overview of China's Agricultural Policy

Agriculture is an essential industry of China that employs over 300 million of farmers across the nation. The rank of China is first in the worldwide farm output, it primarily produces rice, wheat, potatoes, tomato, sorghum, peanuts, tea, millet, barley, cotton, oilseeds and soybeans. China has advantage in many labour intensive crops but disadvantage in many land intensive crops. China's reform is divided into various phases (Carter, Zhong and Cai 1996, Huang 1998).

In 1978-1984 the Household Responsibility Systems (HRS) introduced procurement prices and there was an increase of above quota price premiums. Relaxation of centralized sown area plans to a certain limit and reduction of procurement quota or abolishment in case of some commodities. In early 1980's economic reform was started and the commune system was deserted in support of households as decision units in HRS. The restoration of the old open marketing systems was allowed. HRS allowed farm households to cultivate specific plots by signing long term land contracts. Great production and marketing discretion were given to farmers. By delivering specified quota to the Government, the farmers were able to produce whatever they wanted and sell their products via local open markets.

From 1985-1988, urban reforms were started and rural marketing reforms began to reduce the unified purchasing and marketing system. The purchases of grain, cotton and edible oilseeds were made by the state but the quantities and prices were negotiated between the Government and the farmers. The additional unit price for the grain was reduced and different policies were implemented in order to encourage the diversification of non-grain production.

In the beginning of 1992, the Government of China started market reforms to reduce the burden of grain subsidies and for improvement of economic efficiency of the grain markets. During 1993, with the acceleration in the market reforms, most provinces initiated to phase out the grain ration system which permitted the urban consumers to buy grains at low fixed prices and it led to the shift of resources from grain production to other crops.

During 1956-1996, different policy instruments were used for boosting of the output of grain and the responsibility of grain production. For raising self-sufficiency, rates of grains was assumed by the provincial Governors. In 1996, to assure sufficient food supplies the policymakers increased the quota prices for grains in order to stimulate grain production. In the same year record grain production was witnessed as a result of good weather conditions and high prices.

From 1997, the prices were depressed by large suppliers and the protected price was initiated which provided the farmers a minimally acceptable grain price that covered their production cost.



In 1998, reforms of grains directed towards strengthening state control on national grain system keeping the focus away from market forces. Trading of grains by private companies was officially banned but not thoroughly imposed and farmers were assumed to sell grains to grain bureau stations except little amounts that could be sold in local markets.

During 1999, a new reform was initiated that granted more differentiation of price procurement established on grain quality, supporting great production of different crops instead of cereal grains and allowed grain companies more freedom over procurement. The transactions between private traders and farmers increased for most grains on the basis of free markets.

Despite substantial rural and economic reforms since 1978, due to the state interventions in Chinese Agriculture, cropping patterns are still partly determined by non-market influences.

### **Pakistan's Crisis of Agricultural Extension**

The Agriculture sector occupies a significant position in the Pakistan economy. About 3 quarter of its population is directly or indirectly involved in the Agriculture. Globally, the provision of the agricultural information and services through extension has been acknowledged (long ago) as a fundamental institutional input for accelerating the growth of the prosperous Agriculture. The agricultural productivity improves with the help of extension activities by including the application of the latest agricultural technology or best practices and by abandoning of less efficient techniques of production. This also includes educating the farmers using formal and informal approach of the instructions. Prime financial institutions such as the World Bank imparts both technical and financial assistance for agricultural extension in developing countries like Pakistan where numerous extension models have been tried in a recovering effort to overhaul and right its extension system. In late 1970's, post setback of various extension models, Pakistan's public agricultural extension services were restructured into the TV system with the financial assistance of the World Bank. The dull performance of agricultural extension has been a continuous concern since the country's origination for the government of Pakistan. The Government of Pakistan is not the sole provider of the extension services and information. The national commission on Agriculture in 1988 cited the ongoing inability of public extension to accelerate the agricultural productivity and suggested the involvement of private sector to presume responsibility for assisting the farmers with agricultural inputs namely fertilizers, pesticides and commercial activities that are so far integrated into the marketplace. Today both public and private sectors are involved in agricultural extension of the Pakistan's farming community.



## Chapter 2: National

### Indian Agriculture

A.N Aggarwal (1981) in his book 'Indian Agriculture' described the role of Agriculture as promoting welfare in the society, contributing towards the economic development of nation, disseminating the historical experiences of the help rendered by the Agriculture sector to draw lessons from it, supply of foods & wage goods and engaging in the employment activity providing as it is one of the ancient occupation of the human kind.

Some of the problems in the development of the Agriculture are water supply uncertainty, lack of the productivity of the farmers, pre-dominance of tiny farmers in the industry, lower level of operations, unfair land ownerships, little commercial farming by the farmers as most of them produce for self-consumption only and not for the selling purpose, thus there is vast underemployment. The Indian agriculture is considered backward in nature because many of the farmers are not well equipped and educated in their field. The reasons of backwardness are assumed to be institutional deficiency, technical drawbacks, the humanitarian factors and low priority with slow growth in this sector. The steps suggested for the development could be the application and development of new technology and modern management practices by modernizing the attitudes, spread of information and demonstration and extension of the services. The productive capacity of this sector can be increased via involvement of the state and by encouraging the investment in the sector, financing the inputs for the farmers, co-operative efforts provision and use of welfare promoting measures.

The nature of employment and unemployment in agriculture sector could be seasonal (in a particular season), structural (not creating enough work), disguised (non-requirement of employment) and chronic (unemployment for more than a year). Unemployment in Agriculture sector is mainly either seasonal or disguised. The reasons of the unemployment are mainly considered to be inappropriate and slow phase of the industrialization, policy makers' negligence and increase in the population. The solutions for the same suggested are rise in the labour intensive industries, agricultural expansion, growth, population control and manpower planning.

National Commission categorized the agricultural labourers as landless labourers who can be permanent or temporary and very small farmers who possess little land and work on other's land, share croppers and tenants who work on leased land. The difficulties faced by these workers are income and wages, employment, consumption, indebtedness and social outcast within their community. This can be improved by the working conditions by fixing the working hours of the workers and fixing the minimum wages,



unionization and by increasing the level of living of workers by providing them social security, land and housing facilities.

## Agriculture Census

**Table 1: The total number of operational holdings and operated area of all the social groups of India for year 2015-16**

S. No	Size Group		
1	Marginal	100251	37923
2	Small	25809	36151
3	Semi- Medium	13993	37619
4	Medium	5581	31810
5	Large	838	14314
	<b>Total (India)</b>	<b>146454</b>	<b>157817</b>

Source: Agriculture Census 2015-16

It can be concluded from table 1 that total number of operational holdings in India is 146.45 and total operated area in country is 157.82.

If we look at the state wise data in the Agriculture Census 2015-16, we can find that the highest number of operational holdings in the country is in Uttar Pradesh with 23.82 million.

**Table 2: Percentage distribution of number of operational holdings for all social groups of Uttar Pradesh**

S. No	Size Group	
1	Marginal	80.18
2	Small	12.63
3	Semi- Medium	5.51
4	Medium	1.58
5	Large	0.10
	Total	100

Source: Agriculture Census 2015-16

We can clearly see that the majority of farmers in Uttar Pradesh belong to Marginal group and small group. Very less percentage of farmers hold medium and semi- medium operational holdings and the large landholders are imperceptible. It can be concluded that the majority of landholding in Uttar Pradesh is mainly divided between the Marginal and Small groups which gives rise to low farm income.



## Agrarian Crisis

V. Kumarswamy in his article printed in The Hindu (24 June 2019) analyzed how agrarian crisis can be eased. He defined the current agrarian crisis in India as a product of two factors namely negligence in recognizing the time when the green revolution begin to produce diminishing returns and taking steps to turn up with helpful alternatives; and the economic impact of the subsidies.

He summarized the current agrarian crisis of India as diminishing soil fertility, sinking water table, rise in cost (all effects of green revolution), poor return to farmers, and unaffordable periodic spikes in key commodities and periodical excess production which are dumped on the roads ruining several farmers and placing a huge burden on the Government.

## Features of the Agrarian Crisis

Srijit Mishra (2008) in his paper titled 'Risks, Farmers' Suicides and Agrarian Crisis in India: Is There a Way Out' described the features of the agrarian crisis as below:

1. Decline in the trend growth rate of production, productivity and value of output since mid and late nineties.
2. Large section of population is excessively dependent on Agriculture which also depicts the shortage of non-rural farm employment.
3. Farm household's low income because of decreasing size class of holdings, rise in majority of marginal holdings and low returns from cultivation.
4. The green revolution focused much on rice and wheat under irrigated condition ignoring the crops and regions under rained and dry land condition. Also the failure to capitalize on the wide network of institute to deliver the new technology and extension of services.
5. The negligence in planned resource allocation of agriculture has led to a fall in public investments in irrigation and other related infrastructure.
6. The supply of credit from informal sources with great interest burden has higher dependence due to insufficiency of formal source of credit supply.
7. The farmer is being exposed to the uncertainty of the product as well as factor markets because of the changes in market condition and technology.
8. The supply of credit from informal sources with higher interest burden has greater reliance due to inadequate formal credit supply source. Due



to changes in technology and market conditions the farmer is being exposed to the uncertainty of the product as well as factor markets.

Mishra (2008) also provided the reasons for suicide among the farmers such as low returns to cultivation, indebtedness, economic decline, crop failure, social disrepute, marriage in family, problems kept to themselves, suicides nearby, addictions, behavioral changes, disputes with others, self-health problems and death or suicide or illness in family.

### **Causes, Consequences and Remedies of Agrarian Crisis**

Albert Christopher Dhas (2009) in his paper titled 'Agricultural Crisis in India: The Root Cause and Consequences' has defined the root cause Agriculture is no more a profitable economic activity as compared to other enterprises which mean that the income derived from such activities of Agriculture are not adequate to meet the expenditure of the cultivators.

He mentioned the factors responsible for this crisis as: reliance on rainfall and climate, wide import of agricultural products, decrease in agricultural subsidies, absence of easy credit to Agriculture and dependency on the money lenders, reduction in Government investment in the agricultural sector and conversion of agricultural land for the alternative uses.

The consequences are argued to be very wide in nature and are likely to hit national economy and all other sectors in different ways. To be specific, the unfavorable effects can affect food supply, prices of food grain, cost of living, health and nutrition, employment, poverty, labour market, foreign exchange earnings and land loss from Agriculture. In a nutshell, the majority of population and the economy as a whole are affected by the agrarian crisis. Thus, it is a crisis for the country as a whole.

The remedy suggested is to perform all that is possible to create Agriculture a profitable enterprise and attract the farmers to pursue the crop production activities. The policy makers should expand the budget components in the farm sector. Investment in Agriculture and its allied sectors including communication, transport, irrigation, research, rural market, rural infrastructure and farm should be drastically raised, and the integrated development of the rural areas should be the goal of the Government. The radical changes in the present economic policies related to Agriculture are the solution to the problem.

### **Challenges in Agrarian Crisis**

Siraj Hussain (24 May 2019) in his Blog published in Downtoearth.org.in titled 'Agrarian crisis one of the biggest challenges for new Government'. He forecasted that it will be troublesome for the Government to discover



resources for the essential investment in Agriculture. He stated three major challenges for short term agrarian picture such as:

1. Drought in about 40 percent of agricultural land in India.
2. The farmers have realized lower prices for the most of the crops for last 3 years.
3. Possibilities of rise in price of food items.

The three major challenges for long term agrarian picture are stated as:

1. Fixation of water woes of eternal drought affected regions.
2. Take a decision for the long debated marketing reforms.
3. Realizations of the limitations of Minimum Support Price (M.S.P) as a tool to provide remunerative prices for all crops.

### **New Technology in Agriculture and its Benefits**

Desraj (1997) in his study titled 'New Technology and Changing Agrarian Relations' defined the socio-economic conditions of farmers and agricultural laborers and took up issues regarding them. The study was conducted in two regions of Haryana and they were named A and B respectively. The study disclosed that the labourer and the employer are not anymore paternally related in region B and because of this change, the agricultural labourer is unbound from all types of patronage and institutionalized dependency relationships.

The study also recognized that the large landholding farmers are disproportionately benefitted as compared to small landholding farmers (up to 2 acres) from the new agro-technology. The agrarian structure of Haryana has observed the increasing rate of accidents as a result of new agro-technology. The new agro-technology has increased the productivity, wage rate, process of labour employment but the advantages were quite uneven.

It was recognized that the state government has played a key role in formation of sustainable growth in Agriculture, occupational diversification, and rural infrastructure up gradation creating non agricultural occupation for the poor of the rural area and this is the most effective method for the removal of rural poverty among the households in rural area.

### **Gender Friendly Technology**

'Empowering Women through Gender Friendly Technology in Agriculture' a research paper (Pratibha Joshi, J.P. Sharma, Nishi Sharma, O.P. Singh, J.P.S. Dabas, Raksha, Grijesh Mahra 2018) highlights gender specific farm tools and techniques. Advancement in practices and development of ergonomically



suitable tools for Agriculture related operations is proven to be helpful to generate high production and to decrease drudgery in an efficient manner.

This paper argues that the tools that are built for women agricultural labourers are not according to the ergonomic measurement of women. They are facing physical and psychological problem because of this environment, tools and process in Agriculture which is not women friendly at all. All of this has resulted into drudgery in rural women as most of the agricultural activities are full of drudgery and are never supported with mechanical advancement of tools and appliances. While performing these operations of Agriculture a farmer adopts many unnatural postures like stretching, bending etc. which are harmful and increases the stress on the body. This demands considerable time and energy that causes drudgery among women farmers.

Last two decades have witnessed good progress in farm mechanization by boosting farm efficiency and also by diminishing human drudgery. Agricultural equipments like tractors, power tillers, combine harvesters, irrigation pump sets, and diesel engines have displayed upward trend in its demand.

It is recommended in the paper that there is a requirement to strengthen and rejuvenate the nutrition education and knowledge and certified nutri-rich and balanced food component in Government programs. Various institutes of ICAR in National Agriculture Research System (NARS) have stated different technological actions for benefiting through refinement, development, validation and demonstration of technologies of Agriculture.

### **Employment in Uttar Pradesh**

Rajendra P. Mamgain and Sher Verick (2018) in their report titled 'The State of Employment in Uttar Pradesh: Unleashing the Potential for Inclusive Growth' examines that the share of employment in Agriculture in Uttar Pradesh is provisionally higher than Indian average. The 62% of rural workers of India are highly dependent on Agriculture as a source of their income. The massive engagement in Agriculture and allied sectors is because of lack of employment opportunities specifically in rural areas. Similar to the national pattern, it was observed that there is a shift from Agriculture to non-farm employment, but at a slow rate. The non-farm sector has created additional jobs that are casual in nature. These casual jobs are widespread over the state but in the eastern region, there is large dependency on Agriculture. The dependence on Agriculture and allied sectors for employment is much higher in eastern region as compared to western and southern regions of Uttar Pradesh. Despite the significant shift of workers from Agriculture and allied activities, Agriculture is the largest employer which has registered



an annual growth of 3.2% and fisheries (within Agriculture) with 5.7% per annum in the Uttar Pradesh. Along with speedy economic growth, there is also a notable reduction in rural poverty of Uttar Pradesh and the rate of reduction is much faster among SC/ST. The reason behind this could be high economic growth in Agriculture sector and robust increase in wages of the casual wage labourers. But the industrial structure of employment has been changed over the years and has shown decline in the share of Agriculture and construction appeared as a massive growth driver of employment in the state. A positive feature was noted in the labour market that the gender wage gap decreased in casual labourers/earning both in India and Uttar Pradesh for non-agricultural activities. An increase was witnessed in gender wage gap in agricultural activities in Uttar Pradesh but a decrease was witnessed on national level for the same.

### **Western Uttar Pradesh**

Mohd. Ibrahim (2016) in his research titled 'Environmental Impact on Changing Cropping Pattern in Western Uttar Pradesh' exhibits that the level of development of Agriculture has remained high to medium over the period of 1991-2006. In some parts where Agriculture is commercialized, technology is also seen to be advanced. This region was highly affected by green and technical revolution that developed high contribution in export and food production of the state. The inequality of Agriculture development is not high in comparison to other regions of U.P. western U.P is mainly producing food grains and wheat, rice and sugarcane are the principal food grains crops and pulses and food grains are also significant in the region. The study region is gifted with rich natural resources but they are mismanaged and injudiciously utilized because of excessive population pressure and lack of growth oriented policies. Rapid decline in public investment in Agriculture is witnessed and it is consumed by the huge amount of subsidies on irrigation, fertilizer, credit and power. The average sizes of landholdings are tiny, fragmented and showcasing features of further degradation. The spatial distribution of variables and agricultural development is not uniform in the study area. The study also highlights that though the majority of districts are in category of high or medium Agriculture development, still there are few districts which are lagging behind in agricultural development.

### **Land Use in Bareilly**

S. S. Tripathi and R. K. Isaac (2016) in their paper titled 'Land Use/Land Cover Change Detection in a Part of Ramganga River Basin, at Bareilly District, Uttar Pradesh, India' studied the change in land use/ land cover change for the 30 years (between 1979-2009) in Bareilly District. It describes that the land of Bareilly district has undergone notable changes since last



30 years. The study particularly exhibits rich vegetation cover nearly to half of the total area in 1979 but this area was found to be converted mostly into crop lands and built up settlement area with the passage of 30 years or till 2009. The reason behind these changes could be mainly due to requirement of more food for the increasing population of the district and the necessity for the development of infrastructure. However, these changes of land use from plantation / vegetation land to agricultural crop land and built up settlement area are required to be observed and regulated judiciously for the preservation of the natural resources and ecosystem sustainability.

## Varanasi

The district's soil is sandy, sandy loam, clay loam, sodic/saline soil. The majority of farmers are small and marginal farmers' also landless farmers. The temperature of the district is mainly 08- 44°C. Whereas the rainfall measured throughout the year is 667-1044mm, the irrigation facilities used by majority of farmers are tube well and canals. The crops that are produced majorly in the district are Rice, Wheat, Arhar, Barley, Pea, Mustard and other vegetables.

## Agrarian Crisis: A Case Study

Preliminaries	Almost half of India's workforce is employed in the Agriculture sector. The employment share in Agriculture in Uttar Pradesh is provisionally higher than average in India. The reason of such high share of employment in U.P is due to lack of employment opportunities in other sectors, especially in rural areas.
Introduction And Background	The Agriculture sector occupies an important position in the economy of India. The dull performance of Agriculture and its allied activities has been a continuous concern for the nation. It is difficult for the Government to discover resources for the investment in the sector.
Methodology	It is essential to understand the impact of Agrarian crisis on the economy of India. An attempt has been made to look into these matters through the case studies, collected through in-depth participatory approach during May 2020. It is a matter of great concern that farmers are not able to earn profit from the agricultural activities they are pursuing as analysed through research undertaken on this subject and cases described.
Case 1	<p>Shri Durga Prasad s/o late Shri Murli Dhar belongs to village Pillori of Awazi Line Block from the district of Varanasi of Uttar Pradesh and owns a land of size 04 hectare. In this land he used to grow Paddy, Wheat, and some Vegetables and worked really hard in his fields but was unable to earn a satisfying income. Then he decided to visit the Krishi Vigyan Kendra of his district, where the scientists suggested him that according to the land he owns, he should cultivate the crop of flowers in his land. It was very difficult for the scientists to convince him for this change. At the end when Durga Prasad planted rose in his fields with the expense of Rs 80,000 in inputs, he cultivated a crop of 30,000 roses and earned a high return worth 3 Lakhs.</p> <p>Source: Krishi Vigyan Kendra Varanasi, Success Stories.</p>



Case 2	<p>Aman Lakra, 63 year old ex-servicemen, a resident of Abhaypur village of Bareilly district of Uttar Pradesh, India is a post graduate in economics and has served in Indian Army, Military Engineering Services and LIC. He has shifted from Latihar district of Jharkhand to Bareilly in 1992 and purchased 1.5 bigha lands in this village with his left over savings, he received at the time of his retirement. But, now he is the owner of 55 bigha land and he is generating income by following diverse entrepreneurial activities and is providing employment to the unemployed youth of the village. His labour management skills are different and unique from others as he employees only college students in a part time job on hourly basis at his farm. He delineated the work from the labourers and is currently paying them Rs 30 per hour. He employs 5 labours daily and also provides a room for accommodation for those labourers who are working 7 hours a day.</p> <p>Source: Krishi Vigyan Kendra Bareilly, Success Stories.</p>
Results	<p>It is noticed from the above-mentioned cases that the farmers should be educated by training and other informal approaches. It will increase not only their own profitability but also increase the employment and welfare in the sector.</p>
Summary and Evaluation	<p>The productivity of Agriculture improves with the help of extension services and application of latest Agriculture technology.</p>
Conclusion	<p>The importance of sustainable Agriculture should be highlighted.</p>
Recommendations for future	<p>There should be enhancement of productivity, investment, promotion of research and development, technical support, innovation, etc. in the Agriculture sector.</p>
End Matter	<p>Government should promote sustainable development, formation of occupational diversification and rural infrastructure should also be upgraded that helps in creating the non-agricultural occupation for poor of rural area and decrease the poverty.</p>



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