

Agriculture workers – the foundation pillars of growth in Agriculture!

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Abstract:

“If India wants to grow in terms of economy; then instead of developing the industrial sector India first needs to develop its root in rural sector – Mahatma Gandhi.”

Right from the Pre history time to today at present we have noticed several changes in agricultural sector, many policies have been implemented and many are in the process of implementation. Every new government comes up with its new policy & at the end the result is -- all what we come across our daily newspapers.

It is truly said that **if politics is all about who gets what, when & how then state becomes the executive agency for the same.**

In the context of the above statement my paper deals with the relation of state and agriculture sector from the pre history time to present. It also deals with the policies and programs implemented by the state till date in favor of agricultural workers and agricultural. To be brief on the counterpart, the paper also talks about the limitation of the policies and programs of state and my understanding on why some programs reached to the stress of failure.

Lastly, with some data and figures the paper would express the cause of migration and transformation of agricultural workers.

On the whole the paper discusses the overall agricultural sector of India along with its past success & failure to present status of policies. It suggests what possible policies and implementation state can do to enhance this sector. Majorly what public administration can contribute to this sector?

Note: Here state means India and the democratic government.

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Introduction

What is a state?

A geographical boundary, within which multiple communities lives having a diversified cultural heritage, where the leaders are selected by these multiple communities -- who works for the betterment of these communities & protects its sovereignty with the help of three wings legislation, executor and judiciary. It can be defined upon its basic feature: territoriality, population, government, sovereignty & legitimacy. Therefore, having all this basic features India was born on 26th January 1950, after enacting and enforcing its constitution and establishing itself as a largest republican democracy in the world.

India (Bharat)

A country in South Asia having a territorial area of 3,287,263 km², which makes it the 7th largest country, with a population of more than 1.3 billion people. (Being 2nd most populous)

India has been home to many empires and dynasties in past and at present is the world's most populous democracy. It is a parliamentary republic with multi-party system. The capital of State is New Delhi (28°36'50"N 77°12'30"E).

India being a federal union incorporates 29 states and 7 union territories, for a total of 36 entities. The states and union territories are further subdivided into districts and smaller administrative divisions. Further the constitution of India distributes the sovereign executive and legislative powers exercisable with respect to the territory of any state between the Center and the State.

Background of study

Agriculture and its meaning:

Agriculture is the science and art of cultivating plants and livestock. It is the key development in the rise of sedentary human civilization, whereby farming of domesticated species created food surpluses that enabled people to live in cities. The word agriculture is defined with various scopes, in its broadest sense using natural resources to "to produce commodities which maintain life, including food, fiber, forest products, horticultural crops, and their related services.

Types of Agriculture

The history of agriculture began thousands of years ago. Plants were independently cultivated in at least 11 regions of the world. People practiced agriculture in different forms, some are:

- a. Pastoralism:
It involves managing domesticated animals. This type of farming is practiced in arid and semi arid regions of Sahara, central Asia and some parts of India.
- b. Shifting cultivation:
In this forest area is cleared by harvesting/burning trees. The land is then used for growing crops until the soil becomes less fertile. When the area becomes abandoned, another patch of land is selected and the process is repeated. This type of farming is basically practiced in area with abundant

rainfall where the forest regenerates quickly. This practice is used in Northeast India, Southeast Asia and the Amazon Basin.

c. Subsistence farming;

It is practiced to satisfy family or local needs alone, with little left over for transport elsewhere. It is intensively practiced in monsoon Asia and South-East Asia. An estimated 2.5 billion subsistence farmers worked in 2018, cultivating about 60% of earth's arable land.

Intensive farming:

It involves a low fallow ratio and a high use of inputs such as water, fertilizer, pesticides and automation. This type of farming is practiced mainly in developed nations.

In recent time, Industrial agriculture based on large scale monoculture in the twentieth century came to dominate agricultural output, though about 2 billion people still depended on subsistence agriculture into the twenty-first century.

Over one third of the world's worker are employed in agriculture, although the number of agriculture workers in developed countries has decreased significantly over the centuries.

Agriculture in India: (pre independence)

The history of agriculture in India prevails back from era of Indus valley civilization and much before. From the report of Archeology Survey of India (ASI) we can agree upon the agricultural practices in the valley civilization.

Some reports also state that Indian agriculture started from 9000 BCE -- double monsoon led to two harvests in one year. This two harvest produce led India products reach to international market & with exchange of produce, foreign crops also entered in Indian agriculture. Plant and animals were considered essential for survival. Hence, they were worshiped and venerated.

The middle age saw irrigation channels coming up & Indian crops affecting the economies of other regions of world. Land and water management was developed for uniform growth.

Not getting much accumulated in the history of agriculture, we can say that performance of agriculture from Neolithic age to Mughal era was worth satisfying. People were happy in producing different types of produce of their choice. A variety of crops were grown including food crops such as wheat, rice and barley & non food cash crops such as cotton, indigo and opium. Later Americas, Maize and Tobacco were introduced.

Land management was also good. Indian crops such as cotton sugar and critic fruits – spread visibly throughout North Africa, Islamic Spain and Middle East. Before 18th century cultivation of sugarcane was confined to India only, merchants started trade in sugar as sugarcane does not grow in Polar Regions.

During Portuguese era India was large exporter of tea, sugar, tobacco and spices like cardamom. Later with the coming of colonial rule there was a vast decrease in agriculture. New rule were imposed upon agricultural workers as they were directed to grow non food cash crops. More and more emphasis was given upon indigo, cotton, opium and tobacco. Colonial law established zamindari system which led to the decrease in agriculture productivity. Now people only cultivated to pay the land tax to government. Many agriculture workers started migrating towards urban areas in search of better earning to save their livelihood.

About 85% of India's population lived in rural area and were directly dependent upon agriculture. With this colonism their economic stability went on deteriorating and many agricultural workers became landless and committed suicide.

With this devise decreasing of agriculture many problems such as cropping pattern, flood control system, drainage problem, and commercial crops cultivation started. The bitter truth is that government was least interested in looking into these problems and was busy collecting revenue and resources way back for Britain.

The history and past of Indian agriculture thus influenced, in parts, colonialism, slavery and slavery- like labour practices in the new world. It made the root of agriculture so weak that agriculture workers were landless, foodless, shelter less and were in a pathetic condition.

Indian agriculture after independence:

In the way back after independence this serious condition of agricultural labour was noticed by the new democratic government and India made immense progress towards food security. Since the population was now tripled and food grain production quadrupled, there has been substantial increase in availability of food grain per capita.

Before 1960s India relied upon import and food aid to meet domestic requirement. 1965 and 1966 faced a serious drought and thus this was the time when it was decided to reform the agricultural policy as country of this large population cannot rely upon foreign aid and imports for food security. India adopted some major policy reform focused on the goal of food grain self sufficiency.

Green revolution was proposed as reform policy , states like Punjab, Haryana and western Uttar Pradesh were first to come under green revolution . HYV seeds were brought in the market and it resulted in a rapid growth of farm productivity. By 2000, Indian farms were adopting wheat varieties capable of yielding 6 tonnes of wheat per hectare. Later this green revolution technology spread to rice.

In 1980s, Indian policy shifted to “evolution of a production pattern in line with the demand pattern” i.e.; farmers started producing such crops which were more in demand by the public like oilseeds, fruits and vegetables. Farmers began adopting improved methods and technologies in dairying, fisheries and livestock and meeting the diversified food needs of a growing population.

Literature Review

Present scenario of agriculture in India:

Agriculture in India still is the major source of livelihood for majority of rural population and it accounts for 14% of GDP of country and 55% of employment. Therefore rapid growth of agriculture is very much important for overall growth of India.

About 15% of fluctuation in growth rate of agriculture is noticed in 2012-13, similarly 5.6% in 2013-14, (-) 0.2 % in 2014-15, 0.7% in 2015-16, and 4.9% in 2016-17. **The major reason for these uncertainties in growth in agriculture is explained by the fact that more than 50% agriculture is dependent upon rainfall in India (one of the concerns of SDG goal).**

Year	Fluctuation in growth rate in agriculture
2012-13	15%
2013-14	5.6%
2014-15	(-) 0.2%
2015-16	0.7%
2016-17	4.9%

As per the fourth advances estimates for 2016-17 released by Department of Agriculture, Cooperation and Farmer’s Welfare (DACFW), the country achieved a record production of food grains estimated at 275.7million tones, which is higher by 10.6 million tones than the previous record production of food grains in 2013-14. A huge result in increase of production of food grain such as rice, wheat, pulses, oil seeds have been noticed in the year 2016-17. This was also on account on a good rainfall during monsoon of 2016-17.

Agriculture in context with economy:

To become a developed nation India needs to have good economic stability and to have a good economic stability growth is the ultimate option. Thus agriculture can only contribute to its utter most

root of growth of Indian economy. The term agriculture also includes – farming, fisheries, livestock, forestry, horticulture, floriculture etc.

Agriculture was traditionally the backbone of Indian economy as it was the major contributor to the GDP of India. Most of the Indian produced agro goods and earned money from it. Hence it also became large source of employment for people. India produces more goods in secondary and tertiary sector, agriculture still remains the largest source of employment for people. **Around 52% of India's population still derives its income from agriculture.** (Economic survey report)

Therefore, agricultural employment and income has helped economic growth in some or the other way.

Component of agriculture:

- **Agriculture workers and their type:**

An agricultural worker is someone who works on a farm maintaining crops such as fruits, vegetables, grains and nuts. They may work on farms of all sizes, from small, family-run business to large industrial agriculture operations.

In India there are two types of workers – cultivators and agricultural labourers. Cultivators are those who work in their own land and agricultural labourers are those who work on the land of others for wages. In our country 54% of total workers and 42% of rural workers is still part of the agriculture sector but they are not all cultivators. They include those who are either wage labours in others' field or those engaged in related activities such as fisheries etc.

According to Reserve Bank of India some categories of cultivators (farmers) are:

1. Landless farmers:

A farmer having no land of his own is a landless farmer. He certainly fall into the agriculture worker category as he works of the other land to earn his livelihood.

2. Marginal farmers:

A farmer who owes less than 1 hector of agricultural land falls into this category. Such farmers do not rely upon the land rather they have a secondary source of income too.

3. Small farmers:

A farmer who owes at least 1 to 2 hector of agricultural land is a small farmer.

4. Medium farmers:

A farmer who owes 2 to 10 hectares of agricultural land in his name. These farmers generate employment opportunity for landless agricultural workers.

5. Big farmers:

He is a farmer having agricultural land of area more than 10 hectares. These farmers practice industrialized agriculture. They too hire agriculture labourers to work on their farm on daily wages.

Some types of agricultural labourers are:

1. Bonded or Semi-Free Labourers:

This class of consisted of those who worked under- conditions of virtual slavery. According to the royal commission on labour, the cause of their bondage was the need on their part to secure advances of money. Being unable to offer any securities, "he agrees to serve the man from whom he has borrowed money." The money is not repaid, nor is it intended to be repaid; but the borrower remains a lifelong bond slave of his creditor. For his works, he merely receives an inadequate dole of food. These bonded slaves are even purchased, sold or mortgaged by the creditors for their personal use. Since debt was unable to be paid by the bondage labour, so his next generation was also bonded. Beside all this the bonded labour was not allowed to migrate to a long distance for employment if the master himself could not provide him the work.

These bonded labourers were known by different names in different parts of the country. He was called Izhava in Kerala, Bhagela in Hyderabad, Kamiya and Janour in Bihar and Gobri in UP region. They are mostly found in Madras, Bombay, Madhya Pradesh, Chhota Nagpur and Bihar.

2. Dwarf –Holding Labourers:

This class includes small landowners, tenants, sharecroppers, and part time farmers. They were different from other agricultural workers as they were not only depended towards farm work but also in other means of livelihood. It was the small income from their main occupation which compelled them to seek farm work.

These were mostly found in Bengal, Bihar, U.P and Punjab. The characteristic of these labourers was that they mostly suffered from disguised unemployment. They kept themselves employed on their tiny holdings but without adequate earning from cultivation. On the other hand they could not migrate to far places for any long period as their personal holdings required timely operations.

3. Under –Employed Landless Labourers:

Bounded laborers were attached to landowners while the other dwarf-holding labourers were tied to land. The most important cause in both cases was the lack of alternative means of employment.

However, when these type of labours broke their tie with landowners or land they were pushed into a type which may be called the under employed landless laborers. These laborers formed a large floating reserve of man power that migrated from place to place in search of some sort of work, industrial, agricultural or even unskilled casual work. Some workers followed one crop from one area to another over long distance for a comparatively lengthy period of employment; others followed any crop in the same area or different areas.

Generally these labourers travel in family groups or in gangs. It is found that landless labour of Bihar and U.P migrates to different district of Bengal during the jute harvesting season. In Madras, landless labourers migrated for groundnut picking, or go for harvesting paddy or for work on plantation 40-80 miles away. Since, wages are paid in cash or kind therefore there is a definite tendency to replace wages by cash.

This class is mostly found in Maharashtra, Gujarat, Tamil Nadu and central provinces.

4. Full Time Land-Less Labourers:

This class comprises plantation labour and employees of capitalist and well to do farm works. Since most of the plantation work is situated in very thinly populated areas, it is difficult to attract sufficient labours. This led to the cultivators to adopt a system of recruitment before which even the horrors of slave trade paled into insignificance. Secondly the capitalist farmers also employ agricultural laborers to secure profit rather than to live on rents from land. These laborers are employed on a long term basis in areas which supplies dairy products, fruits, vegetables, and such other products to cities and big towns.

• Present scenario of agriculture worker in India:

As we know that there is are two types of farm workers- cultivator and agriculture worker. Out of which the fraction of cultivator has gradually gone down from 72% in 1951 to 45.1% in 2015. On the other hand; the fraction of agriculture worker has gradually gone up from 28% in 1951 to 54.8% in 2015 (Registrar General of India Report).

The above statement hint towards a disturbing trend that more & more people of India are losing their land are either becoming farm labourers or moving to other sectors. Since, most of them are low skilled or unskilled, they have not many option but to become laborer either under private/ unorganized sector or under government schemes. In our country 54% of total worker & 42% of rural worker is still part of agriculture sector but they are not all farmers or cultivators.

Factor for increase of agriculture worker:

1. Increase in rural population:

Distribution of family land - among increasing family members and enforcing them to search means of livelihood.

2. Decline of cottage industries & handicraft :

Rural industries are on decline due to increased competition from modern industries. Opportunity for alternative employment for worker engaged in these village industries declined.

3. Eviction of small farmer & tenants from land:

The large scale rejection took place through the devices of fictitious surrenders to escape the clauses of laws relating to land reform has caused increase in agriculture labours.

4. Uneconomic land holdings:

The vast inequality in distribution of land holding has also resulted in the need to search for rural employment.

5. Increase in indebtedness:

A very large proportion of rural population is in the hand of non-institutional source of credit especially money lender that charge huge interest. In order to pay these debts the farmers had to sell their land.

Data sources

Government five year programs and policies:

When British left India, agriculture was in the worst condition of all sectors. Famine deaths i.e. deaths because of shortage of food supply were very critical and pervasive. The agriculture production was unable to fulfill the need of population. Hence food items were imported. Poverty increased due to high inflation and poor had to suffer intensely.

The government gave high importance to agriculture in the first five year plan and likewise in every five year plan, planning commission highlighted some targets related to agriculture :-

- i. The growth rate in agriculture sector.
- ii. The target of food production for various food and non food crops.
- iii. The plan outlay for the investment of money in agriculture sector.
- iv. The strategy to achieve these targets.

The first five year plan (1951-56)

Agriculture was given the prime focus for growth. Thus, the first plan agriculture sector received a high plan outlay. The targets of food production were achieved and the growth rate was high at 3.3%.

Second five year plan (1956-61)

The government was bit focused upon industrialization therefore the plan outlay for agriculture was low. Hence no target of food production was achieved.

Third five year plan (1961-66)

Since there was no increase in production result during second plan, the government brought out two new methods to increase the agricultural productivity:

(i) Intensive Area District Program: (IADP)

This program is also known as package program as it was based on packaged approach. The core strategy was to provide loan for seed and fertilizers to farmers. Intensive agriculture development program was started with the assistance of Ford Foundation. It was launched as a pilot basis in one district of 7 states at that time. The 7 districts were - Thanjavur (Tamil Nadu), West Godavari (Andhra Pradesh), Shahabad (Bihar), Raipur (Madhya Pradesh), Aligarh (Uttar Pradesh), Ludhiana (Punjab) and Pali (Rajasthan).

The Block Development Officers VLWs were made double in number and "Agriculture extension officers" were appointed. The package which consisted of economic, institutional and technical innovations was having loans to farmers as the key part of this program. This program was later extended to the whole country and its success was hailed by entire world and was popularly called as the green revolution.

(ii) Use of High Yielding Variety crops (HYV SEED)

Under IADP the use was HYV seeds spread drastically to the whole country and in the name of Green Revolution the world was known to it. Firstly it was introduced in the district of Punjab, Haryana and Western Uttar Pradesh.

Since in 1965-66 India faced two major drought therefore there was a acute shortage of food grains and India imported it but after the coming of green revolution, it increased the production of food grains and India became self sufficient in food and also had surplus to export food.

Not only food grains, there was increase in the production of commercial crops such as sugarcane, cotton, jute, tea, coffee, etc. These crops started to fetch higher profit margin. Thus, import of such crops reduced.

Green revolution also boosted the forward and backward linkages i.e. the supply of food materials from farms to industry and the usage of industrial product by farmers. It also increased the farm productivity, the farm incomes increased and hence the rural demand for non-agro products increased. This also resulted in the increase of the employment opportunities as demand for labor to carry out various agricultural activities also increased. Also increase in transport encouraged sale and repair of transport vehicles.

Green revolution on the whole was a good sign of act by the government on improving the agriculture sector as there was a plan break from 1966-69, due to two major drought and famine like situation.

Fourth five year plan (1969-74)

Though the government tried to implement some new strategies and new scientific technique of production but no target was achieved.

Fifth five year plan (1974-79)

There was a high inflationary situation from 1973-74. Even after the declaration emergency agriculture growth revived and the food target was achieved.

Sixth five year plan (1980-85)

It was the most successful plan among all above five year plan as agriculture growth rate was around 4%. While other plan strategy to raise production included use of modern techniques, this plan emphasized on providing inputs and services to farmers like cheaper fertilizers and credit.

Rest all Seven, Eight, Ninth plan did not reach its target till 2001.

Tenth five year plan (2002-2007)

The government appointed the National Commission on Agriculture in 2000, its main recommendations was:

1. It emphasized upon growth with efficient use of land and water resources.
2. Equitable and sustainable growth i.e. economical, environmental and technological.
3. Growth to be demand driven and bolster exports.

With the above recommendations the commission the government made the tenth plan:

- a. Efficient use of water through the use of drip irrigation and minor irrigation system.
- b. For efficiency in land usage, the organic farming practices were incentivized. India is a low fertilizer using country and organic food fetches higher price in international market. Thus, organic farming will promote both sustainability in land usage and high returns on crop production.
- c. For sustainable agriculture, it emphasized upon agro-climate based cropping pattern, diversification of crop production i.e. by making farmers produce food grains, vegetables and fruits rather than relying upon a single crop.

- d. The plan also incentivized the production of commercial crops like cotton, jute, sugarcane, fruits, vegetables, agro farming, tree-farming. Commercial crops bring higher returns to the farmer and are also high in demand.

Eleventh five year plan (2007-12)

Along the backdrop of fall down of agriculture performance during tenth plan, a higher annual growth rate of 4% to achieve the targeted GDP growth rate of 10% over this plan was envisaged. This plan emphasized on corporate investment to boost agricultural growth. It also envisages contract farming as a method of attracting corporate investment in Indian agriculture.

This plan called for second green revolution in India that involves the improvement in farm productivity on a sustainable basis- without injuring ecology.

The plan mapped out the following strategies:

1. Doubling the rate of growth of irrigated area.
2. Improving water management, water harvesting and watershed development.
3. Diversification of crops into high value outputs without disturbing the food security.
4. Providing easy access to credit at affordable rates,
5. Refocusing on land reform issues.

Twelfth five year plan (2012-17)

The agricultural growth target in this plan was set at 4% with food grains growth at about 2% and non food grains (horticulture, livestock and fisheries) sector growing about 5-6%.

NOTE: To meet the growth of growing population , Indian agriculture must grow at 4% every year, but in last past 60+ years the growth rate has reached around 4% only for two times. Also in the twelfth five year plan, there were two consecutive droughts in 2016 and 2017. This affected the productivity of agriculture adversely. The figure given below describes it well.

Period	1951-61	1961-71	1971-81	1981-91	1991-2001	2002-07	2007-12	2012-17
Growth Rate (%)	3.3	2.2	1.7	3.9	2.8	2.1	3.6	1.6

Government programs and schemes:

Government has shown awareness upon the problems of agricultural worker & suggested means to improve the condition of agricultural worker.

1. Legislative measures:
The central government has fixed minimum wages for worker on farm under minimum wages act 1948.
2. Abolition of bonded labors:
Since, 1975 the concept of bonded labor has abolished. Many rehabilitation programs have been initiated to improve the condition of bonded labors.
3. Providing lands to landless labors:
Land reforms in terms of land ceiling & redistribution of land to small & landless labor have been initiated. The government fallow & waste land is given to agricultural worker. The government gives priority to landless labor especially SC/ST in allotment of land & surplus land.
4. Welfare schemes:

Welfare measures to help the agriculture labors have been taken which includes provision of house-sites to homeless, primary education for rural poor, rural health services and supply of safe drinking water, educating and organizing rural works.

Some special employment schemes are:

- a. Crash scheme for rural employment (CSRE)
It was initiated during the early seventies, spanned from 1971-72 to 1973-74.
- b. Pilot intensive rural employment project (PIREP)
- c. Food for work program (FWP)
- d. National rural employment program (NREP)
- e. Rural landless employment program (RLEP)
- f. Drought prone area program (DPAP)

THE ABOVE PROGRAMS HELPED IN PROVIDING SUPPLEMENTARY EMPLOYMENT TO AGRICULTURAL WORKERS.

Policies on agricultural workers:

The central government has enacted the Unorganized Workers Social Security Act, 2008 to provide social security benefits to the workers including agricultural workers. This act stipulates formulation of suitable welfare scheme for agricultural workers on matter relating to:

- a. Old age protection
- b. Health & maternity benefits
- c. Any other benefits as may be determined by the central government through its National Social Security Board.

Various schemes, formulated by the government to provide social security cover to the unorganized workers; which include agricultural labors are listed in the schedule I of the above Act. Some of these are:

1. Indra Gandhi National Old Age Pension Scheme (MRD)
2. National Family Benefit Scheme (MRD)
3. Janani Suraksha Yojana (MHFW)
4. Handloom Weavers Comprehensive Welfare Scheme (Ministry of Textile)
5. Handcraft Artisans Comprehensive Welfare Scheme (Ministry of Textile)
6. Pension to Master Craft Person (Ministry of Textile)
7. National Scheme for Welfare of Fishermen & Training & Extension (Department of Animal Husbandry, Dairying & Fisheries)
8. Aam Adami Bima Yojana (MHFW)
9. Rashtriya Swasthya Bima Yojana (MHFW)

Further, some more schemes launched by central government provide social security coverage to agricultural workers:

1. Atal Pension Yojana
2. Pradhan Mantri Jeevan Jyoti Bima Yojana
3. Pradhan Mantri Suraksha Bima Yojana.

Major schemes related to agriculture are:

1. Soil Health Card Scheme:
It was launched in 2015 to assist the state government to issue soil health cards to all farmers in country.
2. National Mission for Sustainable Agriculture (NMSA):
NMSA is one of the 8th National Action Plan on Climate Change (NAPCC). It aims at promoting sustainable agriculture through climate change adaption measure.

Following programs fall under NMSA:

- Rain fed Area Development (RAD)
 - Soil Health Management (SHM)
 - Sub- Mission on Agro Forestry (SMAF)
 - Paramparagat Krishi Vikas Yojana (PKVY)
 - Soil & Land Use Survey of India (SLUSI)
 - National Rain fed Area Authority (NRAA)
 - Mission Organic Value Chain Development in North Eastern Region (MOVCDNER)
 - National Center for Organic Farming (NCOF)
 - Central Fertilizer Quality Control & Training Institute (CFQC&TI)
3. Neem Coated Urea (NCU):
Its aim is to initiate the use of urea as it enhances the availability of nitrogen to the crop & reduces cost of fertilizer applications.
4. Pradhan Mantri Krishi Sinchai Yojana:
It was launched on 1 July 2015 with a motto “hark het ko pani” i.e. every land will get adequate amount of water for irrigation.
5. Paramparagat Krishi Vikash Yojana:
It was launched to promote organic farming in country. It improves soil health and organic matter content in the soil and increases the net income of the farmers so as to realize premium price. Under this scheme 5 lakh acres is targeted to be covered through 10000 cluster of 50 acre each from 2015-16 to 2017-2018.
6. National Agriculture Market (e-NAM):
It provides e marketing platform at national level and support creation of infrastructure to enable e-marketing. It also brings transparency and competition to enable farmers to get improved remuneration for their produce moving towards “One nation one market”.
7. Micro Irrigation Funds (MIF):
MIF created with NABARD has been approved with an initial corpus of Rs 5000 crore (Rs 2000 crore for 2018-19 & Rs 3000 crore for 2019-20) for encouraging public & private investment in micro investments.
8. Agriculture Contingency Plan:
Central Research Institute for Dry land Agriculture (CRIDA), ICAR has prepared district level agriculture contingency plans in collaboration with state agriculture universities using a standard template to tackle aberrant monsoon situation leading to drought & flood & extreme events. Total 614 districts are under CRIDA.
9. Rain fed Area Development Program (RADP):
It is a sub scheme under Rashtriya Krishi Vikash Yojana. It aims to improve quality of life of farmer especially small and marginal farmers by offering a complete package of activities to maximize farm return. It also increases agricultural productivity to rain fed areas and minimizes the adverse impact of possible crop failure due to drought, flood or un even rain distribution and composite farming system. It enables restoration of confidence in rain fed agriculture by creating sustained employment opportunity through improved on farm technologies & cultivation practices. Also the program looks to enhancement of farmer’s income and livelihood support for reduction of poverty in rain fed area.
10. National Watershed Development Project for Rain fed Areas (NWDPR):
It was launched in 1990-91 based on twin concept of integrated watershed management and sustainable farming system.
11. Pradhan Mantri Fasal Bima Yojana (PMFBY):
PMFBY is an actuarial premium based scheme under which farmer has to pay maximum premium of 2% for kharif, 1.5% for Rabi food & oil seed crop & 5% for annual commercial/horticulture crops and remaining part of actuarial premium is shared equally by the centre and state government.

12. Livestock Insurance Scheme:

It provides protection mechanism to the farmers and cattle rearer against any eventual loss of animals due to death.

13. National Scheme on Welfare of Fisherman:

This scheme was launched to provide financial assistance to fishermen for construction of houses, community hall for recreation and common working place.

14. Gramin Bhandaran Yojana:

It aims to create scientific storage capacity with allied facilities in rural area to meet the requirement of farmers for storage of farm produce, processed farm produce and agriculture inputs. This prevents distress sale immediately after harvest by providing the facility of pledge financing and marketing credit by strengthening agriculture market infrastructure in the country.

Role of LPG in transforming agriculture and agricultural workers:

After LPG, the agriculture sector in India is developing rapidly as a result Indian government announced agriculture as the prime moving force of the Indian economy in 2002. LPG (Liberalization, Privatization and Globalization) has both positive and negative impact on agriculture and agriculture workers.

In one hand it increases the farm produce and its demand in international market but at the same time it led to the entrance of new technologies and advent resources which became the major fall back in the livelihood of agriculture worker. Since the demand spread high and productivity and technology (high cost machinery) was unreachable by the small and marginal workers, they turned out to be in debt and committed suicide.

Many shifted towards the service sector & industrial sector as they were unable to sustain agricultural loss and credit loss.

On the whole the LPG was more fruitful for big farm owners and some marginalized farmer and agriculture workers.

Analysis of study/ findings:

The Indian agriculture accounts for 13.9% of Indian gross domestic product (GDP) and employs just a little less than 54.6% of the country's workforce. The department of agriculture & cooperation under the Ministry of Agriculture is the nodal organization responsible for the development of agricultural sector in India. To improve the quality life of agriculture workers government needs to focus primarily on the agricultural schemes and program. There should be no mere attachment of agricultural programs with any other; rather it should be clearly focused upon agriculture and its root as a central focus.

Suggestion for the improvement of agriculture workers:

According to the study many suggestions can be made for the improvement of the socio-economic position of the agricultural workers.

1. Better implementation of legislative measures:

Laws made to counter the ill effect of policies and programs of government are not followed frequently. There happens to be legislative gap between the upper management and ground level management. This has to be improved and many small offices should be established to counter such matters.

2. Resettlement of agriculture workers:

The scheme of land redistribution to small and landless worker needs to be strengthened so as to raise their income level & social status.

3. Improvement the bargaining position:

The agriculture labor may be organized so that they can effectively bargain for better working condition and enable better enforcement of legislation.

4. Creating alternative employment:

Alternative employment may be created through various program to enhance the morale and skill of workers.

- Training and skill improvement program are required to be developed to allow alternative employment opportunity for rural workers.
 - Also the public work scheme should be for longer period in the year so as to provide useful employment throughout the year.
 - The development of medicinal plants and energy plantation which have high growth and employment potential areas for employment generation.
5. Better credit availability:
Financial assistance at cheaper rate of interest and on easy terms of payment for undertaking subsidiary occupation should be provided.
6. Cooperative farming:
Pooling of land by small and marginal farmers may be developed. This measure would provide better incentive to improve productivity of farm. Government should facilitate the smooth working of these cooperatives by providing cheap credit, marketing and input.
7. Increase in public investment:
Need to step up public investment in agriculture especially in creating affordable rural social infrastructure like cheap education, health facilities, drinking water etc.
This would help in improving the growth potential of rural poor. The subsidies are required to be better targeted towards rural poor. Also the public expenditure may be directed towards re-generation of degraded forests, watershed development, wasteland development and other labor intensive activities.

What more can be done by the government:

At present more than 30 lakh farmers lost their land each year because of debt, uncertain whether condition & fluctuating price of crops. In these circumstances, the issue of employment becomes necessary for the survival of not less than 30 crore people.

- Mahatma Gandhi National Rural Employment Guarantee (MANREGA) scheme is badly implemented and neglected. Instead of 100 day work people get work for not more than 37 days. Wages are less than the minimum wages declared by the state. Also due to late allocation of fund by center thousand of crores are due for work done.
- Increase of days under MANREGA from 100 days to 250 days or more as per the wage directed by state.
- Wage earner doing menial job or casual worker to be listed in the list of beneficiaries of the National Food Security Act 2013.
- A pension scheme to be given per month for old and destitute agriculture worker having Kisan Credit Card.
- Proper land ceiling and surplus to be given to the neediest. More than enough ceiling and surplus is vested in gram panchayat along with waste and forest land that has been inhabited for generations by adivasis without pattas- these lands to be divided among landless dalit, adivasis and agricultural laborer rather than being distributed to corporate and land mafia through the reversal of land reform and arbitrary acquisition of land by government agencies. (according to the memorandum of AIAWU)
- In case of land acquisition, agriculture labors loosing their job should be compensated adequately as land owners.
- Government to eradicate bonded & child labor, prevalent despite legislation & take steps to protect vulnerable section of rural worker like women, dalit, adivasis and minorities.
- Youth awareness programs to be launched to motivate the coming generation to continue the culture.
- Certain awards to be given to the agriculture workers in terms of financial aid for best production in a year- for this a net value of production can be fixed.

- Basic research laboratory to be opened in every block and panchayat and ask citizens open participation in it along with some trained agriculture scientist.
- As a part of public administration a committee to be made to check all policies and programs on grass root level to counter the problems and maintaining the legislation.
- Every district to have a separate department to coordinate directly to farmers and agricultural workers in terms of financial frauds – to be directly under the supervision of District magistrate.

Conclusion

Right from the beginning government's main target is to enhance the agricultural sector as to increase the GDP growth. But to be very specific we all know that "to run a machine we need source of energy" i.e. to enhance the agricultural sector we first need to work for our agricultural workers demand and need.

At present India is facing a tremendous downfall in rural sector development. Most of the workforces are moving towards the urban area in search of better livelihood. Government is striving with all its strength to enhance the agricultural workers living condition. Though India has signed SDG to fulfill sustainable agriculture growth; but the progress will always come only if agriculture and its pillar (agricultural workers) go hand in hand, in terms of development. Government on its counterpart is working for their betterment through various schemes and programs but the bitter truth is that still government itself is unaware of the no. of population who fall under the category of agriculture worker. The tradition & culture of India is fast moving towards LPG scale and India is growing rapidly along with its economy. Thus inflation rate is high and there is an increase in the price of commodity and one needs to earn enough to fulfill his needs.

At present the agriculture isn't enough for a family to survive. Only large scale farmers can sustain to survive on agriculture. Today for a large scale production we totally rely upon machine and technology and therefore we felt for the need of sustainable agriculture. A youth would never want to work on a field without a tractor using the method of bullock cart nor would he have a definite source to feed the bulls. Therefore, such youth automatically gets switched towards other job in urban areas such as rickshaw pulling, casual worker in industries of real estate etc. or by switching towards his private business after selling his land. With my personal experience while talking to a daily waged worker in a real estate, I happen to know that they feel more secure in terms of income while performing the job of a casual worker than working in farm land.

The government schemes are unable to reach out the roots of agriculture workers as some schemes are so patchy that it takes a lot of time and paper work to reach out to the workers. Also most of the workers section is uneducated and unaware of these schemes and thus most frequently they either get cheated up by the staffs of financial department or they exhaust in the process of obtaining the benefit of schemes.

Sustainable agriculture method is a good initiative of the government to practice natural agriculture process which would certainly lower the cost of agricultural investment by farmers and would be a climate friendly initiative. But it would not act as a relief or medicine to current agricultural workers. The modernization and mechanization of agriculture would be effective for the growth of agriculture but what if the agriculture workers are unaware to use such technology or method. Thus, we need to first educate, train the workers before moving into sustainable agriculture. For this NITI Aayog has to recognize the agriculture workers as the foundation pillars of agriculture and should take a serious step by establishing a separate committee to work upon their performance of schemes and programs on under state but direct under supervision of Ministry of Agriculture and aayog itself.

Integrating agriculture workers development plan as one of the SDG rather than agriculture as SDG would automatically result in the growth of sustainable agriculture and will achieve its goal before 2030.

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