

Agricultural Productivity and National Food Security Act in India

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Abstract

Agricultural productivity and food security are two sides of a coin. Agricultural productivity needs to be effectively increased to provide food security. Since the first Five Year Plan in India, special attention has been paid to all the facts in providing a dignified life to the poor. The development of agriculture was at centre. In India, according to the 2011 census, 31% of the total population lives in urban and 69% in rural areas. Out of them, 59.5 per cent get their livelihood directly from agriculture. Agriculture's contribution to GDP is about 17.5% percent. The per capita productivity of Indian agriculture is very low. The marginal productivity of some people associated with agriculture is almost equal to zero. Therefore, with the increase in agricultural productivity, one can supply quality food grains in the Public Distribution System along with an additional production. To achieve all the above targets and to achieve inclusive growth in agriculture, it is necessary to increase the investment percentage of GDP in agriculture. Even in this situation of corona virus where the reverse migration has been observed.

Key words: *Agricultural productivity, food security, poverty, food distribution system, BPL families*

1. Introduction

With the dawn of independence, the concept of a people's welfare in nation has been adopted in India. The primary aim of all the works of the Government has been the welfare of the people of the country. Government policies and programs have been organized keeping in mind the objective of removing poverty of the villagers. It has been felt that the temporary strategy of poverty alleviation should be based on increasing the opportunities of continuous gainful employment in the process of development. Eradication of evil tendencies such as poverty, ignorance, unemployment and inequality of opportunity and providing a high quality,

dignified life have been the basic principles. On which all the plans and development programs were prepared. Under rural development, both economic and social change has been taken care of by the people.

Priority of agriculture and allied sectors in these series of schemes has been seen to be the important role of agriculture in all the schemes that have been going on continuously from the first plan to the government of India, giving priority to this sector. The Government of India has taken a number of steps for its sustainable development. Steps such as improving soil fertility on a sustainable basis by the Soil Health Card Scheme, improving the increased capacity of water and utilization for irrigation through Pradhan Mantri Gram Sinchai Yojana, support to organic farming by The Krishi Vikas Yojana and support for creation of an integrated national agricultural market to increase farmers' incomes have been taken by the farmer's welfare Scheme. At the same time, the Pradhan Mantri Fasal Bima Yojana has also been launched and it has also been to ensure the development of all sectors related to agriculture through the trickle down principle and to provide balanced food to the growing population was also one of the development goals of the government.

2. The Objective of the Study-

1. To study agricultural productivity.
2. To study the relationship between agricultural productivity and food security.
3. To study the efforts made by the Government for food security.
4. Study of achievements and shortcomings of various programmes undertaken for food security.

3. AGRICULTURAL GROWTH RATE OF INDIA

Agricultural growth in India is not sustainable but is very volatile mainly due to dependence of agriculture on monsoon. Indian agriculture is called the gamble of monsoon. In other words, if the monsoon is good, agricultural production and productivity increases as well as agricultural growth rate increases and if the monsoon is not favourable to agriculture then agricultural production and agricultural productivity decrease as well as agricultural growth rate. It also decreases.

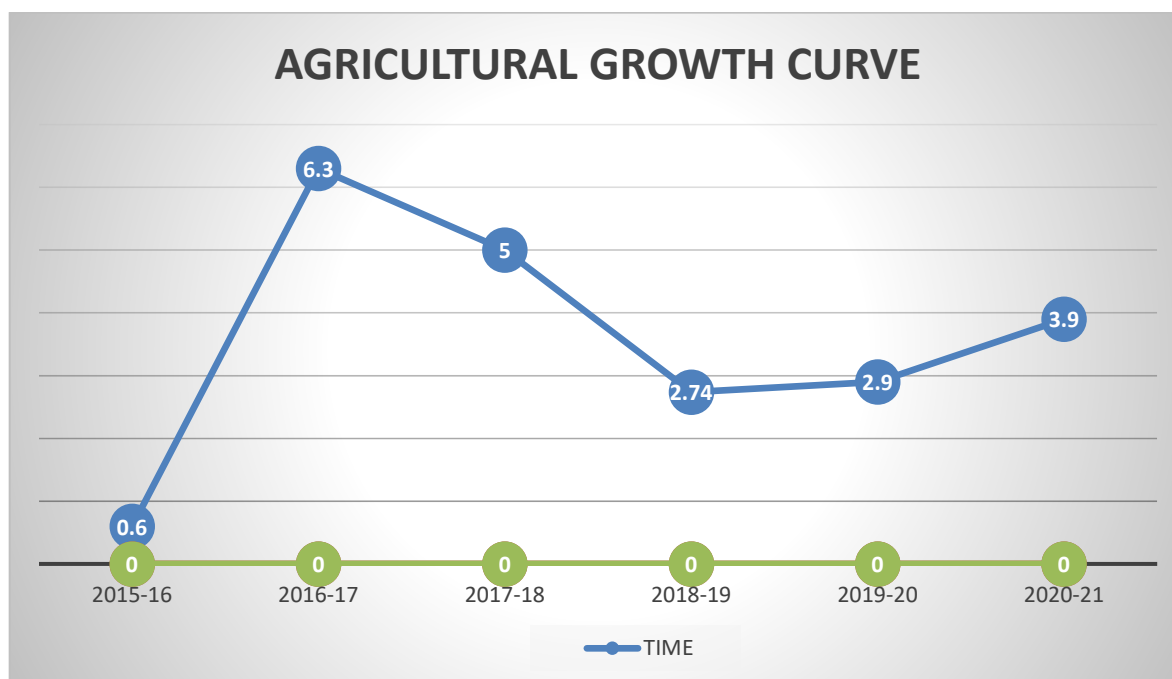
Table: 1- shows the rate of agricultural growth in India from 2015-16 to 2020-21

YEAR	AGRICULTURE GROWTH RATE OF INDIA
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2015-16	0.6
2016-17	6.3
2017-18	5.0
2018-19	2.74
2019-20	2.9
2020-21	3.4

Source: *Economic Survey of India 2020-21*

The above table shows the rate of agricultural growth in India from 2015-16 to 2020-21. It was 0.6%, which grew sharply to 6.3% in 2016-17, but this growth rate did not become stable and steadily declined to 2.74% in 2018-19. Again, in 2019-20, a growth rate of 2.9% was achieved and the interim estimate for 2020-21 has been made at 3.4% agricultural growth rate.



Source: *Economic Survey of India 2020-21*

The above figure shows the agricultural growth rate in India by graph in which it is clear that agriculture growth in 2015-16 has reached a peak level of 6.3 per cent in 2016-17 from the rate of agriculture which was 0.6 per cent, but the government of India was not able to maintain this rate of agricultural growth and this growth rate has come down to a low of 2.74% in 2018-19. The trend is visible but in order to implement the National Food Security Act in India, it is

necessary that if 6% is not possible in agriculture, then 4% growth rate can be achieved continuously.

Table: 2- Average productivity of major crops in India and the world

(In Kg Per Hectare)

Harvest	Average Productivity of India 2014-15	World Average 2011-12	The Country with the Highest Productivity
Paddy	2550	4397	6661 (China)
Wheat	3216	3094	7360 (U.K)
Maize	2664	5097	8858 (U.S.A)
Pulse	739	000	–
Gram	973	917	1663 (Ethiopia)
Weaver's brush	885	786	1320 (Myanmar)
Peanut	1424	1626	4069 (U.S.A)
Rapeseed	1324	1855	3588 (U.K)
Cotton	519	769	1920 (Australia)
Sugar-cane	70	70470	125587 (Peru)

Source:1- Ministry of Agriculture, Government of India

2- Indian Economy: Survey & Analysis S N Lal, 2016 Page no- 460

The above table shows the average productivity position of some of the major crops in India and the world, from which it is clear that India wheat, rice, maize, pulses, gram, tuvar, groundnut etc. The world's agricultural productivity in terms of average productivity of all crops like gram tuvar groundnut etc. where India's agricultural productivity for paddy is 2550 kg per hectare while the world average productivity is 4397 kg per hectare, which is about 2 times the average productivity of India per hectare. The country with the highest per hectare paddy productivity is China, whose productivity is about 3 times the productivity of rice in India. Similarly, in the case of other crops also, India lags far behind the world average

productivity. In terms of productivity of wheat per hectare, India's productivity is 3216 kg per hectare which is the world average. A little more than but the country with the highest productivity in the world is the United Kingdom, whose average per hectare productivity is about two-and-a-half times India's competitive productivity.

4. Analysis of Data

Indian agriculture is considered to be the backbone of the Indian economy because agriculture, by supplying food grains and raw materials to the Indian economy, providing raw material to the industrial sector, earning foreign exchange through exports by producing surplus in agricultural produce, and increasing employment opportunities to people belong to agricultural produce. At the same time, it provides assistance in economic growth by making a significant contribution to the growth of gross national product. As per the report of CSO 2014, Indian agriculture contributed 17.9% to GDP in 2013 and as per 2011 census, the contribution of agriculture sector to the total employment has been 54.6% and as well as the share of agriculture in employment as per NSO 2011-12 has been found to be 48.9%. In 2019-20, the exports of agriculture and allied sectors were about Rs.252 crores, in the event of an epidemic like COVID-19, where the growth rate of all sectors was negative, while the growth rate of agriculture continued to be a means of livelihood of the people with a growth rate of 3.4%.

The contribution of agriculture to gross capital formation was 17% in 2013-14, which has come down to 15.8% in 2014-15. Investment in agriculture still depends on public investment. So, we can say that agriculture is still on the margins of development. In the last few years, the growth of agriculture has been either negative, it has been accompanied by very normal growth. In conditions like agriculture, COVID pandemic, people have been provided livelihood support as well as employment opportunities to them and all the schemes of the government which are covered under the Food Security Act or those which have been provided at a minimum price or free of cost to provide high quality food grains to the people, all of them have been successful only by increasing agricultural productivity. Depending on the fact that there is a new change in perception that the whole economic and social thought to increase agricultural production taken the main domain.

5. SCHEMES UNDER N.F.S.A. UMBRELLA

5.1- Targeted Public Distribution System

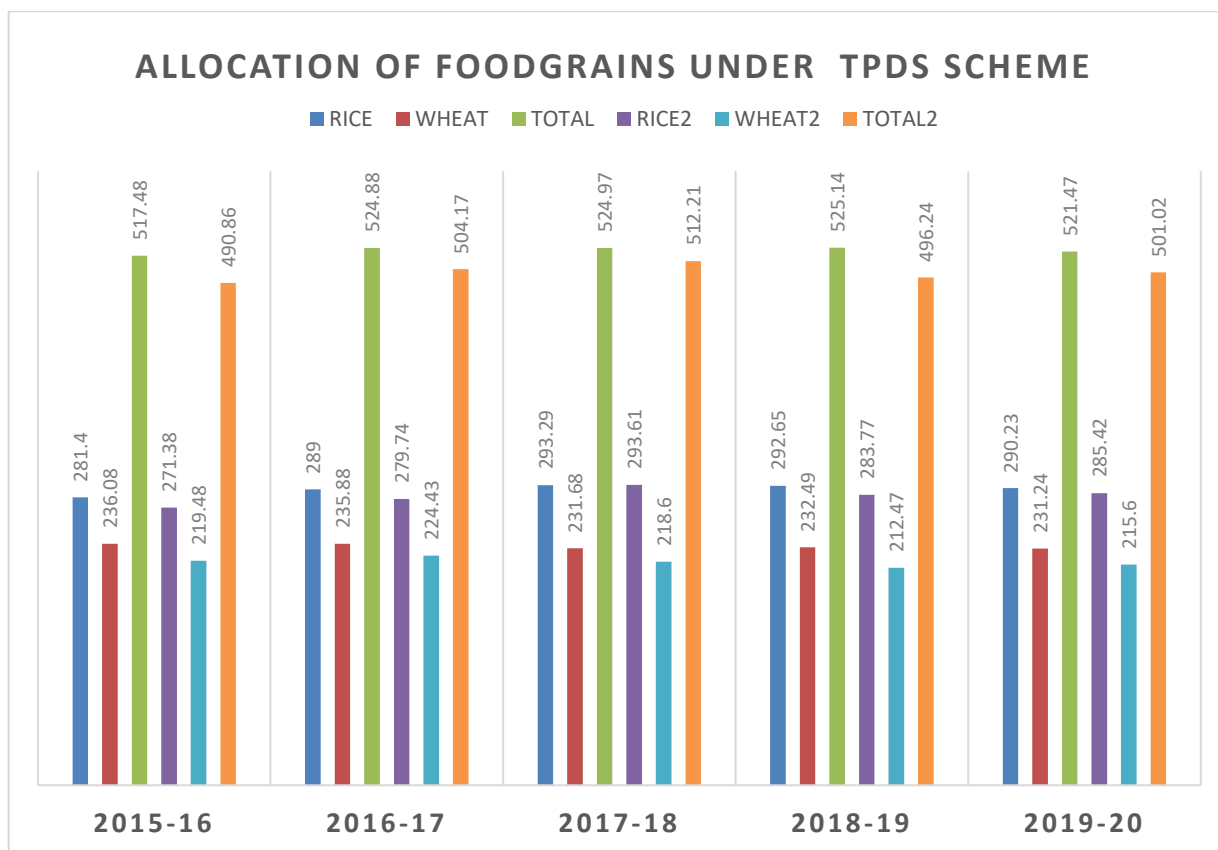
The Targeted Public Distribution System (TPDS), launched in June 1999, is applicable to all the states and Union Territories except Delhi and Lakshadweep. It is a scheme by which foodgrains are made available to the poor at cheaper prices so as to save them from the burden of rising market prices of foodgrains. Through this scheme, special subsidy is given to every household living below the poverty line. Foodgrains are provided at the rate. Under this, 35 kg of foodgrains per month per family including rice is provided at the rate of Rs 3 per kg and wheat at the rate of Rs 2 per kg.

Targeted Public Distribution System (TPDS) is a two tier system. Under this, the beneficiaries are divided into two categories: Antyoday Anna Yojana (AAY) families and eligible households living below the poverty line. Under The Antyoday Anna Yojana (AAY), 35 kg of foodgrains per family per month is provided to destitute, differently abled and abandoned elderly persons with effect from 1st April, 2002. 35 kg of foodgrains were also provided to the families from April 1, 2000 to eligible household families living below the poverty line which has now been made 5 KG per unit after the passage of the National Food Security Act 2013 i.e. if there are 5 members in a family, a maximum of 25 kg of grain wheat is provided to it at the rate of Rs. 2 per kg and rice at the rate of Rs. 3 per kg.

Table: 3- Allocation of Foodgrains under TPDS Scheme (In lakh MT)

YEAR	ALLOCATION			OFFTAKE		
	RICE	WHEAT	TOTAL	RICE2	WHEAT2	TOTAL2
2015-16	281.40	236.08	517.48	271.38	219.48	490.86
2016-17	289.00	235.88	524.88	279.74	224.43	504.17
2017-18	293.29	231.68	524.97	293.61	218.60	512.21
2018-19	292.65	232.49	525.14	283.77	212.47	496.24
2019-20	290.23	231.24	521.47	285.42	215.60	501.02

Source: Annual Report (2019-20 & 2020-21) Department of Food and Public Distribution, Government of India.



The above table shows the actual food grain allocation and the status of food grains offtake from 2015-16 to 2019-20 for Targeted Public Distribution System. From the table, it is clear from the view that in 2015-16 the allocation of rice was 281.40 MT and the allocation of wheat was 236.08 MT. Thus the total food grain allocation was 517.48 MT. against which the lifting of rice was only 271.38 MT and the lifting of wheat was 219.48 MT i.e. Thus the total food grain distribution was 490.86 MT. Similarly, in the year 2019-20, allocation of rice was 290.23 MT and wheat was allocated 231.24 MT i.e. the total allocation of food grains was made 521.47 MT whereas the distribution of rice was 285.42 MT and that of wheat was 215.60 MT. Thus the total food grain distribution was 501.02 MT which was much less than the actual allocation.

5.2. Annapurna Scheme

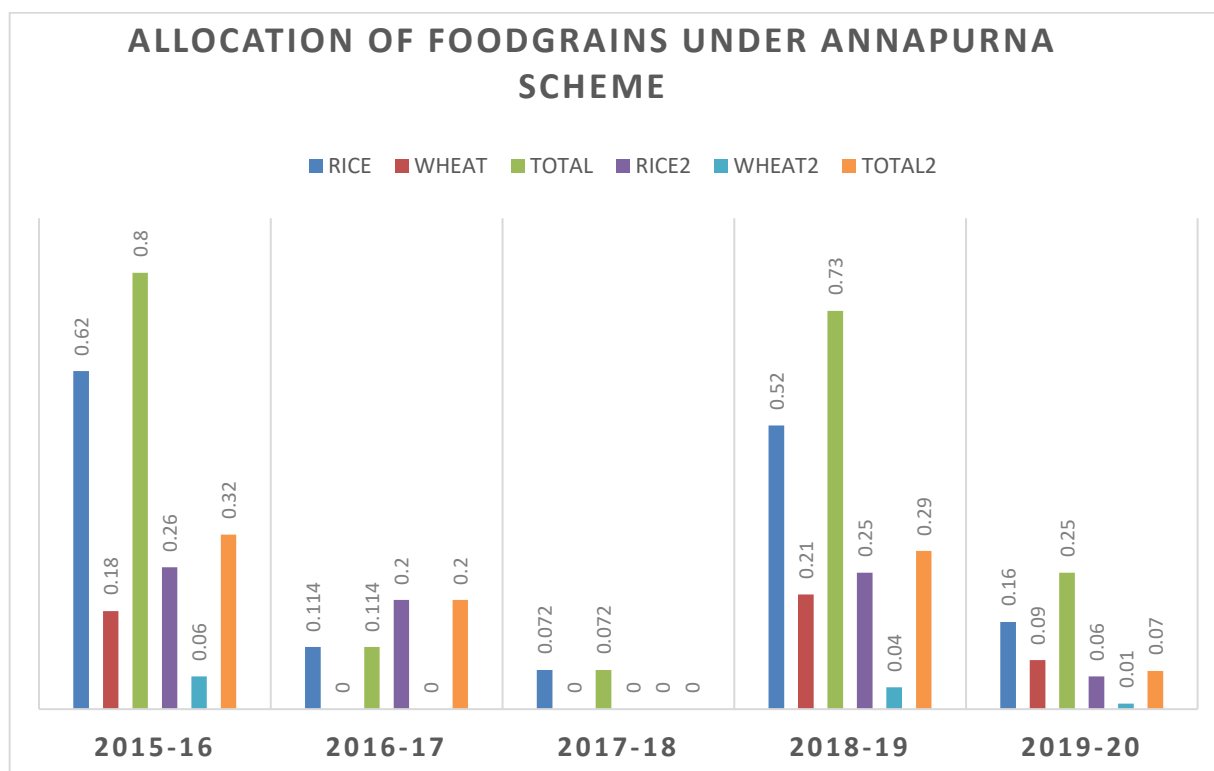
The Ministry of Rural Development launched the Annapurna Scheme in 2000-01. Food allocates food grains as per the requirement estimated by the Department of Public Distribution. Under this scheme, 10 kg of food grains, wheat or rice per beneficiary is given free of cost. The objective of the scheme provides for food security to meet the requirement of

the total eligible elderly persons in the year who were left out under the scheme. The Central Issue Price (MRP) to be charged for this scheme is above BP within the last five years.

Table: 4- Allocation of Food grains under Annapurna Scheme (In lakh MT)

YEAR	ALLOCATION			OFFTAKE		
	RICE	WHEAT	TOTAL	RICE	WHEAT	TOTAL
2015-16	0.62	0.18	0.80	0.26	0.06	0.32
2016-17	0.114	0.0	0.114	0.20	0.0	0.20
2017-18	0.072	0.0	0.072	0.0	0.0	0.0
2018-19	0.52	0.21	0.73	0.25	0.04	0.29
2019-20	0.16	0.09	0.25	0.06	0.01	0.07

Source: Annual Report (2019-20 & 2020-21) Department of Food and Public Distribution, Government of India



The above table shows the status of allocation and distribution of food grains under Annapurna Scheme from 2015-16 to 2019-20. It is clear from the table that in 2015-16, the open allocation of rice was 0.62 MT and the total allocation of wheat was 0.18 MT. Thus the total allocation of food grains was equal to 0.8 MT. While in 2019-20, the total allocation of rice under this category was 0.16 MT and that of wheat was 0.09 MT i.e. a total of 0.25 MT of food grains was allocated against which the food grain distribution has been around 0.07 MT which is very low.

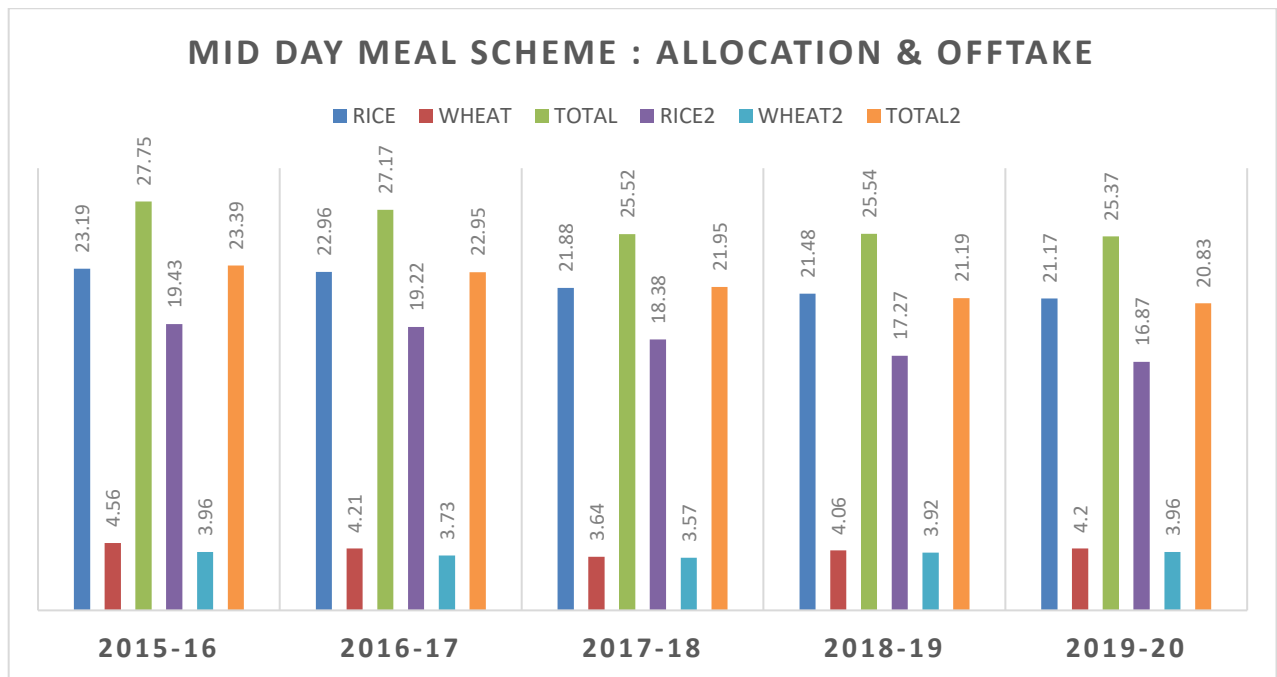
5.3. Mid-Day Meal Scheme

On 15th August, 1995, the Ministry of Human Resource Development was launched with the objective of improving the level of balanced food and nutrition among students in 2408 blocks to increase the attendance of students in primary schools. By 1997-98, the scheme was implemented in all the blocks of the country. The scheme currently involves allocation of food grains through public distribution to students from class one to class eight of government and government aided schools. From 1st April, 2016, allocation of foodgrains under the Mid-Day-Meal Scheme is done by the Department of School Education and Literacy through National Food Security Act. The annual allocation of foodgrains under the Mid-Day-Meal Scheme during the last five years.

Table: 5- Allocation of Food grains under Mid-Day Meal Scheme (In lakh MT).

YEAR	ALLOCATION			OFFTAKE		
	RICE	WHEAT	TOTAL	RICE2	WHEAT2	TOTAL2
2015-16	23.19	4.56	27.75	19.43	3.96	23.39
2016-17	22.96	4.21	27.17	19.22	3.73	22.95
2017-18	21.88	3.64	25.52	18.38	3.57	21.95
2018-19	21.48	4.06	25.54	17.27	3.92	21.19
2019-20	21.17	4.20	25.37	16.87	3.96	20.83

Source: Annual Report (2019-20 & 2020-21) Department of Food and Public Distribution, Government of India.



The above table shows the status of allocation and distribution of food grains under the Mid-Day Meal Scheme from 2015-16 to 2019-20. In 2015-16, the allocation of rice to food grains was 23.19 MT (MT) and the allocation of wheat was 4.56 MT. Thus a total of 27.75 MT of food grains were allocated while the total offtake of rice i.e. distribution of rice was 19.43 MT and distribution of wheat was 3.96 MT. As per the final estimates of 2019-20, allocation of rice is 21.17 MT and allocation of wheat is 4.2 MT. Thus a total of 25.37 MT of food grains has been allocated whereas as per final estimate, the offtake of rice is 16.87 MT and the lifting of wheat is 3.96 MT i.e. total 20.83 MT of food grains have been distributed.

5.4. Wheat Based Nutrition Programme (WBNP)

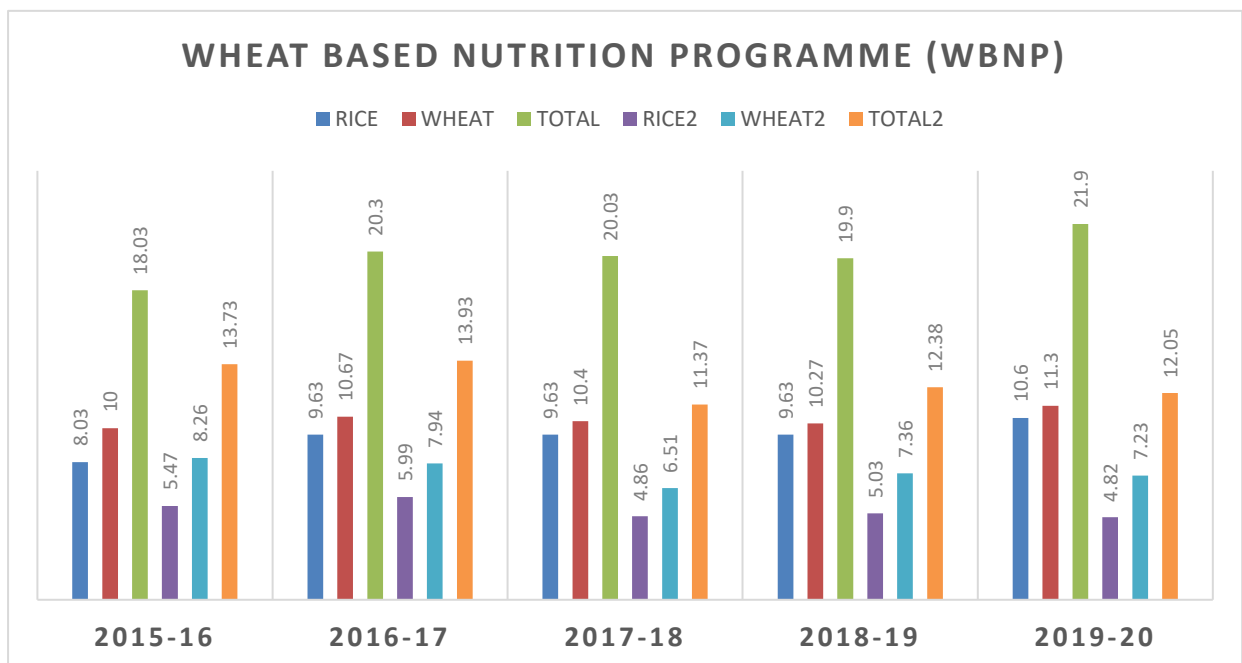
The scheme is implemented by the Ministry of Women and Child Development. The allocation of foodgrains for this scheme is made by the Department of Food and Public Distribution. From April 1, 2016, allocation of foodgrains under WBNP of the Ministry of Women and Child Development is done through The National Food Security Rules. The foodgrains allocated under the scheme are utilized by the States and UTs through integrated child development mode.

Table: 6- Allocation of Foodgrains under Wheat Based Nutrition Programme (In lakh MT)

	ALLOCATION	OFFTAKE

YEAR	RICE	WHEAT	TOTAL	RICE	WHEAT	TOTAL
2015-16	8.03	10.00	18.03	5.47	8.26	13.73
2016-17	9.63	10.67	20.30	5.99	7.94	13.93
2017-18	9.63	10.40	20.03	4.86	6.51	11.37
2018-19	9.63	10.27	19.90	5.03	7.36	12.38
2019-20	10.60	11.30	21.90	4.82	7.23	12.05

Source: Annual Report (2019-20 & 2020-21) Department of Food and Public Distribution, Government of India.



The above table shows the actual food grain allocation and the status of food grains offtake from 2015-16 to 2019-20 for wheat based nutrition programme. From the table, it is clear from the view that in 2015-16 the allocation of rice was 8.03 MT and the allocation of wheat was 10 MT. Thus the total food grain allocation was 18.03 MT. against which the lifting of rice was only 5.47 MT and the lifting of wheat was 8.26 MT i.e. A total of 13.73 MT of food grains were allocated i.e. distribution. Similarly, in the year 2019-20, allocation of rice was 10.6 MT and wheat was allocated 11.3 MT i.e. the total allocation of food grains was made 21.9 MT whereas the distribution of rice was 4.82 MT and that of wheat was 7.23

MT. Thus the total food grain distribution was 12.05 MT which was much less than the actual allocation.

5.5. Welfare Institutions & Hostels Scheme

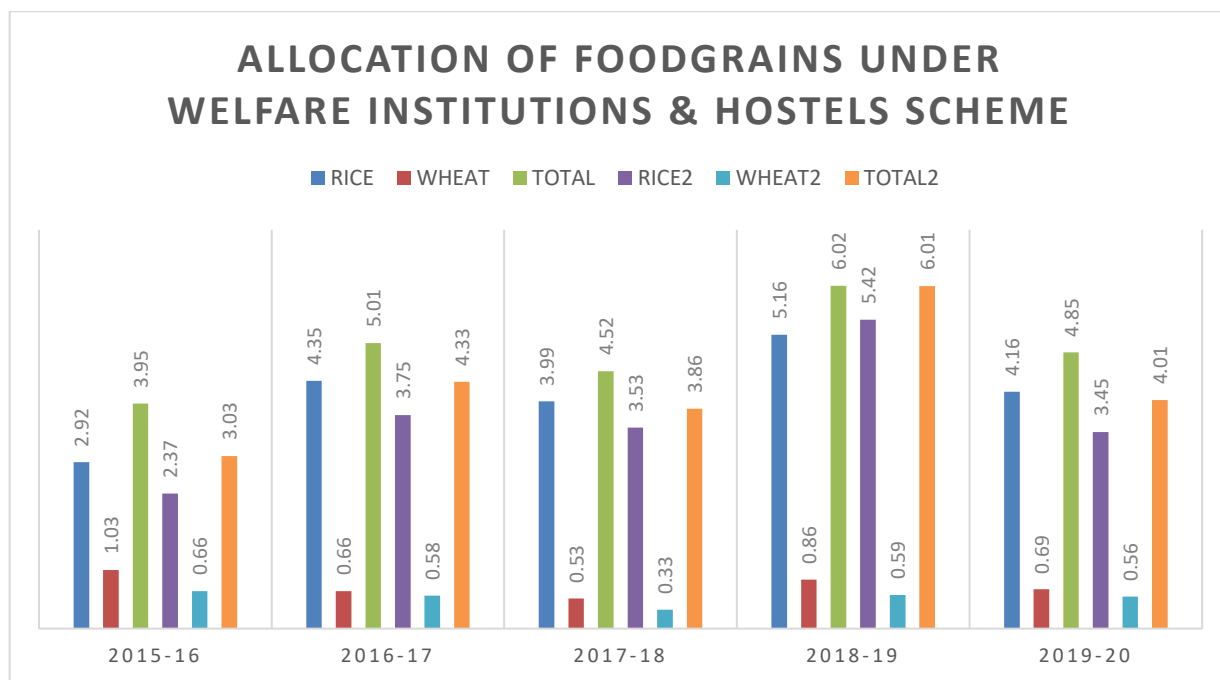
The scheme was launched on September 1, 2017 by linking two welfare schemes scheduled caste, scheduled tribe and other backward class hostel scheme which are linked to the same scheme. For this scheme, wheat and rice as per the requirement of the residents which was subject to a maximum of 15kg per resident per month during the last four years during the last four years, the allocation of food grains under the above two schemes, Welfare Institute and Scheduled Castes, Scheduled Tribes, Other Backward Classes and Hostels are as under

Table: 7- Allocation of Food grains under Welfare Institutions & Hostels Scheme.

(In Lakh MT)

YEAR	ALLOCATION			OFFTAKE		
	RICE	WHEAT	TOTAL	RICE	WHEAT	TOTAL
2015-16	2.92	1.03	3.95	2.37	0.66	3.03
2016-17	4.35	0.66	5.01	3.75	0.58	4.33
2017-18	3.99	0.53	4.52	3.53	0.33	3.86
2018-19	5.16	0.86	6.02	5.42	0.59	6.01
2019-20	4.16	0.69	4.85	3.45	0.56	4.01

Source: Annual Report (2019-20 & 2020-21) Department of Food and Public Distribution, Government of India.



The status of allocation of foodgrains in welfare institutions and hostels has been displayed through the above table from 2015-16 to 2019-20. Under which the allocation of foodgrains was made in the year 2015-16 which was 2.92 MT of rice and 1.03 MT wheat i.e. a total of 3.95 MT of foodgrains, against which the total distribution of rice was 2.37 MT and the distribution of wheat was 0.66 MT i.e. 3.03 MT of foodgrains in 2015-16. The allocation was 4.16 MT and the total allocation of wheat was 0.69 MT i.e. the total food grains allocation was equal to 4.85 MT, while the total rice distribution was 3.45 MT and the distribution of wheat was 0.56 MT i.e. the total food grains distribution was 4.01 MT.

5.6. One Nation One Ration Card

From September 1, 2020 the facility of national portability under One Nation One Ration Card has been operational seamlessly in 26 States and Union Territories. These States are Andhra Pradesh Bihar Dadra & Nagar Haveli and Daman and Diu Goa Haryana Himachal Pradesh Jharkhand Kerala Karnataka Madhya Pradesh Mizoram Maharashtra Orissa Sikkim Rajasthan Punjab Telangana, Tripura Uttar Pradesh Jammu and Kashmir Uttarakhand Nagaland and Lakshadweep under which about 65 crore beneficiaries (NF total 80% in the country) are covered by these States and Union Territories having the option of taking any fair price shop of their choice. In other States and Union Territories also, there has been continuous effort to increase the reach of one which depends on the preparedness of all the Union Territories.

6. Agriculture: Challenge to production and productivity:–

From sowing of agricultural crops to extracting their produce from the field to the market, there are many problems being faced: overuse of the fertility of the soil, decline in water level, desert soil in the north-western part, low fertilizer use in eastern and central India, stagnation in productivity, gas delay in planting wheat crop after harvesting cotton crop, Low productivity due to nitrogen companies, change in weather conditions, particularly changes, poor performance of pulses crops in submerged areas and high volatility in terms of yields, excessive wastage of crops by pests and diseases and lack of irrigation facilities are still big challenges for agricultural producer production and productivity. It is not.

7. Challenges before the Food Security Act

In India, there are mainly many types of defects in the Public Distribution System. Distribution of food grains of poor quality of ration shops has often been seen in which the officers and staff of the Department of Food Supply, from the lower level, to the district level food supply department are also mixed not being supplied. Thus good quality grain reaches the market again and poor quality grain reaches the quota holders for distribution. This is a very big game which still failed to reach out to the poor in India because still a large number of fake card makers illegally grab the ration of the poor. There are also problems like the problem of non-distribution of food grains on time and irregularities in the distribution, in addition to this; the data of poverty determination is also present.

8. Conclusion

The various factors affecting agricultural growth are improved seeds, availability of capital formation and investment in agriculture, organic farming, and nutrition based fertilizer subsidy, etc. Through all these efforts, the development of agriculture and its productivity can be increased. Without increasing the productivity of agriculture, we cannot successfully implement a scheme like the National Food Food Security Act. The Food Security Act, under which food security is given as a legal right and not merely a means of welfare and ensures availability of nutritious and balanced protein rich grains and provides foodgrains to the poor and lower strata of the people. In order to achieve all these development goals, we need to effectively increase the productivity of agriculture. Otherwise, the Law of Malthus which says that population increases by geometry method and food grains by mathematical method which

proves that if agricultural productivity is not increased, then food availability of the entire population due to a large population will be severe to meet the need.

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