

# Food Security and Demographic Dividend -Role of Rural Co-operatives

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## ABSTRACT

Food security is believed to be the adequate supply of food to the needy people in general. Lack of it leads to poverty, malnutrition, poor health and low level of economic living. This thought is premised on the vagaries of indifference of the government and society that fails to act upon leading to social unrest.

This study looks food security from the angle of demographic dividend. There is inequality in levels of learning for rural wards as compared to the urban wards. One of the primary causes, this study strongly believes is the denial of healthy and nutritious food due to meager incomes of the villagers. It impairs their cognitive skills and scholastic activities. It converts pupils into dull and insipid ones. General health gets affected resulting to low memory retention, relapses, absenteeism and finally dropouts. It ends up at low quality, poor outcomes and incompetent students. Thus, food security may provide good educational environment for students, teachers and parents. All interact in a healthy and conducive atmosphere ensuring better learning outcomes. It provides an academic platform free from health ailments. This results into concentration in studies by teachers as well as students. Society has to provide this environment for a civilized, tolerant and competitive community in a world of hostility and cut throat competition.

Food security among backward communities in rural areas is a salient issue for addressing inclusive and sustainable growth. It reaps demographic dividend. Midday meals are typical government programme tangled with school bureaucracy. Schools are loaded with teaching, co-curricular activities and government works like census, elections etc.

Village co-operatives should take an initiative for empowering their wards through food security. To make it efficient, there is a need to dismantle the existing organization structure, increasing accountability and conduct periodic feedback of their performance in their contribution to food security to the student community. Panchayat Raj Institution, public Distribution System, School and Village cooperatives should be integrated for enriching educational outcomes.

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## 1. Introduction

India is predominantly a rural country. In India large number of people (67%) is living in villages. However, it is urbanizing at a rapid rate. The levels of living in rural areas are low as compared to their urban counterparts. In fact, the poverty ration stands at 25.7% and 13.7% for rural and urban regions of India respectively in year 2011-12. This reveals higher prevalence of poverty, roughly two times in rural India. Therefore one can safely assume the relevance of food security in village areas as one of the reasons for its backwardness apart from education, health, etc.

This paper is divided into five sections. Section one basically highlights the problem of food security in India in general. Importance of food security for the school children is presented in section two. The third section deals with the role of rural cooperatives and its organization structure for the effective functioning of food security at the village level. Flowchart and circular flow of food security is the concern of the fourth section followed by the concluding observations in the final section.

## 2. Food Security

Food security is generally believed as the adequate supply of food to the people particularly to the poor and vulnerable sections of the society. Lack of it leads to poverty, malnutrition, poor health and low levels of living. This is premised on the vagaries of indifference of the government and society at large. Failure to act upon leads to social unrest. Thus, food is an essential thing for living and should become basic human right for a decent living. Food security does not restrict only to the availability but equally important is its accessibility and affordability. Thus, there are three A's for achieving food security. 'A' is the first alphabet and similarly food is the first requirement for living things,

Availability is related with food production. India has self-sufficiency in food production, thanks to the green revolution popularized by M.S.Swaminathan in India during the late 60's. In international trade, India is a net exporter as it has surplus balance in the merchandised trade (primary products). However, of late due to agricultural diversification the production pattern is slightly tilting towards horticulture production for the last three to four years. It may affect the availability of food adversely.

Accessibility comprises that food should be within the reach of individual. In other words, availability relates to production and accessibility concerns with distribution. In this aspect Public Distribution System (PDS) play an important role.

Last but not the least; affordability revolves around sufficiency of monetary resources for procuring food in physical quantities. This depends on income levels of the people. Lack of it results to poverty. Another important aspect that consumption of food should not fall below the food security even in case of monsoon failures as it is the minimum requirement for survival of life. Buffer stocks maintained by Food Corporation of India (FCI) controls the prices of food grains. In simple terms, affordability relates to income of the households and consumption of food which are necessary and sufficient conditions of affordability of food.

Food and Agricultural Organization (FAO) in 2009 defines 'food security exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life.' It is based on 1995 World Food Summit (WFS) declaration. This declaration recognizes that poverty eradication is essential or necessary to improve access to food.

The above aspect of food security is not restricted to the minimum level of food grains security. In India the food basket is undergoing a structural change. People are consuming non food grain items such as edible oil, sugar, milk, meat, eggs, vegetables, fruits, pulses etc., with rise in income levels. This supports Engel's law of consumption. Thus, food security in a broad sense includes physical and economic access of food grains and non-food items. These non-food items relate with nutritious food. However, National Food Security Act (NFSA) 2013 envisages that 75% of rural population and 50% of urban population are eligible for food security. A quantity of 5kg per person per month food has to be provided by PDS. The issue price per kg is Rs. 3, Rs. 2 and Re.1 for rice, wheat, and coarse grains respectively. Further the Act says that food and nutritional security to be provided at affordable prices and enable people to live a life with dignity. However, it restricts in physical terms that too for food grains leaving non-food items altogether though recommended.

### 3. Food Security for School Children (Demographic Dividend)

This section discusses food security from the angle of demographic dividend. Demographic dividend relates to the proportion of young population below 15 years. They are children and assumed to acquire formal education in schools. Precisely these children belong to the age group of 6 to 14 and 14 to 16 years for elementary (1st to 8th class) and secondary (8th to 10th class) level of schooling respectively. There are hardly any studies found focusing on food security and demographic dividend particularly for school going children of elementary and secondary levels of schooling. Largely, it is an unexplored area even at macro level.

Midday meals are a typical government programme tangled with school bureaucracy. Generally, schools are loaded with

teaching, co-curricular activities and government works of elections, census etc. Therefore, schools have apathy towards the programme of midday meals. However, the intention of this programme is to prepare food at the school premises. Food is probably cooked by supporting staff (peons) of the school and served to the students. Though they are end users, they have no choice of fixing food menu of their liking. Attention towards the right calories of nutrients to be provided to the children is also perhaps not given due consideration. Food grains are supplied by the government and school has no freedom in this aspect. It is an imposed work. However, the quantity of food grains can be procured from the farmers directly at the village level by the Parents Association (PA) or school and government can arrange money. More often government supplied food is inferior in quality. The Integrated Child Development Scheme (ICDS), which among other things focuses on increasing the nutritional and health status of children has been in operation for over three decades. However according to the 11th Five Year Program document, it had only a limited impact to address the problem of child and maternal malnutrition mainly due to limited coverage. Recent data on National Family Health Survey (NFHS-4) shows there is an inverse relation between sanitation and malnutrition in two large states of India (U.P. & Bihar) (Mint, February 3, 2016). There is a need to provide fortified food for combating malnutrition, vitamin and deficiency.

### 4. Poverty and Food Security

It becomes imperative to examine the poverty estimates in relation to food security. Poverty levels in rural areas are high as compared to urban areas.

(Table-1)  
Estimates of Poverty in India

Year	Poverty Ratio (%)			Number of poor (in Millions)		
	R	U	T	R	U	T
1993-94	50.1	31.8	44.3	320.6	74.5	403.7
2004-05	41.8	25.7	37.2	326.3	80.8	407.1
2011-12	25.7	13.7	21.9	216.5	52.8	269.3

R= Rural U= Urban T=Total (R+U)

Source: Economic Survey, 2013-14, Ministry of Finance, Government of India

As per Table-1, the prevalence of poverty has reduced by two times in rural areas while in urban areas it has reduced by more than two and half times between 1993-94 to 2011-12. Further, for every urban poor there are four rural poor villagers. In other words, the ratio is 1:4. However, the fall is faster between 2004-05 to 2011-12 periods as compared to 1993-94 to 2004-05 periods. This inequality in levels of living may impair learning skills of rural wards. However, wellbeing index of 16 major states showed lower values for rural regions as compared to urban places confirming low levels of living in rural areas (Sarita and Ramesh 2015). There is a strong belief that denial or lack of nutritious food is the primary cause of low incomes of villagers. This results to food insecurity among future citizens of India. Higher poverty is an indicator or proxy for food insecurity.

Poverty basically has two dimensions. It is lack of minimum food consisting of absolute quantity of food grains. Another dimension relates to nutritious food like vegetables, milk, eggs, fruits etc. These items hardly appear in the culinary of food of

rural poor. They are costlier and mostly not available throughout the year. They use coarse cereals such as jowar, bajra etc., with onions. However, coarse cereals are more nourished than the staple food of rice and wheat for majority of poor rural Indian households.

Food insecurity is associated with poor health an nutrition outcomes, poor psychological and cognitive functioning, sub-standard academic achievement, and an increased risk of chronic diseases with higher occurrence of malnutrition (Hamelin et al 1999, Seligman et al 2007 and Huddleston Casas et al 2009). All these studies are related to tertiary level of education. Further, they are conducted in developed countries. This shows that the problem of food insecurity exists at the higher education and even among developed nations. The current study looks into food insecurity problem especially at the school level of education and that too in rural areas of India. This problem is found to be higher in villages as compared to cities. However, food insecurity definitely impairs cognitive skills and scholastic activities. It converts demographic dividend into dull and insipid ones.

**5. School Enrolment and Food Security**

**Table – 2**  
Progress of elementary Education in India during 2000-01 to 2013-14 period

Year	No. of Schools (000's)	Enrolments (in millions)	Gross Enrolment Ratio
2000-01	845.0	156.6	81.6
2004-05	1042.3	182.0	93.5
2009-10	1303.8	195.0	102.5
2013-14	1448.7	198.9	97.0

Source: Statistics of School Education, MHRD and DISE, NUEPA

The above Table-2 shows phenomenal growth of education at elementary stage during the last 14 years in India. Six lakh elementary schools added while forty two million pupils admitted additionally at this level of formal education system. This reveals the effort of the government in universalizing elementary education. It is really a gigantic task. Further enrolment rates support the above efforts though it may be gross. This should be followed in retaining them and improving the levels of learning ensuring for better outcomes to reap the benefits of demographic dividend.

**Table 3**  
Percentage of Enrolment by Caste: Classes I-VII/VIII

Year	Caste			
	SC	ST	OBC	Muslims
2006-07	19.87	10.69	41.93	8.89
2007-08	19.83	10.95	42.22	9.95
2008-09	19.72	11.04	42.26	10.49

Source: Elementary Education in India: Progress towards UGE, NEUPA, Delhi

As per Table-3, enrolment rates at elementary levels are least for Muslims and highest for OBC's. It indicates low educational status among Muslims as compared to other communities. However, enrolment of ST's is roughly similar with the Muslim fellow beings during the 2007-09 periods. Failure to

act upon food insecurity affects educational enrolments. It has a bearing on social harmony and religious integrity in a pluralistic country like India.

**Table-4**  
Percentage of children attending Elementary and Secondary school level in India. 1999-00

Community & Region	Elementary	Secondary
ST		
Rural	65	58
Urban	81	81
SC		
Rural	71	66
Urban	82	78
OBC		
Rural	74	71
Urban	86	81
OTHERS		
Rural	82	79
Urban	91	87
All		
Rural	75	73
Urban	87	85

Source: NSS 55th Round, quoted in Srivastava, 2003

As per Table-4, attendance is low in rural schools. This is starker among Scheduled Tribe (ST) and Scheduled Caste (SC) students at elementary and secondary levels particularly in rural areas. It may be due to poor economic conditions which result into food insecurity. General health gets affected. This may lead to low retentions, relapses and absenteeism. However, absenteeism is roughly 25% in rural schools while in urban schools it is around 15%. It ranges between 30% to 40% among rural ST wards as compared to 20% for same wards in urban institutions. It is slightly lower among SC pupils in both the regions. By and large attendance rates are 10% more in urban areas as compared to rural areas across all sections of the society. Food security among backward communities particularly SC and ST's is an imperative issue for addressing inclusive growth. Deprivation of education affects human wellbeing.

**Table 5**  
Primary level of Educational Status in India

Year	Enrolment Rate		Gross Completion Rate	Average Dropout Rate	Exam Results above 60% marks	
	Gross	Net			Boys	Girls
2006-07	110.86	92.75	89.05	9.36	NA	NA
2007-08	113.94	95.92	90.23	8.02	48.67	50.20
2008-09	115.31	98.53	93.38	6.89	50.20	50.51

Source: Elementary Education in India, Progress towards UEE- Flash Statistics NUEPA, District Information System of Education (DISE). Handbook 2009-10, Delhi.

Table- 5 reveals improvement in enrolments, dropouts and higher exam results with securing 60% and above marks at the primary level of schooling. Gross enrolments are more than 100 because under and over age children were enrolled at primary level. Net enrollment rates are adjusted for the same. Completion rates are quite high. Yet there are dropouts which mean they are pushed out from the system of formal schooling. It is wastage of resources. It leads to low quality, poor outcomes and uncompetitive children. Pratham, (one of the largest NGO in India) studies clearly indicates the quality of education is poor particularly in rural areas. A 5th class student cannot read and understand the lessons of second class textbooks. Similarly the wards of 8th class cannot solve mathematical problems of 5th class. Thus, food security may provide good educational environment for students as well as teachers. Parents may be free from the burden of food and better education for their wards. All interact in a healthy and congenial atmosphere ensuring better learning outcomes. It provides an academic platform free from health ailments. It encourages concentration on studies by teachers and students as well. Society has to provide this environment for a civilized, tolerant and competitive young generation in a world of hostility, impatience and cut-throat competition. Thus, food security may provide multidimensional outcomes for the wellbeing of the economies of developing countries.

## 6. Role Rural Co-operatives

The rural co-operatives play an important role in food security especially for the future citizens. India shines only when rural areas develop. It helps in achieving sustainable inclusive growth.

Co-operative societies set up shops to sell low priced goods to poor people. It is not out of context to refer a few case studies in this context. In Tamilnadu 94% fair price shops are being run by the co-operatives. In the same way Delhi Mother Dairy is providing milk and vegetables to the consumers at the price decided by the government of Delhi. Amul is the success story of co-operatives in milk and milk products from Gujarat. It is an international brand because of its quality. It brought white revolution thanks to Kurien. Maharashtra academy of Development Sciences (MADS) through its established grain banks in Maharashtra has contributed for strengthening food security. It is an innovative food security intervention. These are the success examples of Co-operatives ensuring food security for different sections of society. However, there is enough scope of replicating in the provision of food security to the school children in rural areas. Children cannot go to school with half empty stomachs. Not only is it tyrannical and merciless but unconscionable as well.

In fact village co-operatives should take an initiative for procuring food grains, milk, pulses, vegetables, oils, etc., from the farmers of the village with the money given by the government for midday meals. However, commodities which are not produced by the farmers in the village may be purchased from fair prices shops.

Village Panchayat (VP) should assist in getting adequate grants for food security to the students of the school from government. Village co-operatives should play an important role with PA of the school in actual implementation of food security at the school. It should monitor preparation of food in healthy and hygienic manner without losing its nutritional value. They should actively participate in the implementation of food security at elementary and secondary stages. Further, students more or less belong to the village and members of the cooperative society also hail from the same villages. This makes the task easier. This helps in bringing togetherness among farmers, cooperatives, PA, VP, students and school staff as everyone has a stake in the food security programme. All co-ordinate in an informal way for the development of their wards. This can motivate village cooperative and farmers for the success of food security. Further, it helps in conducting co-curricular activities in schools as well as celebrating rituals and festivals in villages. Further, co-operatives collectively interact in the several village works such as sanitation, drinking water, irrigation, road construction, plantations, depending of tanks, National Rural Employment Guarantee Act (NREGA) works etc.,. However, co-operative organizations should set up in a way that every individual member is accountable for their share of development activities in the village. There should be a periodic monitoring of the performance of co-operatives and the feedback obtained must be critically evaluated. In the event of a mismatch between the set goal and the actual performance modifications should be carried out to raise their performance. this will improve their efficiency. This will help in making the food security programme a success. It reduces inequalities in the accessibility of food across different communities, castes, sex and income levels. Every student gets same nutritious food. It brings an attitudinal change. Thus, food security is a modified programme of midday meals.

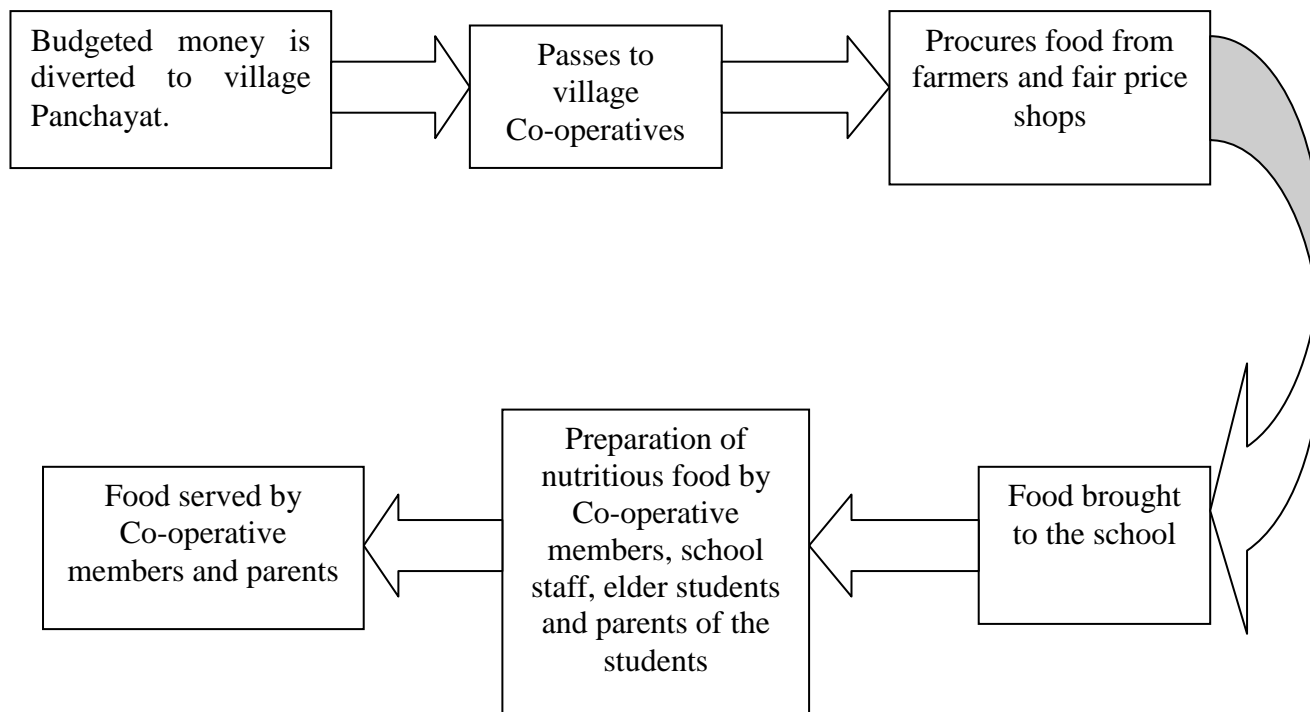
## 7. Food Security - Flow Chart

Here, we present a schematic view of the flow of food security. This flow chart (Figure A) is simple to understand, but, ignores the technical aspects. It essentially reveals how food security programme can work at elementary and secondary levels of schooling with rural village co-operatives playing a very important role as per figure A.

FIGURE - A

### FOOD SECURITY FOR SCHOOL CHILDREN

#### FLOW CHART SHOWING THE DISTRIBUTION OF FOOD BY VILLAGE CO-OPERATIVES



The benefit is that, (Figure A) it not only solves the hunger problem of the students but also develops their physical and mental health. More importantly there is also an improvement in the academic outcomes making them more competitive. This is important because the quality of education is poor in rural regions of the country. In this process the school staff, students, co-operative society members, farmers, parents, village panchayats and fair price shops all interact for the success of food security. It may be experimented at a micro-level, that is, in few village schools where cooperatives are working actively and at the same time even midday meals are a regular routine in these schools.

## 8. Concluding Observations

Food security for school children is a pre-requirement. It cannot be left out and needs immediate attention. Children are our future. It is the responsibility of the parents, but, if they cannot afford the same due to poverty then responsibility falls on the society. The study presents a few observations.

- Food security is essential and it should be considered as a right of the child for physical and mental development. It should be considered under human right.
- Food security is an improved or modified version of midday meals programme. It will certainly improve the bottlenecks associated with the midday meals at large.
- It should be integrated with rural co-operative society. Actually the co-operative society should be entrusted with the task of collecting food from farmers with the money meant for the midday meals programme.

- Village panchayats should convince government for providing them with money rather than directly supplying food to the school for midday meals.
- Rural co-operatives should become a central agency for actual implementation of various village developmental programmes of the government. It should be accountable.
- Co-operatives should bring about a change in the organizational culture. There is a need to bring about a structural reform within the cooperatives rather than continuing with the same conventional pattern of working. Members should be accountable and responsible for their activities. Constant monitoring of the society's activities will help the co-operatives to assess whether their actions are giving the correct results. Periodic feedback for proper functioning of food security programme by the village co-operatives society is very much essential and co-operatives should be more professionally managed.
- Insecurity of food has serious problems of health at a very young age. This ultimately ends with indifference towards studies. It may lead to social unrest apart from low retention, absenteeism and finally push-out.
- The one time window of opportunity of demographic dividend will be defeated because of food insecurity resulting into poor, backward and under developed country forever.

This paper presents an explorative thought of removing food insecurity with the help of village co-operatives. This can

certainly contribute positively to the rural school children at the primary and secondary level. It can be initiated at a micro level

in a few villages with the help of rural co-operatives before embarking on a large scale.

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