CHAPTER - I

INTRODUCTION

Adequate production and distribution of food and attaining self-sufficiency in food production have become the priorities of every nation. This concern is amply spelt out by the FAO at its World Food Summit held in 1996 wherein heads of different nations reaffirmed ***"the right of everyone to have access to safe and nutritious food, consistent with the right to adequate food and the fundamental right of everyone to be free of hunger"***. Further, as per the Rome Declaration "***Food Security exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life".*** Also there was a pledge of political will and commitments to eradicate hunger in all countries with an immediate view to reducing the number of undernourished people by half their present level not later than 2015. It may be worth-mentioning here that a recent estimate made by the FAO, shows that around 826 million people in the developing world do not have enough to eat and a fifth of the world's population representing almost all these people live in absolute poverty, on less than US $ 1 per day. Of these, almost 300 million alone live in India. In other words, nearly half of the world's poor, who would not get two square meals a day, are in India. In our country, attainment of food security has been the major objective before the entire nation since Independence.

A strong political will coupled with appropriate policy interventions and application of new technology and the hard labour of the Indian farmers enabled the country to achieve four-fold increase in the foodgrain production as against three-fold increase in the population growth. The ushering in of Green Revolution in the States of Punjab, Haryana, western parts of Uttar Pradesh etc., through coverage of more areas under irrigation, increased application of fertilisers, use of high-yielding variety of seeds and application of modern

technology led to the Green Revolution which enabled the country to stand on its own feet.

We reached a record of food production of 211 million tonnes during 2001-02. These developments resulted in distinct gains in actual household consumption leading to both qualitative and quantitative improvement in our food consumption.

Although we attained self-sufficiency in the food front, affordability and accessibility to food still remains a problem. The question of food as per equity and entitlement are also issues that are to be attended to on priority.

The problem of malnutrition among children is still more alarming. We failed to ensure enough nutrition for our children suffering from protein energy, malnutrition and other micro-nutrient deficiencies. The concentration of children requiring nutritional care is estimated to be around 80 million. We also have the maximum number of anaemic pregnant women. Should we, therefore, not worry and do something tangible to combat these diseases of poverty? Notwithstanding, we seem to be living in a much poorer and degraded world today than our forefathers. It is our bounden duty to provide a much better environment to our children.

Hunger remains invisible, as one does not see people die visibly of starvation. But their food insecurity is reflected in the high maternal and infant mortality rates, low life expectancy and poor health status in general. According to the National Family Health Survey (1998-99), 47 per cent of boys and girls in the age group of 0-4 years are malnourished. Child mortality rate was at 88 in the year 2000. Among adults, 48.5 per cent are malnourished (National Nutrition Monitoring Bureau, 93-94). Between 60-80 per cent of women continuously suffer from silent hunger or micro-nutrient deficiencies such as anaemia.

It is projected that a growing and urbanising population with rising incomes will increase global demand for cereals by 35 per cent between 1997 and 2020 amounting to 2,497 million tonnes and other types of food will amount

to 327 million tonnes. However, growth in cereal yields is slowing down in both the developed and developing countries and is projected to further slow down in the coming decades. The net cereal imports by the developing countries are forecast to be almost double by 2020, with maximum absolute increase expected in East Asia and the largest relative increase in South Asia indicating the doubt about the food sufficiency of our country.

Food Security is basically understood in terms of food availability, stability and accessibility. Ensuring availability of food implies efficient domestic production and internal trade to make enough food available for the entire population. It calls for taking appropriate preemptive measures to ensure stability during harmful seasonal and inter-annual instability of food supplies. However, despite food being abundantly available, it may not be within easy access to certain sections of society. Hence, enhancing people's purchasing power to buy food where it is not produced or making it available at subsidised rates through the public distribution system and employment programmes provides a safety-net and ensures accessibility to adequate and safe food. Given the ironical situation in India, food security needs to be understood also in terms of vulnerability of certain sections of society who are physically and mentally preoccupied with getting the next meal. It entails intervening sensitively to make opportunities available to such sections so that they can overcome exploitation, injustice and discrimination and gain access to the basic necessities of human existence with dignity.

In this background, the basic question that arises is how could one think of providing food and nutrition security to one and all? Any civil society must guarantee the birth right of everyone on this planet i.e. enough food to sustain healthy and protected life.

Further, the per capita availability of cereals and pulses indicates an overall improvement in the per capita availability of foodgrains from about 419 gm per day during 1950-51 to 1955-56 to 480 gms during 1996-97 and 1999-2000. This indicates nearly 15 per cent increase in the per capita availability of food during the 50-year period (1950-51 to 1999-2000). During the five

decades, the per capita availability of pulses declined (64.7 gm per day from 1950-51 to 35.9 gms during 1999-2000). The per capita availability of coarse grains also declined over the years. This situation led to reduction in protein and calorie intake among the weaker sections of the society indicating that while moving towards food security, India succeeded in terms of fine cereals but failed to increase the production of pulses and coarse cereals consistent with the needs of growing population.

There are several reasons why people face hunger and are unable to exercise their right to food. These are powerlessness and politics, violence and militarism, poverty, rapid growth of population exerting strain on environment, over-consumption and gender discrimination, vulnerability and age. A programme to overcome hunger and food insecurity must include among other things, measures for enhancement of economic growth, expansion of employment, diversification of production, enhancement of medical health care, management of special access to food on the part of poor people and spread of basic education and literacy, strengthening democracy, media focus on hunger and reduction in gender based inequality.

But the country has not conquered the problem of hunger and not been able to guarantee a right to food for all our people. The agricultural growth which averaged 4.04 per cent per annum during 1981-91 has come down to 2.3 per cent per annum during 1991-99 despite uninterrupted series of good monsoons. Additionally, it is a serious matter that the area under foodgrains and oilseeds remained unchanged or nearly so at around 150 million hectares. But the number of people dependent on land increased as against increase in the agriculture. The implication is that a major slow down in agricultural growth of real incomes and wages in the rural sector has taken place. Such slowing down in agricultural growth rate freeze in the area under foodgrain and oilseeds, against growing population, only indicates lower availability of food in the system for the people to access. The slower agricultural production had impact on rising prices also. The average annual price rise during the last decade has been 5.6 per cent for rice, 5 per cent for wheat, and 11.2 per cent for pulses. During this decade the price rise has been much steeper, 10.2 per cent for rice, 9.5 per cent for wheat and 11.4 per cent for pulses.

The annual average growth rate of wages of unskilled agricultural male workers in the eighties was about 4.5 per cent as opposed to a paltry 2.5 per cent in the nineties. In the period 1991-2000, the Wholesale Price Index (WPI) rose by about 8.8 per cent annually as against 6.9 per cent during the corresponding period in the last decade. Employment generation in the organised sector was growing at 1.6 per cent in the eighties. It is 0.8 per cent in the nineties, exactly half the rate of eighties. Both these have a strong bearing on the economic access of people to have food.

Food security and elimination of hunger is an issue that requires a concerted national attention and effort. In ensuring food security while formulating the national perspective, the perception of the communities which suffer from the pains of hunger (poor communities, small and marginal farmers, women, poor people, landless labourers and the tenants) have to be examined in order to know the factors that cause hunger and evolve strategies to mitigate the pains of hunger.

The views of the communities are critical both in understanding the problem of food insecurity and hunger and in working out the policies and strategies most appropriate to solve the problem. It is widely known that even in a vast country like India, decisions which affect the lives of millions are often taken at central location without consulting them. There is no institutional mechanism to consult the people on this vital matter. PRIs as local institutions can play a major role in this regard. But PRIs are not provided with functions and resources to become an effective instrument of the state. Perspectives of the community on livelihood, hunger and food security together with the perspectives of the policy makers on hunger and food insecurity should be in conformity with the felt needs of the community.

The role of civil societies and NGOs perspective on hunger needs also to be taken seriously as they are better placed to know the reasons for people's food insecurity and access to food. This will help in planning for micro level food security involving poor people themselves which is beneficial for the rural poor.

6 Micro-level Experiments in Food Security

Assessing India's food security status from its food production levels does not depict a comfortable situation. Survey reports show that agricultural production in India has been decelerating. The growth rates based on crop output data show that growth rate of foodgrain production declined from 3.54 per cent per annum during 1979-90 to 1.80 per cent per annum during 1989-99 (Economic Survey 1999-2000). Very specifically, in the post-reform period, foodgrain production dipped in 1991-92, but the rate of growth picked up and then it started decelerating from 1993-94. Between 1995-96 it showed a negative growth of -0.46 per cent (Economic Survey 1995-96). Even the growth rate of non-foodgrains has been lower in the nineties. Although the government is in possession of bulk of foodgrains, these figures are discouraging considering its long-term implications on national food security. It needs to be pointed out here that bulk foodgrains with the Food Corporation of India does not imply food availability at the household or community level. Most of these foodgrains come from the green revolution belt. Small farmers and landless labourers outside the green revolution belt who own dryland have to face persistent food insecurity.

The reasons for such food insecurity lie in our lopsided agricultural policies that have suffered from several biases as a result of ignoring the diversities in the Indian agrarian community. Since the launch of the Green Revolution in the sixties, one sees a distinct bias in favour of capital-intensive farming, large irrigated landholdings, fine cereal and non-foodgrain cultivation. In the bargain, subsistence farming on rainfed/ dryland which supports almost two-thirds of the agrarian community in India has been ignored. Encouraging the use of machinery, extensive irrigation, chemical fertilisers, pesticides, hybrid seeds and extensive use of diesel and electric power through policy directives, has empowered the capitalist farmers.

Majority of Indian farmers who depend on monsoon for irrigating their small landholdings, and have poor finances or credit worthiness for investing in agriculture have been marginalised and gradually alienated from agriculture. These farmers who found production and consumption of coarse cereals affordable were able to atleast manage household food security and thereby

ensure self-sufficiency. Promotion of cash crops and fine cereals (rice and wheat) has made the small farmers who own rainfed land become insecure. In the process, they have lost out to rich farmers in terms of credit worthiness. In other cases they have lost their land to moneylenders or sold them off or just left it fallow because cultivation is not affordable. With poor access to resources and inputs for cultivation, they seek financial support from local moneylenders. Trapped in perpetual indebtedness, they find themselves cultivating only to repay debt year after year. The situation worsens when there is a drought or in case of a crop failure. When this is frequent being a labourer is a better option as it provides some income security as against being a cultivator.

Looking into the accessibility factor of food security, food can be made accessible to these sections by subsidising it through the public distribution system, food for work programmes and employment guarantee schemes. While the former is to protect against adverse market forces and fluctuating food prices, the latter enhances the purchasing power of the poor. The introduction of the Targeted Public Distribution System in 1997, as a reform measure has made a policy initiative for the poor to access the food. But due to the faulty criteria and lax attitude of the bureaucracy in identifying households below the poverty line, most of the poor have been pushed into the category of above poverty line.

Landless labourers and small farmers generally comprise poor households who have irregular income and are often unable to have enough money, to purchase their entire month's food quota at the fair price shop, all at once. They prefer making daily or weekly purchases of small quantities of food that they can afford, given their wage pattern. Those who migrate seasonally, and most of the rural poor do, lose out on their entitlements for up to six to eight months in a year. Thus, the section of society that is "targeted" for subsidised food ends up purchasing food from the open market. This reduces the off-take from the ration shops and adds to the food stocks in the godowns, eventually increasing the cost of subsidising food. This gets interpreted as lack of demand for subsidised food and serves as a distorted rationale to cut food subsidy in budgetary allocations.

At the macro level, there are issues of incurring heavy cost due to centralised procurement of foodgrains. With the FCI involved in procurement, storage and distribution of foodgrains, the overhead costs are very high, mainly due to double housekeeping, transportation costs and maintaining a huge administration. Inefficiency in the operation of FCI only adds to the economic cost of the foodgrains operation. According to some estimates, more than a third of the foodgrains and sugar and over half of the edible oil get diverted to the open market. One of the basic objectives of the PDS is to insulate the poor from the rising prices. However, in the recent past, PDS prices were raised by 80 per cent. While on the one hand food prices are increasing, on the other, local employment opportunities are diminishing. Employment guarantee programmes, meant to provide employment to the rural poor, and thereby curtail migration while enhancing their purchasing power are not properly targeted and implemented at local level.

Food problem remained because incidence of poverty and unemployment continued to be high despite the early successes of planned economic development. Over the years benefits were not equally shared by all classes of the society. Inter-regional inequalities among big, small and marginal farmers increased. Dryland areas gained little in terms of green revolution. It is relevant to note that output per head of wheat and rice expanded, those of coarse cereals and pulses declined. This has had implications for the pattern of consumption and nutrition among the lower classes in agriculturally background areas of the country.

TPDS

The TPDS introduced in 1997 to focus more on poor has also several deficiencies. The CAG report (1999-2000) indicated that inefficient targeting affected targeted PDS and in majority of states identification process was not completed and ration cards were not provided to a significant number of people. According to an observation of Government of India, 35 per cent of foodgrains meant for PDS were diverted to open market.

A study by NIRD (2000) shows that identification of BPL families with the help of local bodies has not been able to bring down the problem of bogus

cards. Most of the beneficiaries are still in dark about their entitlement of ration and the price of the ration articles. Functioning of Vigilance Committee is also not seen to be working satisfactorily. The quality of the foodgrains distributed is found to be poor. The margin given to the retailer has been reduced under implementation of TPDS schemes, as the exclusion of the APL families affected the PDS business. Though TPDS rice has reached the beneficiaries, its impact on the requirement of food of the BPL families is minimal (It meets only one-sixth of their requirement). As the identification is based on the income criteria, many deserving people just above the poverty line are affected, because the new scheme has deprived the benefit of food security they were enjoying under the old PDS system. There is a mismatch between Planning Commission Poverty Figure and the States' identified BPL families. As the allocation comes from Government of India based on the Planning Commission Poverty Figure the States have to meet the expenditure for additional identified BPL families by them. The study found a need for further review and action of the present policy.

Another study by NIRD (2002) found that there are several reasons for declining of off-take and PDS beneficiaries not lifting their entitled quota which in turn contributes to the leakages. They are : Under-weighment, poor quality inadequate supply, lack of money or purchasing power, irregular supply, dealer did not distribute, no stock available and lack of information about availability, dealers not lifting the full quota, cardholders are lifting a little in case of certain commodities, poor financial conditions of the cardholders, existence of a large number of bogus cards, low margin of FPS dealers, connivance of officials and the FPS dealers, lack of proper inspection, lack of awareness about the entitlement, etc.

Of the foodgrains meant for distribution under PDS only 55 per cent of rice and 39 per cent of wheat are reaching the cardholders. Of the foodgrains meant for BPL, about 32 per cent of rice and 56 per cent of wheat are not reaching them.

Despite a steep increase in the annual food subsidy, from Rs. 2450 crore in 1990-91 to Rs. 9200 crore in 1999-00 and to Rs. 21,200 crore in 2002-03,

all is not well with the Targeted Public Distribution System (TPDS) in India. There is 36 per cent diversion of wheat, 31 per cent diversion of rice and 23 per cent diversion of sugar from the system at the national level. TPDS does not seem to be working in the poorest north and north-eastern states. The allocation for the poorest states such as UP, Bihar and Assam was more than doubled, as a result of shifting to TPDS in 1997, yet due to poor off-take by the states and even poorer actual lifting by the BPL families, the scheme has not made any impact on the nutrition levels in these states.

There is lack of infrastructure and shortage of funds with government in most states except the few in west and south. Some other problems associated with the scheme besides illegal diversion are (i) The poor do not have cash to buy 35 kg at a time, and often they are not permitted to buy in instalments (ii) low quality of foodgrains, (iii) weak monitoring, lack of transparency and inadequate accountability of officials implementing the scheme, (iv) price charged exceeds the official price by 10 to 14 per cent at local level.

Research studies also quote three reasons why the TPDS does not deliver food subsidies effectively: (1) Targeting errors (income transfer to non-target groups); (2) Excessive cost of procurement, storage and distribution (relative to private sector); (3) Leakage (illegal diversion).

There is also a criticism that the new policy of decentralised procurement of foodgrains has caused new problems and hurdles in the effective implementation of the PDS. Due to paucity of adequate storage facilities, the state governments are not able to procure foodgrains from the farmers who are willing to part with the foodgrains. State governments with their weak financial resources, are not able to divert adequate resources for procurement of foodgrains locally. Criticisms have also been raised about the undue benefit derived by millers in the process of local level procurements.

The increased burden by way of sustaining all the BPL families identified by the states over and above what is allowed by the Government of India, will be a formidable task for state governments with their resource base weakening day by day.

While advocacy for minimum subsidy limited to the most needy sections of the society is definitely an unquestionable proposition, over the years several times government has the changed prices and the quantum of foodgrains to be distributed to the beneficiaries. This created some kind of confusion in implementation of TPDS scheme resulting to declining in off-take.

It is now realised that availability of foodgrains is not a sufficient condition to ensure food security to the poor. It is also necessary that poor have sufficient means to purchase food. You can either raise the level of income to the poor or you can supply foodgrains to the poor at subsidised prices. Employment generation programmes for the poor try to ensure that poor have sufficient purchasing power.

With a network of five lakh Fair Price Shops distributing annually commodities worth more than Rs. 30,000 crore to about 16 crore families, it is the largest network of its type in the world. The huge network can play a more meaningful role only if the system translates the macro level self-sufficiency in foodgrains into a micro-level food security for the poor households.

While the above efforts continue to improve the purpose of TPDS, some micro experiments in food security in some remote rainfed/dryland areas, seek for supplementary or complementary food security system at the local level. Over the years it is observed that the production of coarse grains like line millet, jowar etc., declined. By encouraging coarse grain production and utilising it locally have contributed more to the nutrition status of the rural poor and local population.

But the farmers who grow coarse grain on their dryland/rainfed farms have no assured irrigation, and do not have any subsidy. These farmers use farm yard manure and their crops are not covered by insurance and have to depend on market forces which continue to be hostile to their produce. The PDS concentrates only on two grains, rice and wheat and provides for a regular and continued intake of rice and wheat from the market for distribution and assures a steady price for rice crop insurance etc. The PDS, by cheap rice and wheat, weans away the traditional grain users of these coarse grains and leaves

the coarse grains unbuffered. This makes the coarse grain farmers nervous and consequently many farms in rainfed/dryland area are turning into fallows. As coarse grains contribute more in terms of nutrition value to the rural poor and at low prices, there seems no additional need to supply them through the PDS and bring them under the cover of food subsidy. Some studies show that there is a correlation between fallowisation of coarse grain producing lands in the dryland/rainfed land and the supply of rice and wheat by the PDS.

Poorer sections spend most of their income on foodgrains. For example, at the all India level, people spend on an average about 63 per cent of their total expenditure on food in the rural areas. The bottom 30-40 per cent of the population spend more than 75 per cent of their total expenditure on food. Any price hike on the food items will affect these groups. Therefore, an appropriate system of food distribution becomes an essential element of food security. Sustainable practices should be followed for food production at local level which makes food secure at present and in future. The challenge is to curtail the food subsidy to the minimum necessary level through the system of targeting without affecting the subsidy benefit reach to the poorest. Due to an increase in cost of subsidy and leakages, the government can evolve their food and agricultural policy keeping in mind the food habits of the people of the various states. For hilly, tribal and drought-prone food-deficit areas, the central system of food procurement and distribution will have to be continued. For other states, decentralisation of local food procurement and distribution is helpful.

Despite the TPDS and employment programmes, mid-day meal programmes and other social welfare programmes which are under implementation in the rural areas, still many people are facing the threat of hunger and mal-nutrition because these programmes could not properly reach at the local level.

In this context, it becomes imperative to look at micro level distribution systems that have been successfully attempted in various parts of the country, so that viable and successful models could be considered for supplementation

on bigger scales in addition to the existing PDS. The grain banks experiment that are implemented in the tribal areas of the country is a good example and in some states, some NGOs are experimenting on ensuring food security to the poor.

Setting up of a community grain bank through local production and effort is a new idea and experiments across the country have been carried out over last few years. For example, DDS in Andhra Pradesh, PREPARE in Orissa, some women groups in MP and Chhattisgarh have been successfully experimenting with local food security system by using fallow lands, waste lands, degraded lands and other available local resources and producing coarse grains for local consumption and by contributing to the common grain bank, which ensures their food security.

The Government of India, in order to prevent malnutrition and starvation deaths in the remote tribal areas, launched a village grain bank scheme since 1996-97. Besides, the Andhra Pradesh government under food assurance scheme is experimenting rice credit line scheme for the purpose of consumption during critical months in remote drought and tribal areas. This scheme is implemented by the Society for Elimination of Rural Poverty (SERP), an autonomous body set up by the Government of Andhra Pradesh. The scheme is self-managed by the local communities to ensure their food security. Elsewhere, several national level NGOs are experimenting grain bank schemes/ micro-level experiments of food security by encouraging local production, procurement, storage and distribution. In addition, these groups are also encouraging local seed and gene banks for the purpose. Besides, they are also promoting organic farming, coarse cereal cultivation and bio-diversity for the purpose of ensuring community-oriented food security system at the grass-roots level.

In the wake of the globalisation and the resource crunch the country is facing today, there are possibilities that the coverage and scope of the PDS is further reduced. In the context of Government of India encouraging local level procurement and distribution system, such experiments have gained more relevance. As an apex institute, NIRD treats food security area as an important

theme for the research of the Institute. NIRD has studied various states on the theme of food security and PDS. This year it was thought proper to study the micro-level experiments in food security. The purpose of the study is, therefore, to see whether micro level distribution systems for ensuring household food security can be considered wherever possible, which will not only bring down the cost of the present level distribution systems, but also be more cost-effective and delivery-oriented and self-sustained food security system. In the above backdrop the objectives of the study are:

1. To document the various experiments on micro-level food security efforts;
2. To identify the factors responsible for the success or failure of such micro-level efforts.
3. To explore the replicability of such experiment as a supplementary programme to the existing PDS.

The study was conducted in four states *viz*., Orissa, Chhattisgarh, Maharashtra and Andhra Pradesh where some NGOs are experimenting the food security for the poor.

Methodology

The study is exploratory in nature. As this kind of study involves micro-level experiments initiated by some NGOs and other agencies, the area of the study was selected based on the location of the experiments with consultation of various state governments and NGOs keeping in view food-surplus and food-deficit states. The units of the study were selected on the basis of coverage of such experiments. The study is essentially village-based. Three villages in each state in the area of operation by the respective NGOs were selected for the purpose of the study. In addition, to study how the grain banks supplement the existing system of PDS in the villages, 25 households were selected in each village which were already covered under grain bank system by NGOs. The households were selected representing different socio-economic brackets *viz.*, SC, ST, OBC and OC groups and also different occupational groups/

Table 1 : The Study Area and the Sample Respondents

State	District	Name of the Organisation	Block	Village	Sample Respondents
Orissa	Rayagada	PREPARE	1. Kolnara	1. Minajhola	25
				2. Sanakhilapadar	25
				3. Chitikapanga	25
Chhattisgarh	Dhamtari	RUPANTAR	2. Magarlod	1. Kekarakholi	25
				2. Kasarwahi	25
			3. Nagari	1. Rayatwari	25
Andhra	Medak	(DDS)			
Pradesh		Deccan	1. Nyalkal	1. Miryampur	25
		Development	2. Raikod	1. Huligera	25
		Society	3. Jarasangam	1. Pyalaram	25
Maharashtra	Raigad	(ADS)	1. Karjat	1. Tadwadi	25
		Academy		2. Bhopliwadi	25
		of Develop-		3. Chohuchiwadi	25
		ment Sciences	4. Nagewadi		
4 States	4 Districts		7 Blocks	12 Villages	300

classes from the list of the card holders/beneficiaries. A structured schedule was prepared to elicit information from the sample respondents. Some select case studies were also collected to have further indepth inputs. Apart from this, secondary data were gathered at various levels. PRA methods were also followed. Focussed group discussion with beneficiaries and discussions were held with key informants involving officials, PRIs, leaders and women groups about the success or problems of local level food security efforts in suggesting remedial measures and lessons learnt out of such experiments.

In all, the study covered four states, four districts, seven blocks and twelve villages and three hundred households. Effectively the study covered four NGO organisations which are working in the food security area. Details of the study area are presented in Table 1.

CHAPTER - II

SOCIO-ECONOMIC FEATURES AND PERFORMANCE OF FOOD SECURITY SYSTEM

To study the micro-level experiments in food security, the survey was conducted atleast in three or more villages from each State. From each village 25 respondents were selected randomly and thus obtained 75 sample respondents from each State. The study was conducted in four States, namely, Andhra Pradesh, Chhattisgarh, Maharashtra and Orissa in the area of operation of the four national level NGOs. The socio-economic features obtained from the respondents are analysed below to have better appreciation of involvement of the beneficiaries in the micro-level experiments. The chapter discusses the socio-economic features of the respondents and food availability, access and functioning of PDS as perceived by the respondents.

Table 2 : Age-wise Distribution of Respondents in the Study Area

Age in years	State				
	Orissa	Chhattisgarh	Maharashtra	A.P.	Total
Age > 25 years	6	5	7	—	18
	(8.0)	(6.7)	(9.3)	—	(6.0)
25-35 years	39	21	35	9	104
	(52.0)	(28.0)	(46.7)	(12.0)	(34.7)
35-35 years	26	35	28	54	143
	(34.7)	(46.7)	(37.3)	(72.0)	(47.7)
50 + years	4	14	5	12	35
	(5.3)	(18.7)	(6.7)	(16.0)	(11.7)
Total	75	75	75	75	300
	(100)	(100)	(100)	(100)	(100)

Age

Most of the respondents were in the age group of 35-50 years (47.7 per cent) followed by 34.7 per cent in the age group of 25 to 35 years, 11.7 per cent in the age group of more than 50 years and 6.0 per cent in the age group of 25 years and below (Table 2).

Sex

About 54 per cent of the respondents were males while 46 per cent were females among the sample households. If one looks at state-wise picture, a majority of the respondents were males in Chhattisgarh and Maharashtra while majority of them were females in Orissa and Andhra Pradesh (Table 3)

Table 3 : Sex-wise Distribution of Respondents in the Study Area

Sex	State				
	Orissa	Chhattisgarh	Maharashtra	A.P.	Total
Male	31 (41.3)	52 (69.3)	56 (74.7)	24 (32.0)	163 (54.3)
Female	44 (58.7)	23 (30.7)	19 (25.3)	51 (68.0)	137 (45.7)
Total	75 (100)	75 (100)	75 (100)	75 (100)	300 (100)

Caste and Religion

Majority of the respondents in Orissa, Chhattisgarh and Maharashtra belong to tribal community while majority of the respondents in Andhra Pradesh belong to scheduled caste (Table 4).

Table 4 : Caste-wise Distribution of Respondents in the Study Area

Caste	State				
	Orissa	Chhattisgarh	Maharashtra	A.P.	Total
ST	62 (82.7)	72 (96.0)	75 (100)	1 (1.3)	210 (70.0)
SC	3 (4.0)	2 (2.7)	– –	65 (86.7)	70 (23.3)
BC	4 (5.3)	– –	– –	8 (10.7)	12 (4.0)
OC	6 (8.0)	1 (1.3)	– –	1 (1.3)	8 (2.7)
Total	75 (100)	75 (100)	75 (100)	75 (100)	300 (100)

Religion-wise, about 93 per cent believe in Hindu faith and 6 per cent belong to Christianity. In Andhra Pradesh, about 75 per cent are Hindus and about 24 per cent belong to Christianity and 1 per cent belong to Muslim community (Table 5).

Table 5 : Religion-wise Distribution of Respondents in the Study Area

Religion	State				
	Orissa	Chhattisgarh	Maharashtra	A.P.	Total
Hindu	75 (100.0)	75 (100.0)	74 (98.7)	56 (74.7)	280 (93.3)
Christian	–	–	1 (1.3)	18 (24.0)	19 (6.3)
Muslim	– –	– –	– –	1 (1.3)	1 (.3)
Total	75 (100)	75 (100)	75 (100)	75 (100)	300 (100)

Education

As per the educational background of the respondents, it was found that about 67 per cent were illiterate while 21 per cent were literate and about 8 per cent studied up to primary and only 4 per cent studied secondary and more. Among the States in Orissa and Maharashtra, more illiteracy among the respondents was observed as compared to Chhattisgarh and Andhra Pradesh (Table 6).

Table 6 : Education-wise Distribution of Respondents in the Study Area

Education	State				
	Orissa	Chhattisgarh	Maharashtra	A.P.	Total
(1)	(2)	(3)	(4)	(5)	(6)
Illiterate	56 (74.7)	40 (53.3)	60 (80.0)	46 (61.3)	202 (67.3)
Literate	9 (12.0)	22 (29.3)	6 (8.0)	26 (34.7)	63 (21.0)
Up to Primary	6 (8.0)	9 (12.0)	6 (8.0)	2 (2.7)	23 (7.7)

(Contd.,)

Table 6 : *(Contd.)*

(1)	(2)	(3)	(4)	(5)	(6)
Secondary	4	3	3	1	11
	(5.3)	(4.0)	(4.0)	(1.3)	(3.7)
Technical/Vocational	–	1	–	–	1
	–	(1.3)	–	–	(1.3)
Total	75	75	75	75	300
	(100)	(100)	(100)	(100)	(100)

Family Size

On an average, the family size in the study area was found to be about 5.65. Among the study States in Andhra Pradesh, where scheduled caste respondents were more, average family size was found to be about 6.15. This is followed by 5.73 in Maharashtra, 5.25 in Orissa and 5.17 in Chhattisgarh where majority of them belong to tribal community.

Occupation

Most of the respondents belong to BPL category, majority i.e., 75 per cent of them were in farm sector while about 18 per cent were in non-farm activities. Among them, majority were agricultural labourers followed by marginal farmers, small farmers and non-farm workers. State-wise, if we examine, in Orissa, majority of the respondents were either agricultural labourer or non-agricultural labour. In Chhattisgarh, majority, about 72 per cent, belong to marginal or small farmer category. In Maharashtra, majority of the respondents were agricultural labourers followed by non-agricultural labour, marginal and small farmers. In case of Andhra Pradesh, majority of the respondents were marginal and small farmers. Therefore, food security interventions were examined with regard to the most vulnerable sections of the society. Details are analysed in Table 7.

Table 7 : Occupation-wise Distribution of Respondents in the Study Area

Occupation	State				
	Orissa	Chhattisgarh	Maharashtra	A.P.	Total
Agrl. labourer	31	10	33	3	77
	(41.3)	(13.3)	(44.0)	(4.0)	(25.7)
Non-Agrl. labour	30	9	13	2	54
	(40.0)	(12.0)	(17.3)	(2.7)	(18.0)
Marginal farmer	6	27	8	33	74
	(8.0)	(36.0)	(10.6)	(44.0)	(24.7)
Small farmer	4	27	7	33	71
	(5.3)	(36.0)	(9.3)	(44.0)	(23.7)
Medium/big farmer	1	2	6	3	12
	(1.3)	(2.7)	(8.0)	(4.0)	(4.0)
Rural artisan	–	–	5	–	5
	–	–	(6.7)	–	(1.7)
Trade/business	2	–	–	–	2
	(2.7)	–	–	–	(.7)
Services	–	–	1	–	1
	–	–		–	(1.3)
Others	1	–	2	1	4
	(1.3)	–	(2.7)	(1.3)	(1.3)
Total	75	75	75	75	300
	(100)	(100)	(100)	(100)	(100)

Poverty

Among the respondents majority of them i.e. 83 per cent were identified as BPL while 17 per cent were APL. Among the families selected in Andhra Pradesh, about 97 per cent of them were BPL followed by 87 per cent BPL in Maharashtra and 83 per cent BPL in Orissa and 65 per cent BPL in Chhattisgarh (Table 8).

Table 8 : Distribution of Respondents as per BPL and APL in the Study Area

Category	State				
	Orissa	Chhattisgarh	Maharashtra	A.P.	Total
BPL	62 (82.7)	49 (65.3)	65 (86.7)	73 (97.3)	249 (83.0)
APL	13 (17.3)	26 (34.7)	10 (13.3)	2 (2.7)	51 (17.0)
Total	75 (100)	75 (100)	75 (100)	75 (100)	300 (100)

Availability and Access to Food

Further, their condition in the background of the food availability through PDS was examined. Their asset base, liabilities, income and expenditure pattern give the actual picture of their standing in the society.

The food security problems are intricate as majority of them were living in very remote villages depending on meagre landholdings, wage employment and sometimes on forest produce to earn their livelihoods. The PDS through grain banks, working in these villages as traditional and revised, were newly introduced interventions, catering to the demands of the food needs. Though the PDS is working in these villages, about one-fourth of the respondents did not avail of due to obvious reasons. However, in Andhra Pradesh, more than 95 per cent could avail of PDS ration items while in other States, 22-40 per cent could not avail of the ration items (Table 9).

The reasons might be that they might have the alternative sources to meet their food needs. If we keenly probe, most of their food sources are met on their own. Again, their own sources might be wage labour, forest produce wherever forest is accessible and grain banks in all the study villages. The grain banks are in some places traditional and in some places the voluntary agencies have started for their benefit. In some places the traditional wisdom was revived with the help of the NGOs working in their places. Therefore, to

our surprise, food was available to majority of the respondents in the study area.

Table 9 : State-wise Monthly Average Food and Ration Items Availed of Through PDS by an Average Family in the Study Area (in Kg.)

Kgs	Orissa (N=45)	Chhattisgarh (N=46)	Maharashtra (N=59)	Andhra Pradesh (N=72)	Total (N=222)
Rice	18	27	15	20	19
Wheat	-	-	14	-	-
Sugar	-	4.6	-	1.2	-
Kerosene (Ltrs)	4.4	8.2	10.7	2.4	6.6

On an average, monthly an average family could procure as much as 111 kg. of rice (food) in Chhattisgarh followed by 105 kg. in Andhra Pradesh, 95 kg. in Orissa and 71 kg. in Maharashtra. Except in Orissa, in other three states, wheat was also availed of i.e. 24 kg. in Maharashtra and 9 kg. in Andhra Pradesh and Chhattisgarh (Table 10).

Table 10 : Average Monthly Quantity of Foodgrain Met Through Various Sources by an Average Family in the Study Area (in kg.)

	Orissa	Chhattisgarh	Maharashtra	Andhra Pradesh	All
(1)	(2)	(3)	(4)	(5)	(6)
Rice					
TPDS	18	26	15	19	19
Own Source	59	85	49	67	66
Market	18	–	7	19	16
Total	95	111	71	105	101
Wheat					
TPDS	–	9	14	–	13
Own Source	–	–	10	5	7
Market	–	9	–	4	1
Total	–	9	24	9	21

(Contd.,)

Table 10 : *(Contd.)*

(1)	(2)	(3)	(4)	(5)	(6)
Sugar					
TPDS	–	–	4.0	–	–
Own Source	–	4.6	6	–	3.0
Market	3	4	–	2	4
Total	3	4.0	4.0	2	3.5

Functioning of PDS

As observed, 15 to 20 per cent of the foodgrain requirement was met through the PDS. Its functioning has mixed responses (Table 11).

Table 11 : Functioning of PDS in the Study Area

		Orissa	Chhattisgarh	Maharashtra	A.P.	All
	(1)	(2)	(3)	(4)	(5)	(6)
Location of FPS						
1.	FPS is within 1.2 km	-	8.0	48.0	2.7	14.7
2.	FPS is more than 2 km	60.0	86.7	46.7	32.0	56.3
3.	FPS is opening regularly	48.0	42.7	89.3	76.0	64.0
4.	FPS timings are convenient	42.7	32.0	85.3	69.3	57.3
5.	Within the village	1.3	4.0	4.0	94.7	26.0
6.	Within the panchayat	98.7	96.0	96.0	5.3	74.0
7.	FPS is accessible	50.7	49.3	17.3	36.0	38.3
8.	Aware of entitlement of PDS items	60.0	22.7	70.7	88.0	60.3
9.	FPS supplies entitled quota	48.0	38.7	82.7	92.0	65.3

(Contd.,)

Table 11 : *(Contd.)*

	(1)	(2)	(3)	(4)	(5)	(6)
10.	Drawing entitled quota of PDS items	41.3	28.0	72.0	76.0	54.3
11.	Satisfied with PDS items	50.7	49.3	84.0	92.0	69.0
12.	No stock was available	28.0	50.7	12.0	6.7	24.3
13.	Lack of information about the availability of PDS items	33.3	48.0	10.7	5.3	24.3
14.	Lack of purchasing power	25.3	50.7	9.3	8.0	23.3
15.	Irregular supply of PDS items	17.3	45.3	6.7	4.0	18.3
16.	Inadequate supply of PDS items	26.7	34.7	4.0	6.7	18.0
17.	Drawing monthly quota of PDS items	21.3	36.0	6.7	8.0	18.0
18.	Quality of PDS grains is not good	17.3	34.7	1.3	10.7	16.0
19.	FPS dealer did not distribute PDS items	18.7	34.7	2.7	6.7	15.7
20.	Under-weighment	6.7	21.3	4.0	5.3	9.3
21.	Leakages do occur (chapping) at PDS	4.0	62.7	20.0	16.0	25.7
22.	Leakages can be curbed	2.7	53.3	25.3	12.0	23.5

Majority of the respondents have to go beyond 2 km. sometimes 7 to 10 km to avail of the ration items, which hampers their wage labour. However, more than half of the respondents have availed of the ration food items. Among the people who have not availed of ration, majority of them were aware of entitlement. They could not avail of the ration items due to lack of purchasing power at a time, and sometimes lack of information about the availability of

ration items at fair price shop or sometimes sufficient stocks were not available at the fair price shops. Besides the above, bad quality of the foodgrains, under-weighment, leakages, inadequate and irregular supply of foodgrains at the fair price shops could not ensure food security to these less privileged people. Therefore, alternative systems of distribution emerged and catered to the food security needs in the study area.

Assets

For any individual, asset base can provide affordability and capability for food security and true worth of the person. On an average, the average asset worth per family was estimated Rs.53,670 as in the study area. If state-wise average family assets are observed, an average respondent family in Andhra Pradesh possesses about Rs.84,467, followed by Rs. 58, 020 in Orissa, Rs. 42,461 in Chhattisgarh, and Rs.26,847 in Maharashtra (Table 12). Among all the states, the asset position of the respondents in Maharashtra was found to be extremely bad.

Liabilities

On an average, the average liability of the family of the respondents in the study area was found to be Rs.14,422. In AP, an average respondent family has a liability of Rs. 17,979, followed by Rs. 11,364 in Maharashtra, Rs. 5083 in Orissa and Rs. 3522 in Chhattisgarh. Therefore, with meagre asset base and heavy burden of liability, an average family in the study areas was found to be living in high risk situation of food insecurity.

Income

On an average, the average respondent family annually earns an income of Rs. 12,638. This is much lower than the cut-off income of BPL family. Therefore, the respondent families are living much below the cut-off income of average BPL family. In Andhra Pradesh, an average family in the study area could earn an income of Rs.17,020, followed by Rs.11,978 in Maharashtra, Rs. 11,486 in Orissa and Rs. 10,065 in Chhattisgarh. Comparatively, the average respondent family in Orissa, Chhattisgarh and Maharashtra has less

average family income than the average family income of the respondents in Andhra Pradesh. In other words, even in poverty situation, average BPL family in Andhra Pradesh was better than the average family in other states in respect of earning income and asset position.

Table 12 : State-wise Average Assets, Liabilities, Income and Expenditure of an Average Respondent Family in the Study Area (Rs.)

	Orissa	Chhattisgarh	Maharashtra	A.P.	Average
Assets	58020	42691	26847	85467	53670
	(75)	(75)	(75)	(75)	(300)
Liabilities	5083	3522	11364	17979	14422
	(54)	(41)	(17)	(74)	(186)
Income	11486	10065	11978	17020	12638
	(75)	(75)	(75)	(75)	(300)
Expenditure	11226	10001	13053	21901	14904
(a+b+c+d+e+f+g)					
a) Children's education	873	723	803	3589	11591
	(48)	(50)	(38)	(61)	(197)
b) Health	885	499	1449	2789	1809
	(74)	(75)	(75)	(74)	(248)
c) Liquor/tobacco	779	493	998	2272	1421
	(72)	(74)	(72)	(51)	(269)
d) Fuel	363	254	783	1007	603
	(39)	(58)	(75)	(40)	(212)
e) Cloth	1368	1561	2106	4184	2800
	(75)	(75)	(75)	(75)	(300)
f) Others	1858	1467	1238	1850	1100
	(72)	(72)	(72)	(68)	(284)
g) Food	5100	5004	5676	6180	5580
	(75)	(75)	(75)	(75)	(300)

* Figures in parantheses indicate number of respondents out of sample households.

Expenditure

For the average respondent family, an average expenditure was estimated by taking only the basic items such as expenditure on food, clothes, children's education, health care, fuel and other miscellaneous items. It is estimated as Rs.14,904 per family per year in the study area as a whole. On an average the respondent family in Andhra Pradesh is estimated to have incurred an annual expenditure of Rs.21,901, followed by Rs.13,053 in Maharashtra, Rs. 11,226 in Orissa and Rs.10,001 in Chhattisgarh. Among all the expenditure, the expenditure on food was estimated as major one compared to other items. However, it is less than half of the total expenditure of the family. The details are given in Table 12.

Food Security and Month-wise Availability of Food

To analyse the food security, the monthly expenditure of food by an average respondent family was estimated. Among the states, on an average, a family could draw food items to the tune of 17 kgs in Andhra Pradesh through PDS whereas in other states only 7-16 kgs was drawn by an average family. The quantity of drawals of food items from various sources are presented in Table 13.

In sum, majority of the respondents belong to the productive (82 per cent) age group. A majority of them (54 per cent) were males and 46 per cent were females. About 93 per cent of them belong to scheduled tribe and scheduled caste groups and socially and economically backward groups. A majority of them were illiterate (67 per cent). The average family size was 5.65. About 92 per cent of the respondents belong to agricultural labourer, non-agricultural labourer, marginal and small farmer category. Around 90 per cent of the families belong to landless and marginal farmer category owning below 2.5 acres of landholdings. Most of them (83 per cent) belong to BPL category.

In remote, hilly, tribal and dryland areas, a majority of households depend on their meagre own landholdings, wage employment and forest to earn their livelihood. The PDS and Grain Banks were catering to the demands of the

Table 13 : Monthly Availing of Quantities of Food by an Average Respondent Family in the Study Area

	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Orissa												
TPDS	7.0	6.0	7.0	7.0	8.0	8.0	8.0	6.0	6.0	5.0	5.0	5.0
Own Source	22.0	14.0	14.0	14.0	11.0	10.0	10.0	11.0	10.0	10.0	11.0	11.0
CGB	3.0	–	–	–	–	–	–	–	–	–	–	–
Market	23.0	19.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Chhattisgarh												
TPDS	7.0	7.0	11.0	16.0	16.0	12.0	10.0	7.0	6.0	16.0	8.0	7.0
Own Source	40.0	36.0	24.0	18.0	16.0	16.0	15.0	14.0	13.0	10.0	33.0	33.0
CGB	–	2.0	2.0	4.0	5.0	7.0	16.0	15.0	11.0	6.0	2.0	5.0
Market	1.0	2.0	2.0	7.0	6.0	9.0	5.0	5.0	5.0	8.0	4.0	1.0
Maharashtra												
TPDS	16.0	15.0	10.0	9.0	9.0	10.0	10.0	10.0	10.0	10.0	34.0	73.0
Own Source	13.0	2.0	–	–	–	–	–	–	20.0	114.0	255.0	84.0
CGB	1.0	–	–	2.0	16.0	51.0	6.0	–	–	–	–	8.0
Market	6.0	–	–	–	8.0	20.0	8.0	1.0	–	–	7.0	9.0
Andhra Pradesh												
TPDS	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0
Own Source	31.0	31.0	31.0	31.0	31.0	31.0	31.0	31.0	31.0	31.0	31.0	31.0
CGB	26.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
Market	–	–	–	–	–	–	–	–	–	–	–	–

food needs. Around 26 per cent of the households do not avail of the foodgrains from PDS. In Andhra Pradesh, more than 95 per cent have availed of PDS items whereas in other states 22 to 40 per cent of the households could not avail of the ration items from PDS. In a month, on an average, a family draws 111 kg of rice from various sources in Chhattisgarh, 105 kg in Andhra Pradesh, 95 kg in Orissa and 71 kg in Maharashtra. Except in Orissa, the wheat availed was 24 kg per month in Maharashtra and 9 kg each in respect of Chhattisgarh and Andhra Pradesh. Around 15 to 20 per cent of requirement was met through PDS. About 54 per cent of the respondents availed of the foodgrains from the PDS and nearly 46 per cent were not drawing their entitled quota. Though they are aware of their entitlement of PDS, they did not avail of due to locational factor and geographical accessibility of fair price shops, due to lack of purchasing power at a time, lack of information and availability, bad quality of grains, irregular supply, improper and under-weighment, and leakages at the fair price shops. The asset positions of the respondents was found to be extremely bad. With meagre asset base and with heavy burden of liability, the households were living in a high risk situation of food insecurity. The annual income level was around Rs.12,638 per family indicating much lower than the cut-off national income level of a BPL family. The expenditure on food was higher when compared to other items. It was less than fifty per cent of the total expenditure of the family. With this meagre asset and income base, the average family could draw food items through PDS to the tune of 17 kg in Andhra Pradesh and 7-16 kg in other states. Mostly, the months May, June, July and August are, being the lean period scarcity months during a year. The community grain banks come to their rescue in providing food during this period. In subsequent chapters discussion on various models of community grain banks will follow.

CHAPTER - III

THE ADS GRAIN BANK AND FOOD SECURITY MODEL, MAHARASHTRA

Introduction

The Academy of Development Science (ADS) is a registered public trust and charitable society. Designed by the University of Mumbai as a part of graduate volunteer scheme, it was established as an autonomous organisation in 1980.

ADS as a people-oriented science and technology organisation is primarily concerned with the problems faced by village communities, particularly the tribals, the landless and small and marginal farmers.

It sees the rural environment as relatively more balanced than the urban industrial environment. The Academy is committed to rural work based on an appreciation of many positive features of rural life and society. It sees a big challenge in revitalisation of the rural economy while strengthening its ecological base.

One of the constant endeavours of the Academy is to motivate 'knowledge' as a social function (as represented by individuals and knowledge-oriented institutions) to serve the needs of ordinary "*shramik*" people in rural areas. This has become necessary today on account of distortions in the social order as a result of which we find 'knowledge' largely serving power and wealth and minimum needs of millions not being met.

It draws inspiration from the rich and diverse indigenous cultures and knowledge systems. At the same time it believes that it is necessary to assimilate western S & T wherever it is relevant to the national needs.

The major thrust areas of the organisation are (1) Traditional medicine and primary health care, (2) Conservation of genetic resources, (3) Food

Security, (4) Village technologies for employment and self-reliance, (5) Watershed Development, (6) Activity-based education, (7) Self-Help Groups of women.

The ADS campus, with simple infrastructural facilities is situated on 25 acres, near Kashele village in the heart of Karjat tribal block, Raigad district, Maharashtra, India. It covers two tribal blocks in Raigad and Thane districts of Maharashtra.

Food Security Issues in a Tribal Region

Tribal communities in Raigad and Thane districts of Maharashtra face food shortages for three to four months in a year. Lack of adequate food has an adverse effect on the health and well being of tribals. Women and children are the worst affected.

Livelihoods of tribals are woven around hunting/gathering and subsistence farming. Forests provide a wide range of foods (uncultivated vegetables, fruits, tubers/ rhizomes, fish, crabs, animals, birds, etc.) and are an important part of the food security of tribals. However, availability of forest produce declined considerably due to widespread deforestation. Foodgrain yields from subsistence-based farming are low and cannot meet the food needs of the family for the whole year. Tribal families thus face shortages of food for 3-4 months in a year. The periodic cycle of food shortage represents the "lean period" for tribal families. This is a period of starvation and hardships for tribals.

State schemes like the PDS, ICDS, etc. which are aimed at providing food security to the poor and needy, do not work satisfactorily. As a result, tribal families do not have access to food during the lean period. They have been traditionally borrowing foodgrains from *Sahukars* or moneylenders to tide over the periodic food scarcity. Moneylenders charge an exorbitant interest rate on the grain loan and force tribals to work on their fields as bonded labour. The fields of tribal people get neglected in the process; resulting in lower yields, further marginalisation and a continuing cycle of exploitation.

The explicit thrust of the ADS grain bank programme is to encourage food security at the community level in tribal villages by ensuring timely availability of grains to the socio-economically weak, small and marginal farmers, agricultural labourers and the landless people. Any village interested in setting up a grain bank is given a certain quantity of grain in the form of loan by ADS, on the basis of household requirement of members. Each member repays this loan over a period of four years. The repaid grain is used as revolving fund to extend the programme to other villages, desirous of initiating a grain bank. At the end of four years, the village would have repaid 100 per cent of its loan to ADS and the village then fully owns the stock of grain in their grain bank. From fifth year onwards, interest repayment from members adds to the grain buffer stock of the village. At the implicit level, the objective is to overcome the exploitation of the local moneylenders. The ADS model incorporates a decentralised structure for managing the grain banks at the village level through Panch Committees and a block level federation, *Swayampurna Gavki Vikas Samiti*. Specific rules and regulations are set in order to regulate and streamline their functioning.

Philosophy

Empowerment of the powerless should facilitate democratic decentralisation of power and resource sharing, so that they are enabled to overcome their basic preoccupation with food security and actively participate in the governance of their communities.

Principles

- ★ Democratic decentralisation should pervade every level of society.
- ★ People's participation should achieve broad basing of social, economic and political power sharing.
- ★ Basic food security concerns should be addressed through mutual help to enable participation of every section of society in its development process.

Objectives

- ★ Promote food security of tribal and other backward communities by setting up decentralised and self-sufficient village-level grain banks.
- ★ Enable poor households to release themselves from the clutches of moneylenders.
- ★ Facilitate a process of participation and mutual cooperation among participating members.

Strategies

- ★ Organise groups of men and women at the village level to facilitate participation and mutual cooperation.
- ★ Build capacities of groups and their leaders for resource management and decision-making.
- ★ Network among village grain banks for exchange and resource sharing.
- ★ Federate for decentralised monitoring, pressure groups and conflict resolution.

Structure

Members

- ★ Members are individuals who represent their household in the village grain bank.
- ★ Membership is guided by rules and regulations lay down by the agency. While forming the grain bank, all representatives do a basic screening in terms of the member's ability/readiness to abide by rules and regulations of the grain bank. For instance, in Nagewadi, the villagers deliberately excluded one member for his laziness and non-repayment of loans. They were sure that he would be the only one who would not repay the grain loan. Later when his brother pledged on his behalf, he was given the loan.

- ★ Members constitute the *Panch* Committee and reconstitute it, if necessary.
- ★ Each member states her/his household requirement for foodgrains that (s)he will borrow from the grain bank.
- ★ Members are expected to participate in each of the three or more meetings held in a year. In these meetings, members share responsibilities and seek clarification regarding the grain bank. They also contribute money and labour towards the construction and repair of bamboo storage bins *(kanga).*
- ★ Members enjoy the same rights as *Panchas* expect for conflict resolution, where the final decision is made by the *Panch* Committee. Members can pose questions to the *Panch* Committee.
- ★ In case of defaulting members, all members collectively decide on the penalty to be assigned.

***Panch* Committee**

- ★ *Panch* Committee is the coordinating body of the village grain bank. It comprises five elected representatives, or *'Panchas'* from the village.
- ★ Members of the grain bank constitute the *Panch* Committee and they have a right to reconstitute it in case there are any problems with its functioning.
- ★ The Committee is responsible for the final selection of members, distribution of grain, collection or repayment of grain and interest, storage of grain, record keeping, conflict resolution and for all other matters related to the effective management of grain banks.
- ★ The Committee and members collectively have the right to revise the rate of interest or to decide the utilisation of surplus grain once the grain bank becomes self-sufficient.
- ★ The Committee is responsible for management of the Village Cash Fund, which is generated through sale of surplus grain.

- ★ The Committee meets at least five times in a year. It meets before and after grain distribution and grain repayment to plan and monitor distribution and recovery. It also meets once to plan storage of grain.
- ★ The *Panch* Committee has no fixed tenure. Changes are considered if members raise objections, when any *Panch* moves to another village or in the case of demise of a *Panch.*

Swayampurna Gavki Vikas Samiti

- ★ The five *Panchas* from each village are members of the taluka-level federation *viz., Swayampurna Gavki Vikas Samiti* (commonly called *Gavki Vikas Samiti* or GVS).
- ★ GVS is responsible for the overall management and implementation of the grain bank programme. It takes stock of individual grain banks, monitors progress and ensures their proper functioning. GVS also acts as pressure group to deal with defaulting grain banks. It is authorised to take action against defaulting grain banks.
- ★ GVS meets twice a year in April and September/October, so as to coincide with the distribution and repayment periods, respectively.
- ★ GVS monitors the work of *Karyakartas* (ADS field staff)

Coordination Committee

- ★ The GVS elects a Coordination Committee consisting of eleven members. Of these, nine members are from amongst the village *Panchas* representing nine regional divisions. There are two permanent members from ADS.
- ★ The Coordination Committee has a five-year term.
- ★ The Coordination Committee meets regularly to take stock of the grain bank programme and discuss issues pertaining to them. It also selects the villages for the Village Cash Fund Programme. It is also responsible for resolving conflicts and sorting out problems at the macro level.

★ The Coordination Committee meets four to six times in a year. It meets before and after the GVS meetings. Their two important meetings are the ones before grain distribution and after repayment.

★ The Coordination Committee is now playing a pro-active role in other developmental activities such as the Forest Protection Fund. For instance, the committee is responsible for management of the Forest Protection Fund. The Fund is aimed at curbing distress sale of private forests to forest contractors. The Fund provides credit to small and marginal farmers who are forced to sell off their private forests to meet emergency credit requirements. In return, farmers undertake to provide long-term protection to their forest. The Fund amount is deposited in a separate bank account in the name of *Swayampurna Gavki Vikas Samiti*. The Coordination Committee is responsible for framing rules and regulations for the programme, selection of needy farmers, disbursement of money, record and account keeping, operation of the bank account, recovery of loans and settling disputes.

Process

Any village interested in setting up a grain bank can get involved by first enroling members. A representative from each family seeking membership is a member of the grain bank. Members select the *Panch* Committee and the Committee then puts in a formal request to ADS for a grain loan based on the requirement of individual members. Members decide the quantity and quality or type of foodgrain required. ADS provides grain loan to the village during April-May. The grain is then redistributed to individual members. Members repay the loan with 25 per cent interest to the grain bank immediately after the harvesting season, which is between October-November. The 25 per cent interest paid by each member goes back to ADS while the capital amount remains within the village. The capital amount is redistributed to members every year in the month of May and recollected after the loan to ADS over a period of four years. This grain is used by ADS as revolving fund to extend the programme to other needy villages. From the fifth year onwards, the grain bank is self-sufficient and the repayment of interest from members adds to the

grain stock. Grain banks often sell surplus grain to generate a Village Cash Fund or to support other development activities in the village. They also reduce the rate of interest once adequate grain stocks are built up in the village.

Stage one : Groundwork : The Programme Coordinator and *'Karyakartas'* of ADS initiate contacts with villagers. They rarely take up the grain bank programme for discussion with them in the initial meetings. This is unless, the villagers themselves have approached ADS to initiate a grain bank programme in their village after being exposed to one in neighbouring villages. In such cases, the groundwork is easier, as villagers have seen a functional grain bank programme and are convinced about its benefits. In other villages, the programme could appeal to villagers after they are told about it in village meetings. However, villagers often have doubts regarding practical operational difficulties and the intentions of ADS to provide full autonomy once the loan is repaid. Their experience with credit and subsidies from government programmes is associated with corruption and exploitation. This association is often transferred to the grain bank programme. At other times, influential village leaders whose vested interests are threatened by the grain bank programme intimidate the villagers.

In order to deal with these bottlenecks, agency personnel avoid contact with prominent leaders in the initial stages, unless villagers regard them. Respected elders are contacted to gain confidence of the villagers. At times ADS organises exposure visits in nearby villages where grain banks are operating. Here they interact with grain bank members and clarify their doubts. The interaction with people from another village carries more conviction than a question/answer session with agency personnel. This is often followed by a meeting among villagers to consider initiating the programme in their village.

If there is willingness to initiate the programme, members submit a preliminary application to ADS. Following this, ADS organises another meeting in which villagers select their *Panch* Committee members. At this point, some members are likely drop out from the programme. ADS *Karyakartas* attend this meeting. Details of the programme, rules and regulations, responsibilities

of members, functions of the *Panch* Committee and *Gavki Vikas Samiti* etc., are explained to members. Rules and regulations are read out and a copy is handed over to the members. *Karyakartas* clarify doubts raised by members. The grain bank can decide on setting an upper limit for the grain loan or allocate a uniform or need-based quota for members. A socio-economic profile of the members is prepared by ADS.

The grain bank group screens each member for her/his ability to repay the loan. However, this does not mean that only members with land and other resources are given membership. Households without land assets, working as agricultural labourers, are also given membership.

The membership fee of Rs.15 per member is collected and deposited in the Grain Bank Development Fund as a member's commitment to actively participate in the grain bank programme. Household foodgrain requirement of each member is recorded and the quota for the village is decided. A formal application for the grain loan is submitted to ADS, giving details of the loan requirement of each member, the Panch Committee signs the formal application.

Stage Two : Grain Distribution : Grain distribution is carried out between April-May, well before the onset of monsoon. On the basis of the application letter, ADS provides grain loan to the village in the month of April-May. ADS either supplies grain purchased from farmers after the harvesting season or rotates the grain returned by another grain bank. Members fix a date for grain distribution in their village and ADS is notified. The grain is distributed in the presence of the Panch Committee and all the members. At this time a written bond is prepared by the members on a ten rupee stamp paper stating the quantity of grain allocated to each member. Members sign the bond.

Stage Three : Storage : Before collection of the grain capital and interest from members, arrangements are made for its storage, protection and record keeping. This is undertaken between October-November. Arrangements for bamboo storage bins *(kangas),* storage place, measures, pest control and a register for account keeping have to be made. The Grain Bank members

organise a meeting with *Karyakartas* to work out details of grain storage. The number and size of *kangas* are decided. A local artisan is given responsibility to make the *kanga*. The expenses are collectively borne by members. Sometimes members themselves contribute the raw material and labour for making the *kanga.* Some of the members offer to place the *kanga* in their house with the understanding that they are responsible for the grain stock. Locally available herbs and leaves are used to protect grains from pests. Once the grain is formally disbursed to the village grain bank, the *Panch* Committee signs a confirmation note.

Stage Four : Repayment : In the post-harvest period between November-December, members return their grain with interest. Members meet and fix a date for loan repayment. ADS is informed of this date. The grain bank collects an interest of 25 per cent from each member on the capital borrowed by the member. The 25 per cent amount is given to ADS while the capital remains in the village grain bank. So a member who has borrowed 100 kgs from ADS has to put back 100 kgs in the Village Grain Bank and return 25 kgs to ADS after the harvesting season. Next year (s)he will again be entitled to a grain loan of 100 kgs from the grain bank. Every year members repay 25 per cent of the loan amount to ADS. Members thus repay the entire loan from ADS over a period of four years. The grain bank becomes fully self-sufficient from the fifth year onwards and interest recovery from members adds to the grain buffer-stock in the village. The grain bank then has the right to revise the rate of interest or to sell off the surplus grain.

In the formative years of a grain bank, ADS *karyakartas* remain present in the meeting to facilitate the process of repayment but later as the grain bank gains in experience, presence of ADS personnel is not necessary. The recovered gains are stored in the ADS godown. This is a dynamic period as activities are at a peak. Differences and conflicts are likely to arise with respect to repayment during this period. The *Panch* Committee has to play a crucial role in making decisions based on consensus in the larger interest of grain banks. The agency personnel play an active role in this phase by helping grain bank members and *Panch* Committees fulfil their responsibilities and resolve conflicts.

If a member returns poor quality grain and is unable to, or refuses to, replace them with better quality grain, the *Panch* Committee usually asks her/him to return the grain in a gunny bag so that it is stored separately and not mixed with the better quality grains returned by other members. In the following year the same grains are given back to her/him as her/his share of the grain loan. Dealing with and allaying doubts and fears about agency's intentions are more frequent during this phase. If the recovered grains can be disbursed to neighbouring villages as revolving fund, then ADS issues letters to both the grain banks communicating the arrangement. A record is maintained for this arrangement with signatures of the *Panch* Committee of both the grain banks. Transportation cost is borne by ADS. Entries of the recovered grain are made in the register against the names of the members. Recovered grains are transported and stored in the ADS godown or stored in the same village if it has to be distributed to another nearby village as revolving fund.

Stage Five : Autonomy : The village grain bank becomes autonomous when the entire loan amount has been repaid to ADS. The entire stock of grain in the village becomes a property of the village. Further, collection of interest from members augments the grain buffer-stock of the village. The grain bank then has the authority to revise the rate of interest or to sell off surplus grain. Over a period they may take decisions about how they will utilise the interest amount they accumulate as community asset.

Most grain banks continue to charge an interest of 25 per cent from members for the next 4-5 years and then decide to sell off the surplus grain to generate a Village Cash Fund or for other village development activities. For instance, members in Nagewadi decided to set up a Cash Fund through sale of the surplus grain, while members in neighbouring Dongarpada annually sell off the surplus grain to raise money for the yearly community utsav (fair) in the village. Some grain banks reduce the rate of interest to 10-12 per cent, once the stock position is comfortable. However, autonomous grain banks and have to adhere to the basic rules and regulations of the grain bank programme in order to participate in the federation and be part of the ADS programme.

Significant Features

- ★ Decentralised resource management and decision-making through the *Panch* Committee and *Gavki Vikas Samiti* as People's Institutions.
- ★ Revolving fund reduces transport and handling cost and encourages mutual help and cooperation.
- ★ Membership fee and contribution makes people partners and not beneficiaries. This helps in relating to the programme with a sense of responsibility and ownership. They make their own arrangements for grain storage in the traditional bamboo *kanga.* Members voluntarily contribute money, raw material (bamboo) and labour to build, repair and maintain *kangas.*
- ★ Record keeping and formal correspondence are maintained systematically and earnestly, which is essential when resources are exchanged.
- ★ Cash Fund basically serves the credit needs of members. At present, about 50 grain banks under this programme own a cash fund. ADS in the current year, has started contributing a matching grant to the village cash fund. This is under the aegis of UNDP's Community Based Pro-Poor Initiatives Programme. Cash fund is generally utilised to meet the member's credit needs before cultivation, mainly for purchase of essential commodities, for agricultural inputs; expenses on medical treatment, house repairs, etc. The cash fund is also used for community purposes such as buying utensils or mattresses for the village, for annual expenses on village festivities and so on. It also acts as a buffer in times of drought or distress when it can be used for purchasing grain. No misappropriation of cash fund has been reported so far.
- ★ Tribals are more accustomed to traditional volumetric measures. In this region, measures such as *Phari, Maund* and *Adoli* are common. This feature facilitates easy acceptance of the programme and local commerce.

★ In the recent years, women have become active partners in the programme. Women members constitute about 9 per cent of total membership. Fifteen grain banks are being operated by women's groups. The *karyakartas* have observed that women members are more sincere and better organised. The process of women's participation in the grain bank programme is significant also because they utilise this forum to address issues of common concern in the village. The grain collected during repayment by women are found to be cleaner and of better quality. Women generally do not relax or change rules in the case of deserted/ widowed/ destitute women in the village grain banks. But members are known to help deprived women in other ways. Mr. Monohar Agivle, the chairperson of GVS says, "It is a male dominated society and they do lose out, but for the last 2-3 years we are making special efforts to include them in the programme".

The ADS Grain Bank Scheme started in the year 1988 with four grain banks. It gradually increased to 144 grain banks by the year 2003 (Table 14).

The ADS Model Grain Bank is in operation in 134 villages in Thane and Raigad districts. In all, there are 144 grain bank beneficiary groups in operation. The total membership of grain bank is 3070 covering a population of 16885. In all, the ADS has given a loan of 5657.30 *maunds* of paddy and 589 *maunds* of ragi or millets to the grain banks. Besides, ADS contributed in developing village cash fund and also helped in forest protection fund in the villages. The other development activity undertaken by ADS is upland development in the village. All these efforts resulted in ensuing the food security of tribals in the study area. ADS also encouraged indigenous storage facility in the grain bank villages (Table 15). These programmes are implemented and supervised by GVS, a cluster level body of the grain banks in the study area.

Table 14 : Year-wise Formation of Grain Banks, 1988 to 2001

S. No.	Start Year	No. of Grain Banks	No. of Members	Grain given by ADS (in *Maunds*)		
				Paddy *(Maunds)*	Ragi *(Maunds)*	Total *(Maunds)*
1.	1988	4	202	400.00	213.00	613.00
2.	1989	4	102	123.00	76.00	199.00
3.	1990	3	53	43.00	43.00	86.00
4.	1991	4	105	121.75	31.75	153.50
5.	1992	6	108	196.00	58.25	254.55
6.	1993	12	246	490.00	31.00	521.00
7.	1994	9	176	325.75	–	325.75
8.	1995	6	119	313.00	–	313.00
9.	1996	4	55	144.00	19.00	163.00
10.	1997	6	191	365.50	–	365.00
11.	1998	10	286	528.00	21.00	549.00
12.	1999	8	176	302.50	11.00	313.50
13.	2000	13	246	366.50	73.00	439.00
14.	2001	17	289	591.50	–	591.50
15.	2002	26	470	887.50	12.00	897.50
16.	2003	12	246	451.00	–	451.00

Note : 1 *Maund* Paddy = 30 to 33 kg; 1 *Maund Nachni* = 40 to 41 kg.

Table 15 : Particulars of Activities, ADD Model Grain Bank - Maharashtra

S.No.	Name of Activities	Total Villages	No. of Beneficiary Groups	No. of Members	No. of Population	ADS Help			
1	Grain Bank	134	144	3070	16,885	Grain	Paddy 5657.30	Ragi 5890	Total 6240.30
2	Cash Fund	46	50	916	5038	Cash	Rs. 1,84,150.00		
3	FPF	30	30	32	176	Cash	Rs. 1,46,000		
4	Upland Development	9	10	125	688	Cash	Rs. 1,95,085		

The communities covered under the grain banks are : Takurs, Madhavkoli, Kaikari as tribals and few harijan families and OBC groups etc., (Table 16).

Table 16 : Caste-wise Distribution

S.No.	Caste	No. of Population	%
1.	Thakur	1781	75.66
2.	Mahadevkoli	203	8.62
3.	Kaikari	145	6.16
4.	Maratha	133	5.65
5.	Harijan	46	1.95
6.	Aagri	39	1.66
7.	Others	7	0.30

Repayment is the strongest factor of this programme, which gives an impression that members with landholdings stand to gain from the programme. According to a survey carried out by ADS in 1999, the participation of landless was to the extent of 28.08 per cent. Participation of small farmers with land size of less than one acre was the highest at 35.09 per cent (Table 17).

Table 17 : Size of Landholdings of Grain Bank Members

Size of landholding (acres)	Number of Members	Percentage of Total Membership
Landless	580	28.08
Less than 1	724	35.09
1-1.5	283	13.70
1.5-2	166	8.03
2-2.5	87	4.21
2.5-3	79	3.83
3 and above	146	7.07
Total	2065	100

Grain banks follow a timetable based on the lean period and agricultural season (June to October/ November). Grain distribution takes place before the monsoon while grain collection is organised in villages immediately after the harvesting season. GVS meetings take place before grain distribution and collection.

Activity	Period
Grain distribution	April-May
Grain collection	November-December
Grain storage	December to April/May
GVS meetings	April and September

Categories of Number of Families in ADS Grain Bank System

A look at the membership shows that the programme succeeded in reaching out to the poor and the marginalised. The figures given in Table 18 were calculated for 106 grain banks that were operational during 2001.

Table 18 : Categories of Families under ADS Grain Bank Scheme

Category	Number of Families	Percentage
Total	2354	100.00%
Tribal	2129	90.50%
Non-tribal	225	9.50%
Women	281	12.00%
Katkari	141	6.00%
Landless	693	29.50%
Small farmers (0-1 acre)	782	33.00%

- ★ The programme is targeted at both tribal and non-tribal groups who face lean season scarcity. Hence, whilst tribals account for almost 92 per cent of total members, non-tribals form 8 per cent of total members.
- ★ *Nachni*, a traditionally cultivated and nutritionally rich cereal is incorporated in the grain bank programme. This assumes importance in view of the gradual displacement of *Nachni* from tribal diets by the wheat supplied by the PDS.

Problems Encountered

In the process of forming grain banks, most of the problems are encountered in the first stage and the last one. While introducing the concept of grain banks, one has to deal with people's doubts and apprehensions with patience. Influential leaders in the village whose vested interests could be threatened due to grain banks could intimidate or threaten villagers and thus dissuade them from taking it up. Political dynamics also tend to surface at this point. There are rival political groups in almost every village, but ADS observed that if people have a fundamental need that is being addressed, then political issues do not cause hindrance. Villagers themselves make it a point not to organise meetings in villages around elections when political dynamics are at their peak. Moreover, once villagers realise that the agency is not involved in any political activities, they ensure that political issues in the village do not interfere with the grain bank programme. For instance, Nagewadi village has two rival political groups and there is a representative of each in the *Panch* Committee but this has never affected the functioning of their grain bank.

Conflicts also arise at the time of repayment, especially when the grain bank is new. Members are alert about getting cheated and have a keen eye on the amount and type of grain being given to them. Those collecting their quota towards the end, usually complain of too much chaff in their share. It becomes essential to satisfy such complaints right then. Leadership conflicts are also common, especially when there is a generation gap. In Chaudarwadi village for instance, the grain bank operated smoothly since 1989 under a wise aged leader. On the death of this leader, there was a tussle between the

older and younger groups for leadership. The latter group threatened to break off and demanded a new grain bank. Initially, the agency personnel agreed to their demand, but later realised that it was not a wise decision to make, as it would further deepen the resentments in the village. The Agency declined to initiate another grain bank when there was one existing. The youth groups dropped out from the old grain bank and later the grain bank too withered away. It has been defunct since then. These are tricky situations where sometimes, even the implementing agency could commit mistakes.

In spite of the members taking utmost care to ensure repayment, some unforeseen eventualities could crop up at the time of repayment. But ADS observed that even in very bad conditions of crop damage or failure, members repay atleast half of the capital amount and the interest.

Although migration is quite common in this region, members are usually in the villages at the time of distribution and repayment. The only exception is the Katkari tribe, which is considered to be the most vulnerable in socio-economic terms. They are almost absolutely landless. They have no means of production and no local employment opportunities. They have to migrate in order to survive. With this group, one needs to devise comprehensive and long-term strategies to provide economic alternatives and to introduce meaningful development interventions.

When the grain bank programme by the Tribal Welfare Department, Government of Maharashtra, was introduced in the region, ADS faced a peculiar problem with respect to its grain bank members. The Government programme had an adverse impact on grain banks established by ADS on account of wrong policies and improper implementation of the former. The monetary incentive offered by the government programme made people suspicious of the ADS programme, which did not offer any money. They demanded similar incentives from ADS, which it refused to accede to. ADS had to then call a GVS meeting and explain their reasons for excluding the element of incentives from their model.

Utilisation of the Grain Bank by the Sample Households in the Study Area

Almost all the respondent households belong to the landless, marginal and small farmer category. The family size varies from 2-5 members to 10-13 members. Small families constitute 59 per cent and around 37 per cent of households have relatively larger size of families (Table 19)

Table 19 : Size of the Family of the Respondents

S.No.	Family Size	No. of Households	Percentage
1	2-5	44	58.6
2	6-9	28	37.4
3	10-13	3	4
	Total	75	100

Around 61per cent of the members joined the grain bank more than 10 years ago and the rest 39 per cent joined the grain bank for the last 4-5 years (Table 20).

Table 20 : Year of Becoming a Member in the Grain Bank

Year	No. of Years	No. of Households	Percentage
1992	12	24	32.0
1994	10	22	29.3
1999	5	13	17.3
2000	4	16	21.4
	Total	75	100

In total, all the households borrowed paddy to the tune of 3869 kg and ragi 1430 kg from the grain bank. The per household loan from the grain bank is around 52 kg in case of paddy and 38 kg in case of ragi (millets).

This shows the effective utilisation of grain bank by the respondents during the lean scarcity period (Table 21).

Table 21 : Quantity of Foodgrain Borrowed in the Beginning by Respondent Households

No. of Households	Paddy (in kg)	No. of Households	Ragi (in kg)
12	20	9	20
1	24	24	40
1	35	1	50
28	40	3	80
7	50	—	—
1	60	—	—
23	80	—	—
2	100	—	—
Total 75	—	37	—

N = 75 - the figures under paddy and ragi indicate that one respondent may avail of both kinds of foodgrains.

The total quantity of grain deposited by the respondent households in the grain bank is 6299 kg of paddy and 1430 kg of ragi. The per capita deposited in the grain bank is 99 kg in case of paddy and 4 kg in case of ragi. As the deposit of the grain is ahead of the loan given to the respondent families, it indicates the credibility and effectiveness of grain bank in meeting the critical hunger needs during the scarcity months. It also acts as a safety-net for poorer households (Table 22).

Table 22 : Quantity of Foodgrain Deposited/Stored by the Respondent in Their Names in the Grain Bank

No. of Households	Paddy (in kg)	No. of Households	Ragi (in kg)
1	24	2	40
1	50	1	60
4	60	2	80
35	80	2	100
5	100		
5	120		
1	150		
8	160		
3	200		
Total 63		7	

The beneficiary households were asked about the benefits they derived as a result of their involvement in grain bank. The responses can be seen from Table 23. A great majority of respondents (88 per cent) mentioned that this helped them in "coming out of clutches of the moneylenders" followed by grain available at the time of need (53.3 per cent), grain available as per the requirement (53.3 per cent), and low rate of interest (40 per cent). It meets the critical time hunger needs (54 per cent), no need to go to moneylender for consumption loan/work (37 per cent) and not depending on market (36 per cent). This indicates the successful operation of grain bank in meeting lean period scarcity of food needs in the study area (Table 23).

Table 23 : Benefits Derived from Grain Bank as Perceived by the Respondent Households

S.No.	Response	No. of Households	Percentage
1.	Coming out from clutches of money-lender and containing moneylending	66	88.0
2.	Grain available at the time of need	40	53.3
3.	Grain available as per requirement	40	53.3
4.	Low interest rate	30	40.0
5.	Increase in storage/stock of grain	21	28.0
6.	It meets the critical time hunger need	41	54.7
7.	Starvation stopped	10	13.3
8.	Not depending on market at difficult times	27	36.0
9.	No need to go to moneylender for consumption loan/ work	28	37.3
10.	Marriage/festival need also met	15	20.0
11.	Development of upland	20	26.7
12.	Self-reliance and community own decision-making / participation	17	22.7
13.	Community ownership of grain bank	11	14.7
14.	Women's empowerment increased	9	12
15.	Migration stopped	10	13.3

N = 75; multiple responses.

Around 67 per cent of the respondents mentioned that actual food needs in the critical times are met from the source of grain bank (Table 24).

Table 24 : Opinion on Actual Food Needs Met from Grain Bank

Response	No. of Respondents	Percentage
Yes	50	66.7
No	25	33.3
Total	75	100

Note : The response under 'no' indicates some people have also lifted foodgrains from PDS. Sometimes they do not get food needs to meet the marriage and festival purposes. Some families need food help for two/three/four and six months. It may not be always possible to give all members for their requirement of food for more than three months.

When ascertained from the respondents whether the present situation is better than before to meet their hunger needs, all the respondents said yes.

Impact

ADS began its work on village level grain banks in 1987 and the intervention was seen to provide a solution to the problem of food insecurity during lean season. By the year 2000, ADS had established 89 grain banks in 83 villages of Karjat and Murbad blocks with a total membership of 2,065 adivasi and non-adivasi members. Of these, women constitute 5.85 per cent. Most of the members are small landholders owning up to three acres of land. Those owning less than one acre land constitute 35 per cent of the members and landless farmers constitute 28.08 per cent. For members of grain banks, lean season food scarcity is a thing of the past. Most of these villages have taken up other developmental programmes offered by ADS and have become active development partners in the process. Besides dealing with food insecurity, the process led to people's social, political and economic empowerment.

The rate of repayment in the ADS grain bank programme is near total. This success has prompted the Government of Maharashtra to replicate this

programme in all tribal regions of the state through the Nav Sanjivan Yojana of the Tribal Welfare Department. This section discusses the impact of this programme on the focus group, the grain bank members.

Economic Impact

The combined stock of grains available in the 89 grain banks adds to the sum of 5518 quintals. Of this, 4296.30 quintals is the quantity of grain provided by ADS and the rest 1221.75 quintals is the contribution of the members. The stock of grains accumulated as a result of interest repayment after returning the borrowed amount to the agency transforms into community assets owned by the village. The surplus grain stock is often sold to other villagers and the return from such sale builds into the village cash fund. The cash fund is utilised to meet credit needs of the members, to building community assets and to meet food requirements of members in case of crop failures. This has ensured economic viability of grain banks.

Grain banks also cushion the blow of frequent price rise. The barter system proves effective in countering market and political forces that influence agricultural pricing as well as other limitations of centralised agricultural marketing in the form of agents and middlemen. Economic empowerment is achieved as the villagers develop their asset base in their communities in the form of grain stocks and village fund.

An indirect impact of the grain bank programme has been the enhancement in people's negotiating power. The grain stock in the village provides a sense of security that translates into greater bargaining power. It was observed that generally in villages where grain banks were operating, the wage rates for agricultural labourers went up dramatically. People had a newfound confidence that helped them bargain for higher wages. Forced labour as part of debt repayment was curbed. People could use their labour in their own fields to enhance its productivity. The uncompromising factor of loan repayment, has also proved to be a push factor for members to invest their labour in their own land. Landless members have adopted share cropping and tenancy farming

instead of casual labour.

Although, the above two are also exploitative, are definitely better options than migrating as casual labourers for daily wages.

Social Impact

Self-sufficiency in meeting basic food needs gives a sense of dignity, which in itself is empowering. Overcoming the feeling of helplessness and dependence on the moneylender and countering the exploitation is encouraging. The ADS model accommodates those in the lowest socio-economic strata. Hence, the landless labourers and the women in the community are not only the beneficiaries of the programme, but they also become active participants in the decision-making and resource management processes. Although not very actively pursued in the initial stages, women's participation in the programme, by ensuring their participation in the *Panch* Committees and *Gavki Vikas Samitis,* is being given a major thrust by ADS now. Also, as members of grain bank, a local institution, they gain visibility and social recognition.

Incorporating of traditional cereals in the grain banks, replaces the sense of embarrassment in consuming them with a sense of respect and acceptance towards their cultural practices.

Political Impact

Grain banks facilitate periodic meetings and informal discussions within the village, a process that has not been a deliberate and conscious exercise. The *Panch* Committee besides managing the grain banks also manages the cash fund and gets, involved in addressing other common problems facing the village. This process fosters a spirit of oneness and self-reliance among the villagers and promotes mechanisms for sorting out their differences and working towards community development.

The process of operating grain banks under this model ensures participation of people in developing the infrastructure for storage and

distribution and gradually transfers the power to them as they manage grain banks at the village and block level. They are thus actively involved in the design, implementation and management of the entire programme through the *Panch* Committee and the *Gavki Vikas Samiti.* These two operate as People's Institutions. Its implication on people's interaction and general development processes in villages is significant as they have the potential to organise themselves and form their collective power base. It brings to the fore, people's independence and initiative in managing community resources.

Lessons Learnt

Availability of grain at the village-level during times of need : Grain banks ensure availability of food grains to poor families during the lean period.

Village cash fund : Self-sufficient grain banks sell surplus grain to raise money for a village cash fund or for other development work within the village. Most people in tribal villages need cash for purchase of agricultural inputs, health expenses and for stocking essential commodities in the household during the monsoon season. The cash fund effectively meets this requirement, besides providing loans to members at other times of the year. Members borrow money for house repairs, medical needs, marriages, etc. The benefits are numerous. For instance, a farmer from Nagewadi village managed to prevent distress sale of his three acre private forest because of a loan from the cash fund for the marriage of his daughter. The village cash fund played an important role in meeting the cash needs of poor tribal families and prevented them from falling into the clutches of moneylenders.

Elimination of moneylenders : Tribal people borrow foodgrains and/or money from moneylenders during the lean period. Those who fail to repay the loan and interest in time have to work as bonded labour for the moneylender. People can now obtain foodgrains and money from their own grain bank and village cash fund on affordable terms. Grain banks have thus played an important role in getting rid of moneylenders and the associated practice of bonded labour.

Payment of appropriate wages and improved bargaining power : Moneylenders pay low wages to people who borrow foodgrains or money from them. Grain banks freed people from the clutches of moneylenders and empowered them to seek appropriate wages from moneylenders and other employers. They also improved the bargaining power of people. It is important to note here that even non-members benefited from this change in relationship. They now bargain with moneylenders for better wages. So the benefits of grain banks even percolated to people who are not members of the programme.

Participation of the landless : Nearly 30 per cent of the participating families are landless, indicating benefits of the programme to such families. It is hence wrong to correlate grain banks only with farmers who own land. Landless families either grow their own grain through share-cropping or repay the grain loan through the wages that they earn.

Protection against price increments and fluctuations : Grain banks protect people from the frequent price increments and market fluctuations.

Contribution to village development activities : Self-sufficient village grain banks raise money through sale of surplus grain. The money is often used for development work within the village. For instance, purchase of cooking utensils or mattresses for the village, preparation of bamboo *kanaga*, construction of grain storage sheds, cleaning and painting of school premises, etc. Villagers also contribute voluntary labour at such times. Grain banks improved people's participation in village development activities.

Informal meetings and exchanges : Grain banks facilitate meetings and informal discussion within the village. The process leads to a spirit of oneness among the villagers. People unite to address common problems.

Revolving fund : The grain loan given to a village grain bank comes back to ADS after four years and it is then given to another needy village. The number of grain banks thus goes on increasing without any inputs of additional resources.

Forest conservation fund : Tribals often resort to distress sale of private forests for meeting emergency cash needs, particularly for marriages in the family. The sale of forests to contractors at low rates amounts to exploitation. The *Gavki Vikas Samiti* considered this an important issue and took initiative in the formation of a forest conservation fund. Cash loans are provided to tribals who repay the loan with interest and undertake to protect their forests for the next 5-6 years. The fund helps tribals tide over the financial crisis without resorting to distress sale of their forest. The forest is allowed to grow for a longer time, increasing its value.

Increasing participation of women : Conscious efforts are being made to increase women's participation in the grain bank programme over the past three years. The number of women grain banks have gone up from 1 to 29 while 5 women are now on the 15-member Coordination Committee, which is the main decision making body.

Grain banks in Katkari villages : The Katkari community is extremely poor and marginalised. Most able-bodied Katkaris migrate seasonally to outside regions for work on brick kilns. Grain banks have been set up in 5 Katkari villages as entry point activities for development work with the community. Landlessness and seasonal migration of Katkaris poses problems in ensuring timely repayment and proper storage of foodgrains. It remains to be seen if a successful grain bank programme can take shape in Katkari villages.

It can be thus seen that the impact of the grain bank programme has gone beyond food security issues. Grain banks have begun to address development and poverty concerns of tribal communities. A food security initiative is thus at the heart of poverty reduction.

Recovery and Repayment : Hundred per cent recovery of the grain loan and contributions in cash/ kind from each member is thus an important part of the strategy to instill a sense of ownership and accountability amongst members.

People's participation : A *Panch* Committee consisting of five persons manages the programme in each village. The committee is responsible for

selection of members, grain distribution, grain collection, grain storage, maintenance of accounts and for decisions like sale of surplus grain, utilisation of the money thus earned, management of the village cash fund, changes in the percentage of contribution, etc.

Grain banks are interlinked into cluster-level organisations that merge into a federation called *Gavki Vikas Samiti (GVS).* GVS has a Coordination Committee consisting of fifteen members. Of these, thirteen members are from village *Panch* Committees and two are from ADS. GVS meets two times in a year to assess the status of the programme and to sort out problems, if any. It is responsible for the implementation of the grain bank programme. The Coordination Committee has representation of women and the marginalised groups and it meets once in every three months. ADS is gradually attempting to route all development programmes through GVS. For instance, village cash fund and forest conservation fund are now fully managed by GVS. People's participation and management are thus the key aspects of the grain bank programme.

Networking and replication : Government efforts in setting up grain banks failed to a large extent due to weaknesses in the design and implementation of the programme. ADS hence facilitated replication of grain banks in other parts of Maharashtra through a network of NGOs. Network members meet periodically to discuss food security related issues, organise training sessions and plan collaborative action programmes. A number of functional grain banks are gradually taking shape in different parts of Maharashtra. The food security network is trying to influence Government policy on grain banks to ensure better utilisation of government resources.

Conclusion

The ADS grain bank programme is able to meet its objectives of helping the focus groups overcome the exploitation of the local moneylenders and eventually achieve food security at the community level, by primarily dealing with the vulnerability factor. The model has also been able to ensure food

security to a great extent by ensuring food availability, stability and accessibility through decentralised resource management and decision-making. Such decentralisation is significant, as it pays tribute to the indigenous knowledge of the focus groups. As a result, it enables those with scarce resources to participate and cooperate in addressing lean season food scarcity, overcoming indebtedness and gaining a sense of dignity in solving their own problems. The process facilitates empowerment as people overcome their basic preoccupation with food security and actively participate in the governance of their communities.

When people are able to devote the most crucial days of cultivation and harvesting in their own fields, instead of the moneylender's fields, food availability at the household and community level improves. Timely credit made available from the village cash fund for agricultural inputs further enhances productivity. The interest on grain loan, after repayment to the agency, adds to the grain stock in their grain banks. So, even after the agency withdraws and the village grain bank assumes autonomy, food stocks in the village ensure stability of food in distress period. It takes care of inter-annual and seasonal fluctuations in crop yields. As vulnerability is gradually eliminated, people's negotiating power is enhanced and they are able to demand higher wages as agricultural labourers. On one hand this enhances their purchasing power. On the other, local sale of surplus grains proves profitable as middlemen and agents and intermediate costs are eliminated. Such local transactions cushion the blow of market price fluctuations. Foodgrains are thus easily accessible.

From the statistical analysis of landholdings of grain bank members, one can infer that the targeting of the programme is quite accurate. Villagers themselves select members in an open and transparent way through village meetings. The basic criterion for selection is the potential member's willingness and ability to repay the grain loan. However, this does not eliminate those belonging to the bottom rung from the programme. The landless and those with land less than one acre alone constitute 63.17 per cent of the total grain bank members in this region.

Before concluding it needs to be emphasised that the ADS model can be further consolidated in efforts to incorporate good governance as the ultimate goal. This will then take care of all other issues facing the focus groups beyond just food security and lean season scarcity. The *Panch* Committee and *Gavki Vikas Samiti* can collaborate with government and other institutional functionaries at village and district level, respectively to address other development issues in their region. There is also adequate scope to address gender issues in not just food security but also wider development concerns. Ensuring adequate women's participation in the People's Institutions will help incorporate their perspective and vision in development issues.

CHAPTER - IV

RUPANTAR GRAIN BANK AND FOOD SECURITY MODEL IN CHHATTISGARH

Introduction

Rupantar was registered as a Public Charitable Trust during 1994. But the work of Rupantar around Raipur Chhattisgarh commenced from 1989 with developmental and educational activities in keeping with Rupantar's charter of working with those who have been marginalised in the formal process of development. Rupantar focuses activities on small and marginal farmers, tribal and schedule caste population of the State. Rupantars' work is carried out on the principles of alternative paradigm of development that would be controlled by and based on the strength of these communities. Over the years Rupantar's work has come to be focussed on the areas of awareness, education, health, gender issues and women empowerment, bio-diversity conservation and food security, traditional food security system and grain banks, peace and human rights and cultural aspects etc. Rupantar works in 3 districts, 3 blocks involving 46 villages of Chhattisgarh.

In the rural areas of Chhattisgarh in the Mahanadi valley, OBCs like the Sahus and the Kurmis dominate agriculture, and the Satnamis constitute a major scheduled caste component. Chhattisgarh has approximately 34 per cent scheduled tribe population, 12 per cent scheduled caste population, and more than 50 per cent other backward classes. While the process of modernisation seems to be apparent in the valley areas, the situation in the forest and hill areas on the periphery of the district is quite different. Although being affected more and more by invasive forest and mineral exploitation, traditional lifestyles and population compositions survived to a far greater extent here. Some of these areas, dominated by the Gond, Halba and Kamar/ Bhujia and Oraon tribes, have recently been covered under the Extension of Panchayati Raj to Scheduled Areas (PESA).

Although resource-rich, Chhattisgarh is home to large numbers of people who are among the poorest in the country. The gains of development and industrialisation have gone to migrants and 'skilled' labour force from outside the State. This means that the poorest of the poor were either forced into working as daily wage labourers or looking for jobs outside the State. In the plains areas, in the absence of assured irrigation and second crop over a large area, rural landless could only get part-time seasonal employment within Chhattisgarh. Therefore, a large part of the labour force migrates to other parts of the country from this region.

Rupantar's Role in Food Security

After doing work in the area of education and health, Rupantar entered into the area of activity relating to ensuring food security for the tribal and poor peasants in the region.

1. Ensuring food security through promoting bio-diversity.
2. Promoting food security through seed conservation.
3. Promoting food security through traditional *Charjaniha* system.
4. Promoting role of women in food security.

Food Security, Bio-Diversity and Livelihood

Chhattisgarh has had an amazing variety of food production systems. It is one of the last places on the earth to have a remembered history of an amazing diversity of food resources. These food resources include many kinds of rice germ plasma, a wide range of millets and other dryland crops, pulses, oilseeds, fruits, edible flowers, tubers, mushrooms and other gathered foods. Many of these are dependent upon access to and close proximity of the forests.

Although Chhattisgarh is chronically drought-prone, the farmers here are the inheritors of a rich heritage of bio-diversity in rice and dryland crops, and this, together with great spiritual resilience has helped them survive.

In Chhattisgarh a number of crops are grown *viz.*, rice, kodon, kutki, mung and moth, urad, kulthi, lakh (teotah), linseed, till, wheat, grain are also taken as double crop on paddy fields. This practice is called "Utera Cultivation". The Utera crops are broadcast in the paddy fields when, the main paddy crop is maturing and is still standing in the field. By the time the paddy is harvested, the Utera crops germinate and are well established in the fields. The kharif crops are dominant in this region. Among the kharif crops rice has got a maximum area under cultivation.

Centuries of rice farming by indigenous communities have resulted in evolution of a rice diversity adapted to a variety of soil and micro ecosystems. These varieties have got a good yield potential under normal fertility and organic manuring. These rice varieties vary in maturity period ranging from 55 days to more than 180 days, drought resistance, and water tolerance capacity. There are low rainfall area varieties to deep water ones with standing up to 10 ft. of water, short rice's of 50 cm height to tall ones of more than 150 cm. The grain size also varies from short to long fine, long bold to short bold and round, oval ones, beaked with various colours, sizes and shapes. The kernel may be coloured white, dull white, red opaque white and the grain may be of various designs and shades like yellow, straw golden, red black, brown, purple and blotches of various colours and the grains may be of various quality and scent, and protein content up to 14 per cent.

Farmers in Chhattisgarh are well aware of drought resistance and the ecologically wholesome nature of indigenous varieties and practices. Normally each farmer grows about 4 or 5 varieties of rice. There are a number of reasons behind the practice. If some variety fails to grow during a particular season, another would make up for it. Besides this, the farmers grow different crop varieties for their different uses and preferences; for example, in Nagri region the farmers grow the "Danwar" variety of rice for its high nutritive and medicinal value. It is believed to be helpful as a tonic in recuperating from illness. There are a number of other rice varieties which are believed to have medicinal value, for example Baisur.

Wheat is also cultivated in some areas, but the area commanded by wheat is very little. It is mainly grown in rotation with kodo-kutki mixed with the tuar. The local varieties of wheat are lal kathia, safed kathia, lal pissi and pissi. It is believed that wheat was imported into the region in the wake of the Maratha invasion of Chhattisgarh in the eighteenth century.

The indigenous rice varieties are capable of giving the equivalent of or even higher than the green revolution varieties without the use of chemicals and in the field conditions of simple tribal farmers having a low resource base and little, if any, formal education. In the context of Dr.Richharia's work, who was one of the most eminent rice scientists of the world, the debate on green revolution and bio-diversity conservation has been particularly strong and at times fierce in the context of the Chhattisgarh region of India. R.H. Richaria's path breaking research on Chhattisgarh rice varieties and rice farmers emphasised these aspects and on this basis recommended rice technology based on indigenous seeds and local resources. Dr. Richharia's research demonstrated quite clearly that it was possible to obtain and maintain remarkably high yields of rice while using indigenous seeds, local resources and skills.

This challenge of taking the pro-people self-reliant technology recommended by him to farmers was to be accepted later by some people's organisations. Dr.Richharia's ideas are particularly suitable for adoption by small farmers with a low resource base. He emphasised that land should be given to the actual tillers of land and the government policies should support farming as practised by the small-scale farmers who are the real farmers of India. This has always been the thinking of Rupantar also. When Rupantar was set up, its own bio-diversity programme was also based on this approach,

By combining the issue of land reforms and rights of small farmers with the pro-people, local resource based technology, food security can be provided to all members of the village community. This is a basic understanding on which Rupantar works in rural areas. In the memory of Dr. Richaria, Rupantar organised two conferences where this concept of bio-diversity and food security has been highlighted.

Rupantar first collected and grew nearly 270 varieties of rice on a farm on the outskirts of Raipur. An exhibition of these varieties was prepared. Then these varieties were taken to farmers' fields. Two demonstration plant-cum-seed multiplication centres were set up in Nagri Sihawa region. Nearly 270 varieties of rice are being grown here. Emphasis is being placed on growing rice varieties, which can survive well without irrigation in rainfed conditions. By pure line selection, good quality seeds are obtained so that farmers become self-reliant.

Organic farming is emphasised in Rupantar's work with farmers. Farmers are encouraged to avoid chemical pesticides to keep their dependence on chemical fertilisers as low as possible.

Clonal propagation technology is also stressed, to increase the availability of good quality seeds particularly at the time of shortages such as drought and floods. It is hoped that it will also prove useful in increasing yields and obtaining disease resistance.

Women's groups have already been organised in Nagri-Sihawa and they have been encouraged to play a very active role in seed multiplication work. Efforts are being made to identify those youth who have a special interest in rice varieties or varieties of other crops and mobilising them for this work. Efforts are being made to contact some former associates of Dr.Richaria and involve them in bio-diversity work of Rupantar.

Rupantar also places emphasis on telling farmers about the latest debates and controversies about the patent law and WTO agreements. As farmers have to stand to oppose the efforts, to take away the time-honoured rights of farmers, it is important that they should have access to information regarding these international trends. At present two seed cooperatives are in the process of formation in different areas in Dhamtari district.

In brief, Rupantar tried to create conditions in which several peasant communities remain committed to organic farming based on indigenous seeds, and to their rights over these seeds, while opposing all efforts to impose

dependence increasing technologies on them. The existence of such communities is very important in view of the increasing threats to all self-reliant agriculture at the international level. The concept of food security has in recent years given way to the concept of food sovereignty, where the stress is on self-reliance in attaining food security at the local and global levels.

The discussions and the processes led to the formation of a network, Chhattisgarh *Jaiv Suraksha Manch* (bio-diversity security forum) in which Rupantar plays an important part.

Chhattisgarh's bio-diversity heritage has already been mentioned upon, and the logic of a bio-diversity based agricultural programme was established.

Rupantar's strategies on bio-diversity and food security are as follows:

★ Continue the work in ex-situ, in-situ conservation of rice and dryland crops.

★ Gradually effect a shift from ex-situ to in-situ conservation in the withdrawal phase of the programme.

★ Continue advocacy efforts in connection with bio-diversity preservation, community bio-diversity registry and dysfunctional aspects of world food trade regimes. Link up this aspect with national food security issues and the national food rights campaign.

★ Seed exchange and production systems under people's control. Women's groups have already been organised in Nagri Sihawa and they have been encouraged to play a very active role in seed multiplication work.

★ Seek and promote people-friendly technological alternatives in agriculture like clonal propagation technology, organic agriculture, bio-fertiliser and pesticide options. Rupantar is actively in contact with pioneer institutions in this regard, like the soil sciences department of the IGKVV and the Centre for Science for the village, and the Central Institute of Integrated Pest Management.

Traditional Food Security System -*Charjaniha*

Charjaniha is a collective village community structure with grains (preferably rice) and money. There are little variations in the structure in three areas (i.e. Nagri, Khairagarh, Jashpur). They are called by different names like - Dhaan Gola, *Charjaniha*, Ramkoti. The beginning of this traditional structure is said differently in different villages. Eldest members of the community also say that this tradition was prevailing before their generation also. Thus, this is a many generation old tradition. The structure has broken many times and again has been rebuilt by communities. Many of the people connected the beginning of *Charjaniha* (the comparatively new episodes) to the drought or other hunger situation. In most of the cases it emerged through community initiative only, while in others some well-off farmer or landlord also initiated such actions. The normal process of the building up *Charjaniha* has been individual contributions by farmers (grains) into collection. After setting certain norms these collected grains were borrowed by needful group members. The member will return the grain after the period fixed by the group with additional money or grain as interest as per rate fixed by the group. Through this process the quantity of the grain and amount increases and capacity of the *Charjaniha* is increased. Community members also take up certain other activities to strengthen the *Charjaniha*. Like in some cases groups take up collective farming activity, the output is added to the *Charjaniha*, in some cases they contribute certain part of their monetary income through certain government employment programmes. The period fixed to return the grain varied from six months to one year normally. The interest rate varied from 2 to 15 per cent annually.

People have many experiences of failure of the *Charjaniha* and breaking of the process in the past. Many of such failures took place because of a loss of confidence among the group members. Lack of transparent process, lack of involvement of all the members in decision-making process and gap in regular communication were some of the reasons for loss of confidence. Many times some members' malfunctioning also resulted into breaking up of the group. In Taalpara village in Nagri project area people talked about their *Charjaniha*

initiated after 1975-76 drought in the area. People decided to start *Charjaniha* in 1977 to secure their food during crisis time. People took part and contributed overwhelmingly in the *Charjaniha*. The capacity of *Charjaniha* reached up to 800 quintals of rice. It was running very effectively to secure food for all the families throughout the year. But after some time some of the people started, not repaying the grain taken by them. Since the group couldn't handle such misappropriation, in a few years the whole effort was failed and the group broke away. This village community has again taken initiative through the intervention of Rupantar.

Key Activities of Charjaniha System

a. Seed Exchange System : Agriculture is a very important means of sustenance and food security of poor people. Seed is the first and most crucial aspect of the agriculture. Ensured availability of seeds to farmers has always been a concern of the farmers to be able to do cultivation. The resource-poor farmers can afford minimal or no external input in agriculture. Farmers have a traditional practice of seed exchange to ensure availability of desired seeds. In this traditional system, farmers exchange seed with other farmers at equal value. If a farmer needs a particular variety of paddy seed, which is with another farmer, he will give seed of some other variety and take the desired variety for sowing in his field. This system is very crucial in low external input in un-irrigated agricultural conditions. The farmers among themselves still do not buy or sell seeds, there is no monetary term involved in this process. This system also suffered to some extent as some farmers buy seeds from market at a high price. So the exchange value has now been disturbed.

b. Nature based/ common property resources based : Uncultivated foods have traditionally been used for food security by people. People accepted the gift of nature and acquired knowledge about collection, regeneration and preparation of these uncultivated food resources. People integrated these uncultivated food resources into their food system. The local food system that is based on a combination of locally produced foods and naturally grown uncultivated food is a system under access and control of local people. Thus, the uncultivated foods are very important components of local food system,

the system on which the food security of local people depends very much. The uncultivated foods are an important source of nutritional security to people.

The community regulation regarding the use and maintenance of these uncultivated resources is not visible these days. May be due to availability in abundance in the past was the reason for that. In present situation considering the importance of uncultivated foods in food security of the people, there is an urgent need to work towards a process of collective community regulations regarding the use and maintenance of these resources. The uncultivated foods are found in the private lands also, but the majority of them are found in common lands. Thus, this is a kind of product from common property resource. The resource needs a serious intervention towards continued and sustainable use and management.

It is not possible to have a discussion on the bio-diversity in food resources without referring to the many kinds of uncultivated foods used in Chhattisgarh. These include many kinds of roots and tubers (*jimi kanda, keu kanda karu kanda chind kanda* to name a few), many kinds of greens, and the many seasonal edible mushrooms. There is a large range of leaves, tree leaves, bush and shrub leaves, that are eaten here as *bhaji*s. Some of these like the *tinpania* and *chanori* bhajis grow naturally in the rice fields after the rice harvest. As a matter of fact, the distinction between what is a *bhaji* and what is a weed is a product of the culture of bio-diversity prevalent in Chhattisgarh. These foods lend richness to the diet and in times of drought and food scarcity, it is these food resources that have sustained generations of the people of Chhattisgarh.

c. Emergency/ tiding over foods (food eaten at the time of crisis) : There are certain plant parts eaten particularly at the time of crisis of hunger. Some are eaten raw while some are cooked. Knowledge about these resources is only with elder members of the community. Elder people have the knowledge because they have used these resources during crisis in the past. The collection and preparation of these food resources is very complex. The knowledge about these resources is being documented and disseminated among the younger generation.

d. Role of women in Food Security : In each and every aspect of crop production, preservation and storage women were involved. In certain parts of the State like Abhjhmar and Sihawa, women are also known to use the plough, a function that is tabooed and prohibited for them in almost all other parts of the country. Apart from crop weeding, maturing, harvesting, women are the leading players in all post-harvest and storage operations. Women also play a major role in the collection and processing of many kinds of uncultivated foods found in Chhattisgarh. Many of these foods are collections from the forest, and women use them for maintaining household food security and nutrition needs outside the market system. That is, Rupantar promotes women involvement in food security in a great way.

Women are the primary gatherers of all uncultivated foods, and inheritors of an ancient knowledge system about food bio-diversity. They are also the gardeners and herbalists with primary knowledge and responsibility for maintaining the home gardens, the *baris/bakhris*. Again it is the women who take the produce to the primary markets and barter or trade in the items related to primary food needs. Agricultural scientists would do well if they attempted to learn from women about their existing knowledge of seed technologies, preferences, and even breeding experiences and procedures.

Women are also the keepers of the seeds. As stated above, women are responsible for all post-harvest operations. An important aspect of these is the preservation of the seeds of bio-diversity. In traditional Chhattisgarh, the crop to be harvested as seed is identified in the field of standing crop, and women take special care while reaping these. A wide variety of seed storage structures are used in subsequent stages, and the exact storage structure used for seed depends on the length of time the seed is to be stored away, the moisture content, and other factors. Some seeds like rice and stored in bamboo *dholgi* (or *dhongi)* are thatched and sealed with cow dung, and kept away. These can last for up to three years. Other seeds like the minor millet seeds or vegetable seeds are stored in Sal leaf containers, and often hung up in the kitchen above a wood fire, so that the smoke can act as a pesticide and preservative. The extremely complex knowledge of seed storage and preservation including its

technical aspects is in the hands of the women. Formation of women groups has been emphasised in rural areas. The gender sensitivity is also emphasised in all programmes of Rupantar, particularly in agriculture women have a greater role to play.

Grain Bank Activity in the Study Area –Sample Study

The functioning of the grain bank activity in the study villages has been discussed in the following paragraphs and Tables.

Table 25 : Profile of Villages

Item (No.)	Kekrakholi	Raiyatwari	Kasarwahi
Total households	51	35	64
Total population	278	243	312
Antyodaya Annapurna Scheme	7	2	4
Registered under BPL	30	12	41
Registered under APL	10	10	12
Gond Tribe	51	–	58
No records of ration card	4	11	7

In the village Kekrakholi, entire population belongs to gond tribe. The villagers were displaced earlier by the construction of dams in the nearby area. They settled in Kekrakholi after their fields were submerged in dam water in the year 1976. Out of 51 households, 50 were under the BPL. That is, 58.81 per cent people are under BPL in the village Kekraholi whereas 34.28 and 64.06 per cent of people are under BPL in Raiyatwari and Kasarwahi villages.

Kekrakholi

The history of *Charjaniha* (grain bank) starts from the time the village was settled in 1976. In the beginning, villagers were doing collective farming. All the harvest were kept as one pool. After eight years land was distributed

to individuals equally, around five acres each family. After this they started farming at household level. The grain whichever was remaining in collective pool at the time of distribution of land was kept in collective ownership which was the start of the village *Charjaniha*. Villagers were using this grain stock when needed.

In the year 2000 the community had a collection of 1800 kg of rice. Rupantar contributed 3000 kg to village *Charjaniha*. Thus, the collection became 4800 kg. The incremental of foodgrains as a result of recycling and also contribution of foodgrains to *Charjaniha* every year resulted in an accumulation of 8340 kg of foodgrains at the time of study. The *Charjaniha* is being maintained by villagers themselves. All the 51 families are members in the *Charjaniha*. The activities of the *Charjaniha* are, to distribute the collected grain among members equally during the month of August (Knwar), as this is the most critical period from food security point of view. The *Charjaniha* also started procurement from village. The *Charjaniha* procures grains from villages by whatever amount they have, in this way they started procuring grains slowly. It is slow because they are doing it with whatever money they are able to collect. In this way they are increasing the capacity of the grain bank, also they are protecting themselves from the vagaries of the open market. They procure the grain at a rate fixed by themselves, while they get the grain at the time of need without money as loan, which they can pay next year in kind.

The village also has seed bank. Different indigenous rice seeds are kept in the seed bank. The seeds were given by Rupantar in the year 1999. Farmers, who need seed take from the *Charjaniha* and return it back to *Charjaniha* in the next year.

At present the village *Charjaniha* has a collection of 8340 kg of rice and 1080 kg of seed.

Raiyatwari

Charjaniha is being maintained by women. It started in 2000. Earlier, they had grain bank in the past, but it was disorganised, again organised in the year 2000. The grain bank started with a support to *Charjaniha* by Rupantar in the year 2000 with a community contribution of foodgrains of 1200 kg and the Rupantar's contribution of foodgrains was around 1700 kg. At present the *Charjaniha* has a collection of 2900 kg of rice and 500 kg of seed.

Charjaniha is in involved in distribution of grain to members during the shortage i.e. August and during family celebrations. Procurement of rice increased from the village according to the purchasing capacity of the *Charjaniha*, Rupantar was also involved in maintenance of seed bank in the village.

Kasarwahi

Rupantar's intervention started in the year 2000. The community had a stock of 1560 kg of rice. The contribution of Rupantar to *Charjaniha* was 1920 kg. The incremental addition of foodgrains as a result of recycling and every year's contribution to *Charjaniha* resulted in an accumulation of 6300 kg at the time of study. The *Charjaniha* also collected 960 kg of seed of indigenous rice for the seed bank.

The *Charjaniha* is involved in distribution of grain to members during the shortage i.e. August and during family celebrations. Procurement of rice from village is according to the purchasing capacity of the *Charjaniha*.

Table 26 : Charjaniha Grain Bank System in the Study Villages

Name of the village	Total No. of Households	Total Population	Community collection contribution of foodgrain (in kg)	Repantar contribution of food-grains (in kg)	Total food collection (in kg)
Kekharkoli	51	278	1800	3000	4800 increased to 8340
Raiyatwari	35	243	1200	1700	2900
Kesarwahi	64	312	1560	1920	3438 increased to 6300

Table 27 : Availability of Foodgrains in Charjahnia

Name of the village	Total No. of Households	Total Population	Average family size	Availability of food per family (kg)	Availability of food per capita (kg)
Kekharkoli	51	278	4.5	163	30
Raiyatwari	35	243	6.9	82.8	11.9
Kesarwahi	64	312	4.8	98.4	20.1

Table 28 : Seed bank collection (in kg)

Name of the village	Paddy seeds
Kekharkoli	1080
Raiyatwari	500
Kesarwahi	960

The above Tables give a picture of functioning of the grain bank and seed bank in the study villages. The average size of the family of all the three villages together is 5.5 members. The average availability of foodgrains is 30 kg per capita in Kekharkoli village, 11.9 kg in Raiyatwari and 20.1 kg in Kesarwahi. The household foodgrain availability of rice is 163 kg in Kekharkoli, 82.8 kg in Raiyatwari and 84.4 kg in Kesawahi. The villagers are happy about their *Charjaniha* system as they need not approach moneylender in difficult times for borrowing for food. This grain bank acts as safety-net for the people in the villages. Besides, the villagers have stored indigenous seed for sowing purposes in agricultural seasons. They need not wait for outside market for supply of seeds for sowing purposes in their fields. The grain bank functions very smoothly without any problems. If any conflict arises these are solved peacefully in the village meetings. All these villages have common storage place either built by them or with the assistance of Rupantar. The distribution of food and seed has been very much fair in the village. The borrowers pay very promptly within a year without fail. A person is usually selected to maintain the record on foodgrain activities which is absolutely transparent. All the decisions regarding the grain bank are taken in the Gram Sabha of the village. They can also reduce and increase the rate of interest regarding the grain bank. Rupantar helps the village committee about account and record keeping. Similarly, the seed bank is also functioning in a transparent manner in the village.

The tribals in our study villages have various sources of livelihood to fall upon their food security needs. Tribals depend upon the forest apart from their own lands for uncultivated foods. The following Table depicts about their food security arrangement throughout the year. Majority among the respondents mentioned that *Charjaniha*, forest, wage labour, PDS and from their own land constitute major sources of their food (Table 29). The Table indicates also that throughout the year apart from other sources, they largely depend on the *Charjaniha* system in the critical months when there is food shortage for them. The community food security system is functioning well, benefiting the community as a whole. In these villages, the Rupantar intervenes to increase their capacity in production and to provide storage facility for the grains apart from contributing 20-30 quintals of grain for operation of *Charjaniha* system.

Table 29 : Food Security Sources in the Study Village

Response Category	No. of Households	Percentage
Charjaniha & forest	10	13.3
Forest & wage labour	12	16.0
Forest & loan	10	13.3
Charjaniha, own land and loan from villagers	14	18.6
Charjaniha & wages	8	10.6
Charjaniha, market and PDS	8	10.6
Wages, loan and exchange	8	10.6
Moneylenders	5	6.6
Total	75	100

A majority of the households, 52 per cent, mentioned that with the existing the system they are able to meet the required food needs throughout the year.

Besides the above arrangement, an overwhelming majority (97 per cent) desired that the PDS should continue to further strengthen their food security needs. They do not want that PDS facility should be withdrawn because they get rice, kerosene and sugar in cheaper rate but they are not satisfied with the present functioning of PDS. They face locational disadvantage as the fair price shops are located 10-15 kms away. As a result, they are not able to lift the quota, that is why the community based PDS should be encouraged in their villages (Table 30).

Table 30 : If PDS is Withdrawn, Can You Make Your Own Arrangements for Food Security

Item	No. of Households	Percentage
Yes	12	16
No	63	84
Total	75	100

The respondents were asked to indicate what kind of benefit they derived out of *Charjaniha* system of community food security system and the assistance of Rupantar. The respondents overwhelmingly described the benefits they are getting as a result of functioning of *Charjaniha* system and the seed bank. (Table 31).

Table 31 : Benefits Derived from Rupantar Experiment as Perceived by the Study Villages

Response Category	No. of Households	Percentage
(1)	(2)	(3)
Great help during two critical months (August & September) meeting the food needs	64	85.3
During drought the system is more helpful	67	89.3
Not borrowing from moneylenders in scarcity period	62	82.7
Indigenous rice variety are made available through seed bank for increasing production	68	90.7
Food consumption has increased	70	93.3
Community storage system of foodgrain created/established	75	100
System of *Charjaniha* strengthened	69	92.0
Food available as per the needs of the family in difficult times	66	88
Taking from the grain bank and paying back on time	70	93.3
Distribution in foodgrain is fair from the grain bank	71	94.7

(Contd.,)

Table 3 : *(Contd.)*

(1)	(2)	(3)
For borrowing the grain norms have been set up by community in village meeting	69	92.0
Records are maintained properly with transparency	72	96.0
People are involved in decision-making process all the time	73	97.3
Low interest rate decided by the community	65	86.7
Having community food security of their own	73	97.3
Awareness about health education, bio-diversity, seed bank and food production has increased	75	100

A sustainable food security system includes food production, procurement and distribution system depend on an intermix of cultivated and uncultivated and gathered foods. In case of tribal people of Chhattisgarh, it is not always possible to separate agriculture from food collection that are largely based on the forest. Many of the foods of the tribal people are available in the forest in the form of random seasonal collection, digging, gathering and plucking. The food security system thus existing include a wide bio-diversity of cereals, pulses, oilseeds, indigenous fruits, flowers, vegetables, greens, tubers and mushrooms. That is why Rupantar has given emphasis on food security with bio-diversity as well as on cultivated and uncultivated foods. So far as tribal communities are concerned, sustainable food security system include increasing local production, procurement, sustainable storage of the foodgrains and distribution system like community grain and seed banks. The management of the system is in the hands of the community elders. Though the system is working well, still to make it more sustainable, women' role should be encouraged in community food security and grain bank systems. The traditional system was getting disorganised in the tribal community due to several factors. As a result of Rupantar's intervention, the traditional *Charjaniha* food security

system and seed exchange and seed bank system have been strengthened. As these institutions provide food at the time of critical hunger, and managed by the total involvement of the entire community of the village, there is a possibility that these institutions will be sustainable in future. People are happy to have a community food security system of their own and it has got a potential of replication among the tribal communities who live in the remote area of our country.

CHAPTER – V

PREPARE GRAIN BANK AND FOOD SECURITY MODEL IN ORISSA

Introduction

Prepare has set its mission towards preventing hunger, starvation and food in scarcity by evolving an alternative path of development which is economically sustainable and culturally compatible leading to a food security system that is shaped by people's own involvement and conducive to indigenous tribal people in Kolnara block of Rayagada district.

Starvation related deaths are annual phenomena which the Orissa Government cannot afford to accept for the obvious reasons. The reality of this situation badly hurts the poor. Hunger and starvation of human society anywhere is an injury to human civilisation. Prepare has, therefore, taken a challenge to end hunger amongst the adivasis in the villages so that the people can live a life of dignity. With this background, Prepare initiated this food security project in 50 villages in the year 2000 to ensure every adivasi to secure the right to be free from hunger and every adivasi to access food and live a life of dignity.

Objectives

- ★ To raise income, employment and food availability for adivasis through systematic water, seed and soil conservation measures and developing systems for marketing minor forest produces and evolving alternative PDS and community food banks.
- ★ To enhance present food production by 25 per cent in 15 of the presently cultivable lands in the target villages by providing irrigation support, land improvement assistance and quality seed supplies.

- ★ To make available food for all times by setting up village level community food bank in 60 per cent of the villages and initiate alternative PDS in five locations.
- ★ To increase the present cash income by 40 per cent to about 70 per cent of the tribal women through setting up five centres for marketing minor forest produces.
- ★ To strengthen 60 per cent community credit groups to fully meet their seasonal and specific credit needs to de-link dependency on traders by providing matching grant to credit groups.

Area of Operation

Prepare evolved certain action-plans that are economically sustainable and culturally compatible leading to food and nutritional security for the adivasis including safe drinking water that is shaped by people themselves and conducive enough to the indigenous people in general in Kolnara block of Rayagada district. This project is, therefore, different from the schemes of the Government. It envisages food for every household through various livelihood innovative production, distribution and cash income systems in 50 tribal communities in Kolnara block – a place of hunger.

Prepare has come forward to start some innovative projects for the welfare and food security of the tribal people in Rayagada district by following some basic principles of food security. These are :

1. Every one has the fundamental right to be free from hunger.
2. Access to food with dignity for the survival of the human kind.
3. Nationally and internationally have obligation to respect and fulfill the right to access to food without discrimination for minimum nutritional requirement of all people.
4. To ensure food security and generate livelihoods through household, village and regional level and through production and distribution system

that are ecologically sustainable, community based and community controlled.

This food security project as an alternative scheme of the Government is expected to provide economic, social and ecological benefits to 50 tribal village communities within four years. It was being implemented by Prepare through different projects namely tribal empowerment project, tribal resource improvement project and integrated nutrition and health project. Among the various components, grain bank and seed bank are also part of these projects which are presented below.

Grain Bank

With dwindling forests and increasing restriction on the collection, use of forest produces and use of forest-land for cultivation, food is becoming scarce for many tribal families. To make food available for all the target people at affordable cost throughout the year, community grain banks are set up in 60 per cent of the target villages. Alternative Public Distribution System (APDS) in main villages have also been initiated.

They have the grain banks initiated to meet the food shortage in the lean season and the alternative public distribution is organised and managed by the community to augment and avail of food at controlled price.

In the year 2000, they established 22 grain banks which have food security for 725 families. In the year 2003-04, additional three villages initiated grain bank for 129 families. These grain banks ensured food for tribal people for 30 days. The grain repaid after harvesting will be stored for meeting the requirements of subsequent years. The SHGs are involved in storing the food grains.

Seed Bank

The Kolnara block of Rayagada district is well known for continuous drought. Thus, people choose and design crop suitable to the climatic conditions at foothills, which do not have much market value. The selection of crops

solely was based on availability of seed and condition of the nature. For the last three years, consecutive drought pushed them to loss of seed and foodgrains. This has an effect on bio-diversity in particular and agriculture in general. Prepare supported for seed bank and seed registration. In nine villages about 210 tribal families were covered and supported for seed assistance so that, people can continue agricultural activities and grow food in the available land. The seed support to 210 families produced 15750 kg of foodgrains which can meet a minimum of 15 days of food requirement. Seed preservation was done in nine villages. Prepare helped the people to collect the traditional seeds from 210 families and kept stock for the coming years. Some of the foodgrain seeds were procured from the government at subsidised rate. Thus, more families could be covered under this programme.

Table 32 : No. of Villages and Families Covered and Extent of Land Brought Under Seed and Input Scheme by Prepare

No. of Villages	No. of Acres Covered	No. of Families Covered	Approximate Food Produced
D.Sikabadi	12	12	Drought Situation
Kailashpur	20	20	
Rekhapadar	42	72	Drought Situation
Lepana	04	08	—-
Jangadapadar	20	37	—-
Chengili	04	08	—-
Jhiliguda	02	05	—-
Bhoimada	06	18	—-
M.D.Colony	15	30	—-
	125	210	

There are several varieties of drought resistant seasonal cereals and pulses grown in the hill slopes. Now-a-days the old and traditional varieties which have better food value in taste, smell and nutrients including medicinal value

are vanishing and high-yielding varieties of seeds are coming in. To conserve the food crops, seeds were collected from each village on a seed exchange basis. There are 84 varieties of seeds identified and a seed register is maintained to record the characteristics of each seed and kept under the custody of Prepare.

Food Security and Grain Bank Activities in the Study Villages

Three villages namely (1) Sanakhilapadar (2) Chitikapanga, and (3) Minajhola were studied indepth where the Prepare activities are helping the tribal communities to ensure food security by adopting the various approaches. The sample size was 25 from each village thus forming a total sample of 75 from the district. The details are presented below:

Table 33 : Population and Households in the Study Villages

Study Villages	Total Population	No. of Households	SC	ST	Others	Total
Sanakhilapadar	214	58	-	50	8	58
Chitikapanga	230	56	-	47	9	56
Minajhola	323	91	3	77	11	91

Table 34 : Landholdings Size in the Study Villages

Land (Acres)	Sanakhilapadar	Chitakapanga	Minajhola
0.50 – 1. 0	13	3	11
1.0 – 2.5	30	5	8
2.50 – 5.0	10	10	5
5.00	5	3	7
Total	58	21	31

All the three villages are tribal villages in which ST population occupies a percentage of 86.20, 83.92 and 84.61 for Sanakhilapadar, Chitakapanga and Minajhola villages, respectively (Table 33). Landholdings pattern is very

fragmented in which respondents with less than one acre were more in Sanakhilapadar and Minajhola villages with 74.13 and 61.29 percentage when compared to Chitakapanga village (Table 34).

To deal with the food security issue of the study village, Prepare followed different approaches. It strengthened the livelihood opportunities in terms of land development and agriculture and also providing assistance for livestock and creating alternative PDS shops and promoting organic agriculture as well as constituting grain banks. Through this small intervention, it was observed that food security issue was attended to very effectively. Tables 35 to 41 indicate the type of intervention and assistance extended by this organisation to ensure food security in the study villages. All these approaches were implemented by organising SHGs and constituting committees.

Sanakhilapadar Village

In this village two savings groups were organised. One is a *mahila mandal* and another is an SHG. The total members in *mahila mandal* were 19 with total savings of Rs. 7290. The contribution of UNDP and Prepare were Rs. 60,000 and Rs. 4000, respectively. The profit to the *mahila mandal* was to the extent of Rs. 4823. In this society the individual savings per member was Rs. 410.

The total members of Maajhankriri SHG were 17 with the total savings of Rs.540. The contribution of Prepare and block administration were Rs.1,12,460 and Rs.5000, respectively. The profit to the society was to the extent of Rs.1971 and individual savings per member was Rs.340. Besides, there are agricultural committee, forest committee and sub-watershed committee functioning in the village. The agricultural committee consists of 46 members and the forest committee 13 members. Each committee has a secretary and president chosen by the villagers. All the schemes and programmes are mediated through these committees for implementation. Apart from these, Prepare also helps in convergence of other schemes of the government and other agencies in the study village, for infrastructure development.

Table 35 : Major Activities Supported by Prepare in Sanakhilapadar

		Beneficiaries	Amount (Rs.)
1.	Land development	16/25 Ac	46415
2.	Grain Bank	30	12560
3.	Plough assistance	6	9000
4.	Trade	6	6000
5.	Tools Supply	16	5250
6.	Piggery	1	2000
7.	APDS	Community	20000
8.	Plantation	Community	10235
9.	Pumpset	Community	16000
10.	Community house	Community	15000
11.	Buffalo	5	13000
12.	Compost	36	540
13.	Nutritional garden	15	—
14.	Spray	1	705
15.	Bio-paste	4 Community	892
16.	Land for landless	7/3.2 Ac	11200
17.	Fish cultivation	Community	—

Table 36 : Government Resource Mobilisation for Convergence of Services

Year	Item	Source	Amount (Rs.)
2001	Revolving fund	UNDP	60,000
2002	Village road	Block	76,000
2003	Village road	Block	1,00,000
2003	House upgradation	Block	50,000
2003	School building	Block	1,50,000

Chitakapanga Village

Like the Sanakhilapadar village, in this village also emphasis was on land development, organic farming and livestock development. Apart from the above, emphasis is also on horticulture development. This was done through two SHGs which were functioning in the village.

Table 37 : Major Activities Supported by Prepare in Chitikapanga Village

	Scheme	Beneficiaries	Amount (Rs.)
1.	Petty busines	01	10,000
2.	Land development	09	44,063
3.	Nutrition garden	25	1,100
4.	Compost promotion	25	3,500
5.	Goatary	30	60,000
6.	Hort. plantation	30	2,121
7.	Health education	—	1,344
8.	Promotion of bio-paste	—	1,597
9.	Seed support	2	1,200
10.	Plough assistance	5	2,000

The total members in Gayatri SHG were 15 with the total savings of Rs.2,100. The contribution by Prepare was to the tune of Rs.31,050. The total members of Kulabandhu SHG were 20 with the total savings of Rs.7,000. The contribution by Prepare and UNDP and block administration to this SHG was to the tune of Rs.50,563, Rs.60,000 and Rs.5,000 respectively. Apart from these, Prepare also helps in convergence of other schemes of the government and other agencies in the study villages which were mentioned in the Table below.

Table 38 : Government Resource Mobilisation for Convergence of Services

Year	Item		Amount (Rs.)
2000	Village road	UNDP	70,000
2001	Revolving fund	DRDA	60,000
2002	Village road	Block	2,50,000
2003	Revolving fund	Block	5,000
2003	IAY	DRDA	11,000

Minajhola village

Like the other two villages the pattern of intervention to ensure food security in this village is also through land and agriculture development by providing infrastructural support. Emphasis is also on organic farming and horticulture development apart from maintaining grain bank. The number of beneficiaries in the grain bank of this village are largest (78) when compared to the other two villages. All these activities were done with the help of two SHGs organised by Prepare in this village. They were mahila mandal and Purnima SHG. The total number of members in mahila mandal were 39 with a secretary and a president. The total savings of mahila mandal were Rs.24,240. The contribution by Prepare to this mahila mandal was to the tune of Rs. 1,08,818. Watershed scheme also assisted up to Rs.6930 to this mahila mandal and profit accrued was Rs.2,651.

The total number of members in Purnima SHG were 15 with a secretary and president. The total savings were Rs.5,730. The contribution of Prepare, block administration and DRDA to this SHG were to the tune of Rs.13050, Rs. 5,000, respectively. The Prepare also organised other committees like agricultural committee, forest committee, and watershed sub-committee. The total members of agricultural committee were 40 with a secretary and a president. The total members of forest committee were 39 with a secretary and a president whereas, watershed sub-committee has nine members.

Table 39 : Major Activities Supported by Prepare in Minajhola Village

		Beneficiaries	Amount (Rs.)
1.	Grain bank	78	37594
2.	Compos	Community	7340
3.	Seed support	09	3932
4.	Goatary	10	13000
5.	Grocery shop	01	5000
6.	Petty business	03	13000
7.	Nutritional garden	35	2570
8.	Seed bank	–	905
9.	Land development	11	38208
10.	Tool supply	20	6552
11.	Irrigation facility	–	12775
12.	Hort. plantation	–	4248
13.	Plough assistance	09	8000
14.	Weeding assistance	18	1200
15.	Health education	–	4551
16.	Promotion of bio-paste	–	892
17.	Supply of sprayer	–	705

Table 40 : Government Resource Mobilisation for Convergence of Services

Year	Activities	Source	Amount (Rs.)
1999	Village road repair	Block	80,000
2000	Tube well	Block	50,000
2001	Tube well	Block	50,000
2001	Drainage system	GP	50,000
2002	Borewell platform	GP	13,000
2002	Village temple	MLA fund	15,000
2002	Pond deepening	Block	20,000
2002	Repairing wall construction	Block	1,00,000
2002	Pond digging	Watershed	1,40,000
2002	Plantation	Watershed	80,000
2003	Village drain repair	GP	50,000
2003	Pond digging	Watershed	1,00,000
2003	Canal digging	Watershed	7,000
2003	Village road	GP	50,000
2003	Revolving fund	DRDA	5,000
2003	MLA fund	MLA fund	5,000

Respondents' Perception

Having achieved a great deal of success in making the best practices in livelihood in all three villages, Prepare has been chosen as a model NGO for

effective use of service delivery of ICDS, health and nutrition in the entire district.

Table 41 : Perception of the Respondents Over the Benefits Derived from Prepare in Food Security Experiments

		No. of Respondents	Percentage
1.	Grain bank	60	(80.0)
2.	Use of alternative PDS	54	(72.0)
3.	Food gathering from forest	58	(77.3)
4.	Working on wage labour in their own lands	40	(55.3)
5.	Working as pure wage labour	35	(46.7)
6.	Land development	30	(40.0)
7.	Livestock rearing	45	(60.0)
8.	Purchase of land for cultivation	15	(20.0)
9.	Consumption loan	35	(46.7)
10.	Crop yields increased	45	(60.0)
11.	Aware of PDS and other schemes	52	(69.3)
12.	Mobilisation of government schemes for local development	45	(60.0)

The following observations were derived through discussion with beneficiaries and focused groups :

★ Collection of minor forest produce gives the tribal people employment of 20 days in a month. The minor forest produce like leaf, wood, tamarind, mohua flower, mango etc., are collected by tribals.

★ The tribal people depend mainly on three sources for their food security and livelihood - from their own land cultivation, wage labour and from

the forest. Prepare intervenes by extending help for land development activities, livestock (supplying goats, pigs, buffaloes etc.) activities, business of minor forest produce and through alternative PDS and through grain bank. All these activities help them in critical months from April to August.

★ Prepare helps in change of production practices through organic manure, irrigation, money for consumption loan and awareness building in general.

★ Prepare gives loan through self-help groups to the individual beneficiaries for land development, consumption loan and livestock (goat and buffalo).

★ Benefits derived from the work of Prepare activities are the following :

★ Increase in paddy cultivation through land development activities.

★ Increase in yield of paddy from seven to ten bags and increase in yield of cereals from two to five bags in the study villages.

★ Small irrigation, contour bunding work, quality seeds helped in increasing the yields.

★ Monitory help for food consumption through SHGs.

★ Monitory help through grain banks in critical months.

★ Increasing people's participation in development and livelihood activities and food security.

★ Nobody is facing starvation during critical months.

★ Involved people in planning process in their own development.

★ Participatory planning and consultation among people increased through SHGs and various committees. All households are involved in taking decisions.

- ★ Involved in implementing process.
- ★ Prepare also helps in implementing government programmes and UNDP and UNICEF programmes.
- ★ Besides grain bank, Prepare also established APDS shops and provides the essential commodities in the village.
- ★ Nobody is going to moneylender during critical lean season scarcity months.
- ★ Close interaction with Prepare functionaries helped them to overcome food security problem and awareness development.
- ★ Prepare also helps people in empowering them in decision making and leadership development.
- ★ Many of the Prepare animators have become PR leaders and they take decisions for the infrastructure development in the village like establishing school and promoting health care activities among the tribals.
- ★ Prepare is maintaining seed banks of local variety of paddy and coarse cereals. They maintain gene banks and promote bio-diversity by identifying medicinal plants in their area.

Conclusion

Prepare as NGO approached the problem of food security at micro level with multi-dimentional way of problems and solutions. This approach is helpful to all types of people in the tribal area. Since forest is the major source of livelihood to tribals, they go to forest almost daily for either to collect firewood or tendu leaf or some fruits or tamarind or mangos or to do cultivation as per the seasonal availability. Forest along with only forest produce living is difficult and vulnerable to the food insecurity. Therefore, Prepare studied the problems of tribal people indepth and came with solutions like 1. Grain Bank and Seed Bank wherever required, 2. Giving small loans on easy terms to cultivate some assigned cultivable lands in the midst of the forest or to purchase livestock

such as goats, pigs, etc., which are part and parcel of their life. Loans are extended to the tune of Rs.500 to Rs.2000 for various purposes such as for land development, livestock, even to provide to purchase lands to the extent of half to two acres.

To effectively attend to their food security problem, people are organised into Self-Help Groups and were extended all the facilities with effective supervision and monitoring. Particularly in the rain season, or in lean season, they suffer from food shortage and also forest produce. The grain banks help in the months of June to September. As a long-term approach, the emphasis is on organic farming and land development. Awareness camps and short duration trainings were conducted to know and maintain health and sanitary conditions in the study villages Chitakapanga, Sankhilapadar and Minajhola.

The land development and irrigation works which were taken up by Prepare encouraged the tribals to develop their own land and they were paid the wages and also sometimes grains for working in their own fields for development. Consumption loans were also extended to them so that they need not go to the moneylender. Their forest produce has been graded and arranged for the marketing facilities.

The grain banks are working as an alternative PDS and are helpful to the needy. Though TPDS is in operation in these areas to man the scheme, the location and maintenance of Fair Price Shops could not help much. It would have been more helpful if the FPS were available nearby their settlements and all are extended with BPL cards. Seed banks are also functioning very well and are useful to the tribal communities to exchange seeds.

With the Prepare intervention, the yields of the crops increased and could support them atleast for 4-5 months. The wage labour could give them 3-4 months food and forest produce could support them for 2-3 months. But all the sources could support only for 8-9 months. Therefore, the grain banks introduced by Prepare and the schemes to enhance the production, wage employment for land development, livestock schemes and other schemes were very helpful to combat the struggle for living and overall help in food security.

CHAPTER - VI

DDS COMMUNITY GRAIN BANK AND FOOD SECURITY MODEL

Sixty per cent of Indian agriculture is dryland agriculture and it is a source of livelihood for more than three quarters of the country's rural population. Dryland agriculture in the country is spread over different agro-climatic zones, extending from the deserts of Rajasthan in the north to the Central India, Marathwada , North Karnataka and the Deccan Plateau in South India. The current Deccan Development Society (DDS) project area in Medak district falls under zone –111 and zone –1V of AP agro-ecological classification. Most of these regions are characterised by low rainfall, sparse vegetation and are prone to soil-erosion. Despite hostile agro- climatic conditions, these regions are a host to a variety of crops that can withstand the vagaries of monsoons and other adverse ecological conditions. Some of the major crops grown in dryland regions of the country are sorghum (jowar), pearl millet (bajra), finger millet (ragi), foxtail millet (korra) etc., which are the mainstay of agricultural, food and cultural systems of people inhabiting these regions. Moreover, these crops grow with least external inputs, providing not only food security but multiple securities that include nutrition, fodder,fibre,livelihood and ecological securities sustaining livestock and livelihoods for rural communities. The core activities of the DDS, an NGO based in Zaheerabad mandal of Medak district of Andhra Pradesh center around these issues.

The DDS, is a two-decade old grassroots organisation working with women's *Sanghams* (voluntary village level associations of the poor) in about 75 villages around Zaheerabad in Medak district, 100 km away from Hyderabad, the capital of the South Indian State of Andhra Pradesh. The organisation works with groups of *dalit* women members called *Sanghams*/ Society in each village. The 5000 women members of the Society represent the poorest of the poor in their village communities. Most of them are *dalits,* the lowest group in the Indian social hierarchy.

The community food security programme implemented by DDS, also known as Alternative Public Distribution System (APDS) through community grain fund is one of the core programmes around which a range of activities are organised at the community level. This is an innovative programme where foodgrains production, procurement, storage and distribution are done at the local community (village) level and are entirely managed by the women *Sangham* members. The main objectives of the programme are:

1. To bring under plough the cultivable fallow lands to produce the required (jowar) grains for consumption locally and in the process make the poor self-sufficient in regard to foodgrains;

2. To generate gainful employment by bringing more fallow land under cultivation of jowar in the project area;

3. To promote use of organic manure like farm yard manure to restore ecological balance to sustain the agriculture development;

4. To reduce the overhead costs of PDS (in terms of transport and centralised management,) and to provide more nutritious traditional and staple grain (sorghum/jowar) instead of rice which is alien in rainfed areas to the poorer sections in food starved villages;

5. To induce 'community spirit' and 'self-esteem' among the beneficiaries/ women so as to manage the food security system on their own.

Operationalisation and Process

DDS for its project on Alternative Public Distribution System (APDS) submitted an action project to the Ministry for Rural Areas and Employment (MRAE) for financial support to the tune of Rs. 96 lakh over a period of three years (1994-97), and it has been funded by the Ministry under III stream of Jawahar Rojgar Yojana (JRY).

The project, conceptually, is construed as an alternative development strategy with special reference to public distribution of low-cost grains by reducing the dependency on the state. As per the project proposal submitted

to the Ministry, about 3000 poor farm households belonging to SC/ST/minority communities located in 32 villages drawn from five mandals in Medak district of Andhra Pradesh would be benefited by this innovative scheme. In each of the 32 villages, about 80 to 100 landholders would be identified and financially supported to bring one acre of fallow land per member under cultivation of millets (jowar). In most of the cases it was beneficiary's own land and in a few cases leased-in land supported by the DDS. Under the proposed PDS, 3000 poor families would be benefited through supply of jowar for six months at a lower price.

Planning Process

Step 1 The planning process first began with the identification of fallow lands in the villages where DDS worked as a voluntary agency. Several meetings were held between the DDS programme staff and the *Sangham* members to collect information about the magnitude of the problem, the total acreage under fallows in each village, the reasons for fallowisation, etc. This information allowed DDS staff to work out the modalities of implementing the programme. The programme started in 32 villages, the target was 3000 acres but only achieved in 2666 acres with 1729 families and 1600 family cards. Each of these villages had fallow lands ranging from 50-100 acres and the target groups were drawn from marginal and small farmers mostly belonging to scheduled castes and backward castes.

Step 2 The second step in the planning process involved holding PRA meetings in each of the selected villages to get more detailed information about the resource base of the village, the village population, livestock, etc. The farmers/pattedars willing to join the programme were asked to get certification from village revenue officials to authenticate their claims that their lands were indeed fallow for some years. Later, all their names and survey numbers of their lands were recorded to be included as the programme beneficiaries.

Step 3 The third step involved meetings with the stakeholders/APDS partner farmers to finalise the details of the programme implementation that included the estimated cost of cultivation per acre of land, the land improvement activities and the likely benefits from the programme etc. This exercise was meant to arrive at a consensus between the two parties i.e., DDS and the partner farmers before entering into a formal agreement with each other over the implementation of the programme. DDS on its part, agreed to advance a sum of Rs. 2600 per acre over a three-year period as given below :

Year 1	ploughing, manuring, sowing and weeding	Rs. 1500
Year 2	ploughing, manuring, sowing and weeding	Rs. 750
Year 3	ploughing, sowing and weeding	Rs. 350
	Investment over three years	Rs. 2600

Step 4 This investment amount was to be repaid both in the form of cash and grain over five years in prefixed quantities at pre-fixed rates as below :

Years	Jowar (kg)	Value (Rs.)	Cash (Rs.)	Total (Rs.)
1	150	450	—	450
2	200	600	—	600
3	150	450	—	450
4	150	450	100	550
5	150	450	100	550
Total	800	2400	200	2600

In consultation with the partner farmers, the following terms and conditions were evolved:

1. Not to use chemical fertilisers and pesticides
2. Not to sell the lands
3. Not to lease the lands
4. To grow only food crops
5. Use farmyard manure produced by the household for their fields and not to sell it to others
6. To preserve seeds from their crops for use in the next season
7. To use only NPM methods for pest control
8. To grow a variety of food crops

The farmers constituted their own monitoring committees at the village level to oversee the timely implementation of various seasonal agricultural activities and regularly report them to the DDS office. It was also agreed by the committee members to collect grain after harvest to be stored in the community grain fund before it is distributed among various categories of poor and the dispossessed based on participatory wealth ranking in each village.

Programme Implementation

The programme implementation has four stages, with the first stage involving seasonal agricultural activities such as ploughing, manuring, sowing, weeding and harvesting. Second stage involves grain procurement and storage in the Community Grain Fund, stage three involves participatory wealth ranking in the village to identify different categories of poor and issuing them jowar ration cards; the fourth and final stage involves distribution of subsidised sorghum (jowar) among different card holders in the village.

STAGE ONE

The first stage of the programme starts with advancing loans to the beneficiary farmers over a three-year period for various agricultural operations starting with tractor ploughing, bullock ploughing, application of farm yard

manure, sowing and weeding in the first year. The loan amount for the first year is fixed at Rs.1500 per acre. Tractor ploughing is done only for the first year since soils are hard and require deep ploughing. The second and third year loan amounts are fixed at Rs.750 and Rs.350 per acre. The total investment for bringing fallow lands under cultivation for all the three years is Rs.2600 per acre. The task of collecting and disbursing loan amounts rests with the women committee members in each village.

STAGE TWO

The committee members are also responsible for timely implementation of all seasonal agricultural activities at the village level as well as reporting back to DDS. After crop harvest, the committee members in each village are required to collect the loan repayment in the form of grain from the partner farmers and store it in bins using traditional storage methods.

The loan repayments by the beneficiary farmers are spread over a five-year period in the form of grain in prefixed quantities at pre-fixed prices. In case there is a crop failure in any year, the repayment time is extended by one more year. The repayment for the first year is fixed at 150 kg. The second and third year repayments are fixed at 200 and 150 kg, respectively. The fourth and fifth year repayments are fixed at 150 kg amounting to a total of 800 kg for all the five years @ Rs.3 per kg. This grain in terms of price components would account to Rs.2400.

The grain thus collected is stored in the village for distribution among different categories of poor based on participatory wealth ranking during the scarce months of monsoon season. The participatory wealth ranking is an innovative process of identifying various categories of poor within the village by the villagers themselves through a PRA method, overcoming the problems of inclusion/exclusion so pervasive in official calculations. The criteria for rural poverty are developed by the villagers themselves and each household is judged on a five-point scale of poverty. Each poverty level is identified by a different colour card that entitles beneficiaries under the APDS programme to certain fixed amount of jowar through the community grain fund. Black

cards are given to the destitute households, landless poor, women-headed households with children and physically unfit (elderly people). Red cards are given to poor with an acre or less land and survive on own labour, households with 4-5 children and households with very few livestock assets with one or two buffaloes and goats. Yellow cards are given to households with 2-3 acres of land and owning a house with some livestock assets. Green cards are given to households owning around 10 acres with livestock assets but are still poor because lands are not very productive. Finally, white cards are given to big farmers employing labourers and possessing livestock assets. White card holders are not entitled for jowar through community grain fund and all other categories are entitled for fixed amounts of jowar depending on the colour of the card, decided through wealth ranking process.

The grain is decided to distribute to all the card holders in the following pattern.

a. Black - 20 kg/month/head

b. Red - 25 kg/month/household

c. Green - 10 kg/month/household

d. Yellow - 15 kg/month/household

e. White - Nil

Households identified thus are issued a sorghum card by the *Sangham* entitling them to a fixed quantity of jowar at a subsidised price of Rs. 2 per kg. The same women who were given responsibility of activities of 20 acres of land are also responsible for distribution of grains. The grain is distributed for six months in a year which can be called "Hunger Period" which starts from *Nagula Panchami* which is an auspicious day in Hindu mythology. Period of hunger is in the months of July, August, September, October, November and March. The proceeds from the sale of jowar are deposited in a bank as the community grain fund (CGF) for a period of five years. Since the procurement price of jowar is Rs.3 per kg, the subsidy of one rupee between the issue price

and procurement price is made up by the interest payments accruing from CGF Bank deposit in five years. Individual village groups hold the CGF account and the fund is issued year after year for reclaiming more fallow lands. The project authorities restricted the coverage of beneficiaries/*pattadars* to 1729 instead of 3000 as proposed in the project as some of them obtained financial support for more than two acres. As a result, 2,666 acres of fallow land was brought under cultivation, instead of proposed 3000 acres (Table 42). In general, financial support to the farmers ranged on an average from 1.2 to 2 acres.

The total number of all cardholders under distribution programme in 32 villages during the first phase is 4593 of which green card holders are more with 1928 in number, followed by red card with 1681 followed by yellow and black cards with 819 and 165 in number, respectively (Table 43). In terms of social hierarchy, SC's benefited more, followed by BC and OCs.

Table 42 : Village-wise Information of Beneficiaries during First Phase

S. No.	Name of the Village	Mandal	Land in Acres	Beneficiaries (No.)	*Pattadars* per Acre	Grain Collected in Kg
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1.	Bardipur	Jarasangham	121.75	76	1.60	43341
2.	Boppanpally	Jarasangham	47	30	1.57	20692
3.	Bidakanne	Jarasangham	35			
4.	Dhanwar	Manoor	68	55	1.24	56603
5.	Eedulapally	Jarasangham	137	77	1.78	53454
6.	Ganeshpur	Nyalkal	51	35	1.46	12379
7.	Gunjotti	Nyalkal	90	68	1.32	21128
8.	Hoti – B	Zaheerabad	113	61	1.85	64243
9.	Hoti – K	Zaheerabad	90	52	1.73	40910
10.	Hosselly	Nyalkal	70	48	1.46	25262

(Contd.,)

Table 42 : *(Contd.)*

(1)	(2)	(3)	(4)	(5)	(6)	(7)
11.	Itekepally	Raikode	65	54	1.20	35817
12.	Jambigi	Raikode	68	49	1.39	19537
13.	Kalimela	Nyalkal	70	45	1.56	30662
14.	Khambalapally	Jarasangham	93	60	1.55	35723
15.	Kuppanagar	Jarasangham	124	78	1.59	9691
16.	Krishanpur	Jarasangham	34	54	0.63	25133
17.	Kasimpur	Zaheerabad	110	61	1.80	22869
18.	Machnoor	Jarasangham	69	44	1.57	19604
19.	Merempur	Nyalkal	39	20	1.95	24671
20.	Mypathpur	Raikode	78	50	1.56	28473
21.	Mamidigi	Nyalkal	83	57	1.46	24381
22.	Mogudampally	Zaheerabad	157	105	1.50	51656
23.	Metalkunta	Nyalkal	84	57	1.47	38936
24.	Matoor	Raikode	55	47	1.17	15975
25.	Nagwar	Raikode	84	53	1.58	33884
26.	Nyamathabad	Nyalkal	69	37	1.86	32995
27.	Pasthapur	Zaheerabad	98	68	1.44	47413
28.	Raghavapur	Nyalkal	88	42	2.10	47780
29.	Rejinthal	Nyalkal	110	69	1.59	24845
30.	Singitam	Raikode	82	56	1.46	36401
31.	Thummakunta	Zaheerabad	64	37	1.73	16532
32.	Yelgoi	Jarasangham	120	76	1.58	25977
		Total	2666	1729		

Table 43 : Village-wise Information of Cardholders during First Phase

S. No.	Name of the Village	Mandal	Total Cardholders by Type				Total
			Black	Red	Green	Yellow	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1.	Bardipur	Jarasangham	1	35	99	27	162
2.	Bidakanne	Jarasangham	5	62	91	51	209
3.	Boppanpally	Jarasangham	2	16	37	9	64
4.	Dhanwar	Manoor	9	20	38	11	78
5.	Eedulapally	Jarasangham	4	21	111	35	171
6.	Ganeshpur	Nyalkal	3	26	21	8	58
7.	Gunjotti	Nyalkal	17	42	82	18	159
8.	Hosselly	Nyalkal	3	58	26	9	96
9.	Hoti – B	Zaheerabad	6	128	116	33	283
10.	Hoti – K	Zaheerabad	1	48	56	27	132
11.	Itekepally	Nyalkal	10	71	33	15	129
12.	Jambigi	Raikode	5	19	50	25	99
13.	Kalimela	Raikode	3	72	59	39	173
14.	Khambalapally	Nyalkal	0	20	44	29	93
15.	Kasimpur	Jarasangham	6	67	59	58	190
16.	Krishanpur	Jarasangham	0	60	39	22	121
17.	Kuppanagar	Jarasangham	4	45	124	23	196
18.	Machnoor	Zaheerabad	5	49	92	33	179

(Contd.,)

Table 43 : *(Contd.)*

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
20.	Mamidigi	Nyalkal	5	96	83	33	217
21.	Matoor	Raikode	5	7	57	11	80
22.	Metalkunta	Nyalkal	2	60	80	32	174
23.	Mogudampally	Zaheerabad	16	192	94	27	329
24.	Mypathpur	Nyalkal	8	23	46	11	88
25.	Nagwar	Raikode					
26.	Nyamathabad	Raikode	1	27	23	18	69
27.	Pasthapur	Nyalkal	20	146	52	53	271
28.	Raghavapur	Zaheerabad	2	47	42	29	120
29.	Rejinthal	Nyalkal	7	70	47	25	149
30.	Singitam	Nyalkal	5	7	57	11	80
31.	Thummakunta	Raikode	1	37	15	18	71
32.	Yelgoi	Zaheerabad	9	110	155	79	353
	Total		165	1681	1928	819	4593

Organisation and Monitoring Mechanism

The APDS programme has been designed in a manner that provides for an inbuilt mechanism for monitoring and evaluation at every stage of the programme. Monitoring in done jointly by women *Sangham* members and the DDS staff. The organisational structure of the programme's implementation and monitoring agency consists of :

To ensure an effective implementation of the scheme, an organisational structure has been designed and also a monitoring system has been built into the programme design. At the project level, the Project Director (PD) is supported by one Project Coordinator (PC) and three Supervising Staff (SS). For a cluster of villages, one woman coordinator was selected to coordinate the work of 'women *sanghams*' and to liaise with the Project team. These coordinators, five in number, are the members of the steering committee of the DDS. Two of the Steering Committee Members (SCM) are paid a salary of Rs. 500 per month. Village 'women *sanghams*' meet regularly once in a week to discuss the status of the project and also to identify the problems affecting the implementation process. These meetings are also being used to communicate to the *pattadars* about the activities to be undertaken at the field level. The 'steering committee' meetings are held periodically once in two weeks at DDS office (Pastapur village).

These meetings, besides discussing the problems, also decide the actions to be undertaken to correct the field conditions. Further, the minutes of the village meetings are also documented by the DDS staff village-wise at the time of steering committee meetings.

The proposal envisaged appointment of a village level supervisor to oversee the implementation process. The Village Level Supervisor (VLS) would be paid a honorarium of Rs. 500 per month. The village 'women *sanghams*', however, decided to appoint a number of committee members

(WSCM) and each one will look after 20 acres and each one would be paid a salary of Rs. 100 per month. These committee members are expected to frequently visit the lands of the *pattadars* allotted to them and also act as an inter-face between DDS / 'women *sanghams*' and beneficiary *pattadars*. They are also accountable for recovery of grains and to deposit the collected jowar in storage bins given by DDS. In each village every committee member was also given some PDS cards and was entrusted with the task of releasing the rations as per the entitlements. A Village Level Accountant (VLA) was appointed to maintain the accounts of PDS Project. Further, every *pattadar* is expected to pay at the rate of Rs.1 per acre per month for the VLA. The VLA maintains two registers :

- ★ *Pattadar* Register furnishing the details of the land (Survey No. and area), address of the *Pattadar,* and advances paid to the *Pattadar;*
- ★ The PDS Register containing the particulars of the PDS beneficiaries and their entitlements along with actual ration supplied month-wise.

The project coordinator periodically visits the villages and interacts with the *pattadars* as well as PDS beneficiaries to elicit their views and problems and also monitors the progress of the scheme. The project coordinator is assisted by three supervisors and the supervisors visit (once in a quarter) all the (2666 acres) PDS lands and inspect the crop conditions and farm practices followed. The project coordinator and supervisors visit all the fields during the time of harvest to make an assessment of the crop yields. The committee members of the women *sanghams* are responsible for dissemination of knowledge inputs, recovery of the loans and distribution of PDS grains. The project director, project coordinator and other members of the project team mainly function as facilitators and all the main decisions taken by the women *sanghams* only. It is to be noted that all the *pattadars* are not members of the women *sanghams* and about 30 per cent are outsiders. The above administrative structure and the monitoring mechanisms are expected to help implement the scheme more effectively and in a participatory manner. People's participation (*pattadars* and PDS beneficiaries) is ensured at all stages since all the issues pertaining to the project are discussed in the weekly meetings of the *sanghams.*

They help in the capacity building and training of the *sangham* members apart from supervising the overall running of the programme. DDS with the objective of strengthening the institutional processes held several trainings and workshops for the *sangham* members focussing on areas/themes useful for the long-term sustainability of the programme. Some of the areas/themes in the capacity building include:

Sangham norms

a. Book keeping
b. Women in agriculture
c. Reproductive rights
d. Gender issues
e. Social analysis of income generation
f. Literacy
g. Issues on Panchayati Raj etc.

The institutional capacity building by DDS is done in the larger context of women empowerment for self-reliance and solidarity in all the community initiatives undertaken by them.

Apart from institutional capacity building, regular trainings are also conducted in:

h. Natural resource management practices such as watersheds, bio-diversity conservation

i. Non-pesticidal management methods of crop protection, raising of village medicinal commons for regaining control over traditional health care systems etc. for the *sangham* members to make them sel-reliant in all aspects of natural resource management and protection.

As a part of continuous participatory monitoring and evaluation, the women committee members of the APDS programme are required to maintain

regular documentation of various activities for accountability and transparency of the programme activities.

Some of the documentation and field level responsibilities entrusted to the women committee members are:

★ The pass book for each agricultural activity is maintained either by the committee member or kept in the custody of a data writer who keeps record of the number of acres on which a particular activity is completed and the amount spent for that activity.

★ A register book is also maintained for the entire village and kept in the custody of a committee member or the data writer.

★ The responsibility of the committee members is to oversee / supervise the work on the farms of 17-20 members on average and come to DDS office for collecting the money for payment. The PDS supervisor has to oversee the functioning of the committee members of the village and see the entries made in the pass book, without team leader's signature, payments cannot be made.

★ Separate bill books are maintained for different activities

1. Tractor ploughing.
2. Organic manuring.
3. Bullock-ploughing and sowing.
4. Weeding.

★ For repayment of loan by the members, entries are made in the member's passbooks and a separate register is maintained for the entire village. All the entries are computerised at the DDS field office at Pastapur.

List of documents maintained by DDS relating to the PDS programme:

1. The acreage of fallow lands in the village, how long have they been fallow, livestock details, households details and the reasons for keeping the lands fallow.

2. Patwari certification for fallow lands.
3. Agreement record/stamp papers of individual partner farmers
4. Input inventory record
5. Individual and consolidated receipts of input costs of the farmers
6. Daily monitoring report on farm activities; how many acres have been tilled, manured, seeded, weeded, etc.,
7. Consolidated report on the cost of inputs for each village
8. *Pattadar* passbooks with details of money paid for various agricultural activities
9. List of crops sown
10. Video and audio documentation

Second Phase

The second phase started in the year 2001-2002 with 11 villages to bring fallow lands under cultivation. Totally 513 families were involved with 574 acres and 980 family cards (Table 44). Initially i.e. during the first phase, the crop meant for PDS was only jowar. But in the second phase, whatever crops the farmer was interested to raise as well as purchase was allowed. So a range of crops like yellow jonna, bazra, korra and *aarika* were introduced. The funding for the second phase was given by another organisation called "Christian Aid" from London.

Table 44 : Village-wise Information of Beneficiaries During Second Phase

S. No.	Name of the Village	Mandal	Land in Acres	Beneficiaries (No.)	*Pattadar* per Acre	Grain Collected in Kg.
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1.	Cheekurthy	Nyalkal	42.5	33	1.29	17650
2.	Chenegepally	Nyalkal	37	26	1.42	11925

(Contd.,)

Table 44 : *(Contd.,)*

(1)	(2)	(3)	(4)	(5)	(6)	(7)
3.	Hulgera	Raikode	56	56	1.00	25072
4.	Ippapally	Zaheerabad	37	36	1.03	16700
5.	Jarasangham	Jarasangham	45.5	42	1.08	21725
6.	Khanjamalpur	Raikode	49	49	1.00	14940
7.	Malgi	Nyalkal	69.5	54	1.29	31000
8.	Narsapur	Jarasangham	84	84	1.00	29150
9.	Raipally	Zaheerabad	52	51	1.02	18800
10.	Sanghpur	Raikode	51	51	1.00	17350
11.	Tukur	Nyalkal	50.5	31	1.63	21450
		Total	574	513		

Table 45 : Village-wise Information of Cardholders During Second Phase

S. No.	Name of the Village	Mandal	Total Cardholders by Type				Total
			Black	Red	Green	Yellow	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1.	Bardipur	Jarasangham	1	35	99	27	162
1.	Cheekurthy	Nyalkal	3	23	6	13	45
2.	Chenegepally	Nyalkal	3	36	1	7	47
3.	Hulgera	Raikode	5	51	9	1	66
4.	Ippapally	Zaheerabad	10	37	15	11	73
5.	Jarasangham	Jarasangham	9	73	10	6	98

(Contd.,)

Table 45 : *(Contd.)*

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
6.	Khanjamalpur	Raikode	10	50	17	13	90
7.	Malgi	Nyalkal	4	52	8	17	81
8.	Narsapur	Jarasangham	9	49	21	47	126
9.	Raipally	Zaheerabad	17	44	74	12	147
10.	Sanghpur	Raikode	10	98	28	14	150
11.	Tukur	Nyalkal	7	39	0	12	58
		Total	87	552	189	153	981

The total number of cardholders for distribution programme were 981 from 11 villages (Table 45). Among them red cardholders were more with 552 in number followed by green, yellow and black cardholders with 189, 153 and 87 in number, respectively. During the second phase, the organisation tried to improve the targeting of the people based on the wealth ranking through PRA. There were more number of green cardholders followed by red card holders in the first phase. But in the second phase, red cardholders were more then the green cardholders which indicates that the targeting has improved in the second phase. Financial support to the land was restricted to a range of 1 to 1.63 acres per *pattadar,* and loan component per acre increased to Rs.4200. Over a period of three years the amount was agreed to advance in a pattern as given below:

Year 1	ploughing, manuring, sowing and weeding	Rs. 2700
Year 2	ploughing, manuring, sowing and weeding	Rs. 1000
Year 3	ploughing, sowing and weeding	Rs. 500
	Investment over three years	Rs. 4200

The repayment schedule for the second phase is also same, except that the procurement price of grain is Rs.450 per kg. This grain in terms of price component would account to Rs.3600. Since the total loan component is Rs.4200, the balance amount of Rs.600 has to be paid in cash @ Rs.125 for the first four years and Rs.100 in the last year. The total returns calculated in terms of money would be Rs.4200 per acre. The lacunae in the procurement of grants during the first phase were corrected in the second phase by introducing price component as part of the repayment.

The issue price of jowar during this phase is Rs. 3.50 per kg. Since the procurement price of jowar is Rs.4.50 per kg, the subsidy of one rupee between the isse price and procurement price is made up by the interest payments accruing from CGF bank deposit in five years.

Third Phase

The third phase was taken up in the year 2003, in eight new villages in the same mandals. Funding is by "International Institute for Environment and Development". In this phase, 350 acres of fallow land was brought under cultivation to benefit 312 families under production programme (Table 46) and 548 cardholders under distribution programme. During the third phase also red cardholders are more with 337 in number followed by black, green and yellow cardholders with 88, 68 and 55 in number, respectively (Table 47).

Table 46 : Village-wise Information of Beneficiaries During Third Phase

S. No.	Name of the Village	Mandal	Land in Acres	Beneficiaries (No.)	*Pattadar* per Acre	Grain Collected in Kg.
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1.	Cheelamamidi	Jarasangham	45.5	35	1.30	14925
2.	Chilkapally	Jarasangham	37	33	1.12	12950
3.	Gunthamarpally	Jarasangham	42	42	1.00	13700

(Contd.,)

Table 46 : *(Contd.)*

(1)	(2)	(3)	(4)	(5)	(6)	(7)
4.	Madri	Kohir	49.75	36	1.38	16412
5.	Putpally	Jarasangham	44	40	1.10	6549
6.	Pyalaram	Jarasangham	30	30	1.00	10500
7.	Shamshuddinpur	Raikode	38	29	1.31	13300
8.	Yedakulapally	Jarasangham	64	67	0.96	18755
		Total	350	312		

Table 47 : Village-wise Information of Cardholders During Third Phase

S. No.	Name of the Village	Mandal	Total Cardholders by Type				Total
			Black	Red	Green	Yellow	
1.	Cheelamamidi	Jarasangham	8	52	8	0	68
2.	Chilkapally	Jarasangham	2	32	22	4	60
3.	Gunthamarpally	Jarasangham	4	36	5	6	51
4.	Madri	Kohir	9	38	6	7	60
5.	Putpally	Jarasangham	23	80	1	13	117
6.	Pyalaram	Jarasangham	2	26	11	7	46
7.	Shamshuddinpur	Raikode	18	31	6	12	67
8.	Yedakulapally	Jarasangham	22	42	9	6	79
		Total	88	337	68	55	548

Sample Study

Three villages were selected for the study, which covered all the three phases of the project. Under the first phase, the village Mirempur was selected and under the second and third phases, the villages Hulgera and Pyalaram were selected for the study.

The DDS selected 39 acres of fallow land for land reclamation and cultivation under production programme in Merempur village. Whereas, in Hulgera and Pyalaram villages 56 and 30 acres of fallow land was selected for the same purpose. The total number of beneficiaries under production programme in Merempur village were 20 (Table 48). Whereas in the Hulgera and Pylaram villages they were 56 and 30 in number, respectively. On an average, 1.95 acres of land per *pattadar* was benefited under this programme in Merempur village under first phase. Whereas, with better targeting, under second and third phases the land benefited in Hulgera and Pylaram villages was confined to one acre per pattadar.

Table 48 : Beneficiaries under Production Programme

S. No.	Name of the Village	Mandal	Land Extent Acres	No. of Beneficiaries	Grain Collected in Kg.
1.	Merempur	Nyalkal	39	20	24,671
2.	Hulgera	Raikode	56	56	25,072
3.	Pyalaram	Jarasangham	30	30	10,500

The total number of beneficiaries under distribution programme in Merempur village were 88 (Table 49). Yellow cardholders were more in this village with 46 in number. Red cardholders were more in number in Hulgera and Pylaram villages followed by black cardholders in Hulgera villages and yellow cardholders in Pylaram village.

Table 49 : Beneficiaries under Distribution Programme

S. No.	Name of the Village	Mandal	Land in (Acs)	Black	Red	Green	Yellow	Total
1.	Hulgera	Raikode	56	5	51	1	9	66
2.	Pyalaram	Jarasangham	30	2	26	11	7	46
3.	Merempur	Nyalkal	39	8	23	46	11	88

The study covered a sample of 75 beneficiaries under the distribution (APDS) programme who are also the members under *Sangham* i.e production programme. The sample size is 25 for each village.

Table 50 : Landholding Ownership Pattern

S.No.	Card type	Villages					
		Merempur		Hulgera		Pyalaram	
		a	b	a	b	a	b
1	Black	—	—	—	—	—	—
2	Red >1	2	10	1	5	2	13
3	Yellow1-3	4	25	14	118	17	93
4	Green 3-10	19	123	10	56	6	57
5	White >10	—	—	—	—	—	—

a : Number of households under different cards.

b : Total members of respondent households.

Since the samples covered the beneficiaries under both production and distribution programme, black cardholders were not covered under the study. This is the limitation of the study. Table 50 on landholding ownership pattern shows that out of a sample size of 25, green cardholders were more in Merempur village followed by yellow and red cardholders. Whereas, more number of

red card holders were covered in the Hulgera village followed by green and yellow card holders. Same is the case with Pylaram village also. This shows that as the programme moves from phase – I to phase – II and III it is targeted more towards poorer section of the villages.

Table 51 : Total Grain Distributed to the Member Households (kg)

S.No.	Card Type	Merempur	Hulgera	Pyalaram
1.	Black	—	—	—
2.	Red	280 (28)	300 (60)	851.5 (65.5)
3.	Yellow	780 (31.2)	4500 (38.13)	3850 (41.39)
4.	Green	2860 (23.5)	2350 (41.96)	800 (14.03)
5.	White	—	—	—

Figures in parantheses indicate per capita of member list.

The grain distributed to the respondent households for the village Merempur, is the total of five years starting from 1998 to 2002. Whereas for the Hulgera village it is total of three years starting from the year 2001 to 2003 and for the Pyalaram village it is the total of two years starting from the year 2002 to 2003. Green cardholders received more grain in Merempur village followed by yellow and red cardholders, in a sample size of 25 (Table 51). But this is because of more number of respondents under the green cards. When per capita distribution of grain is studied it is interesting to find that yellow cardholders received more grain per capita when compared to the others. Whereas, in Hulgera village though the total grain received by yellow cardholders is more followed by green and red cardholders, per capita availability is more for red card holders, followed by green and yellow card holders. The third phase i.e. Pyalaram is more targeted in giving grains to red and yellow cards followed by green which is indicated by the fact that the per capita availability to them is 65.5 kg, 41.39 kg and 14.03 kg, respectively. In general, the per capita distribution of grains to the members of beneficiary

households increased as the programme moved from phase 1 to phase 3. This shows that the efficiency of distribution programme has been improving and also the consumption of coarse grains like jowar, bajra, ragi, korra , arika and variga and sama has been increasing in these villages.

During the second and third phase, the programme improved the targeting of the people based on wealth ranking through PRA. It targeted the people who are in poverty and who should receive the grain.

Repayment of Grains

The programme achieved only 64 per cent of the repayment target during the first phase. Still 36 per cent of the beneficiaries under the production programme have to repay the jowar to Community Grain Banks in their respective village. Merempur village is in better condition in the first phase villages with 83 per cent repayment of grains. The repayment was poor in first phase mainly because of the failure of crops during some years, which made the farmers unable to repay the grains. This practice was corrected during the second phase by restricting the beneficiaries to one acre per *pattadar* and also by keeping cash component as a part of repayment. As a result, the achievement in terms of repayment improved to 85.5 per cent during the second phase and further to 92 per cent in the third phase till now. Similarly, the achievement of Hulgera village of second phase is 95 per cent (Table 52) and Pyalaram village of third phase is 100 per cent (Table 53). There is a general perception by the members that storage losses were around 5-6 per cent but since there was no proper maintenance of records, there is no correct estimation of storage losses by the end of phase-1.

Benefits Derived

It is a massive programme which is completely managed by women. The collection, distribution, sales proceeds and money management has given confidence and empowered the women in these villages. In addition to these, some of the benefits perceived with this programme are :

Table 52 : Phase-wise Targets and Achievement

	Targets		Achievement			
	Jowar (Kg)	Money (Rs)	Jowar (Kg)	%	Money (Rs.)	%
Phase- I	22,2453	—	1422236.8	64%	—	
Phase – II	2,87,000	2,15,248	2,45,354	85.5	1,84,474	85.7
Phase - III	1,22,587	87562	1,12,259	92	80,476	92

Phase I : Till the period - Phase II: Period of 3 yrs — Phase III: Period of 2 yrs

Table 53 : Village-wise Target and Achievement

	Targets		Achievement			
	Jowar (Kg)	Money (Rs)	Jowar (Kg)	%	Money (Rs.)	%
Merempur	33,150	—	27,514	83	—	—
Hulgera	28,000	21,000	26,550	95	20,245	96.4
Pyalaram	10,500	7,500	10,500	100	7500	100

a) Employment Generation : This project is employment oriented since it encouraged labour-intensive operations such as land development, cultivation of traditional crops like jowar, redgram, horse gram, other pulses and vegetables in the erstwhile current fallow lands which could not be brought under plough due to lack of finance. This project created a demand for human labour, bullock power, tractor power, farm yard manure, traditional storage bins etc., because of additional land brought under cultivation. The beneficiaries are mostly scheduled caste marginal landholders depending on wage income (hiring of their labour). The lands were earlier kept fallow mainly because of lack of finance and also risk involved in getting crop output due to low soil fertility,

degraded soil, hard terrain and low retention of moisture in the soil etc. Earlier, they used to migrate to neighbouring village for wage employment. After this scheme being implemented, the beneficiaries informed that they stopped migration to other areas (push type) and are now seeking employment within their villages and working on their own lands. Thus, this project in a way reduced/arrested the migration of labour. The beneficiaries expressed that on an average 90 person days of labour employment was created per acre for various operations and a demand for 8 to 10 bullock pair days per acre has been created. Demand for tractor power was created during the first year since the soils are very hard and require deep ploughing for better cultivation. Traditional storage bins are required to store jowar for PDS in the village i.e. person days per bin having storage capacity of 5 quintals. About 62 per cent of total loan amount was advanced for labour-intensive operations such as sowing and weeding operations, ploughing, transport and application of farm yard manure. The demand for bullock labour has also been created on a continuous basis for various operations such as ploughing, leveling, weeding and threshing etc.

b) Land Development and Crop Diversification : Most of the lands were kept fallow because of their sub-marginal condition prior to the year 1995. The project has brought back these lands into cultivation. With the addition of farm yard manure to these lands the productivity of crops also improved.

Simultaneously the organisation helped the farmers in recognising the importance of old crops like sama, arika variga, etc. At the time of introduction of APDS these crops and many varieties of other minor millets crops have also been gradually phasing out with the monopolising of rice crop as a result of government-run public distribution system. So the organisation encouraged the farmers to grow these crops by sensitising them on the importance of diversifying the crops. The farmers now have perceived that crop diversity is considered as an insurance factor against fluctuations in weather conditions and also occurrence of pest attack. They observed that crop combinations can

act as mutually supporting in terms of enrichment of fertility and also with these the five-F needs of the community - food - fuel - fodder - fencing - fertility can be fulfilled.

In the case of kharif (June-November) the following crops are usually grown with jowar, pigeon pea, cow pea, field beans, punti, and green gram creeper. The winter jowar is cultivated along with *kusumalu*, cucumber, *lankalu*, mustard, green gram creepers, peas, punti, linseed and wheat. The use of Farm Yard Manure (FYM) also facilitated raising about nine to ten types of leafy vegetables which are mainly consumed by the villagers.

c) Food Security : The three components of food security i.e. production, distribution and consumption are met by the APDS programme of DDS. The programme brought many fallow lands into cultivation and in general the fertility of the soils also improved with the addition of FYM. With this and with an increase in the awareness about biodiversity conservation and nutritive value of minor millet crops there is an increase in the production and productivity of these crops . The distribution programme through APDS helped the people in meeting their hunger needs during the lean season. The increase in the consumption of minor millet crops increased not only food security but also nutritional security of the people in these villages.

Problems Faced and Lessons Learnt

Though the programme started in 2666 acres in the first phase, 400 acres were dropped by the end of third year. The main problems that were encountered at that time were lack of education or awareness about the importance of the programme and also caste dynamics. The other problems are :

✦ *Land development :* The beneficiaries under the production programme invested the money for some other purpose instead of for fallow land development. Their loan repayment is perfect in order to get benefits under distribution programme but their fallow land is not upgraded.

This is corrected later by appointing one supervisor for every 20 acres. The supervisor who supervises at the time of agricultural operations must give a "fallow land certificate" on behalf of all the 20 farmer beneficiaries without which they cannot get further financial assistance.

- *Targeting :* Though the programme is meant initially for benefiting one acre of land per *pattadar,* due to local pressures, it succumbed to extend the loan to more than one acre. On an average, 1.95 acres of land per *pattadar* was benefited during the first phase which resulted in improper monitoring and collection of grain. This was corrected later i.e. during the second and third phases, the land benefited per *pattadar* was restricted to one acre only.

- *Grain repayment :* The repayment achievement of grains of the first phase is only 64 per cent. Proper monitoring was not done. Records were not maintained properly by the beneficiaries, which was observed only at the end of sixth year. Now they appointed one person for each village to maintain register. Grain repayment was also affected by crop failure. Therefore, cash component was also introduced in the second phase as a part of repayment.

Conclusion

The DDS programme though started with an aim to totally replace government-run PDS in the villages, with its own local network of PDS, it is successful to an extent of supporting the people during the hunger period. But the benefits perceived through the community grain banks by distributing the grain are sustainable in the long run if the grain banks can be managed independently by the woman *sangham* members without the help of DDS. Though how they can meet the subsidy between procurement and issue price is an issue, there is no doubt that this programme is successful to an extent of improving the land productivity by developing fallow lands and by crop diversification. The process of development of fallow lands created an additional employment in the farms of poor households. The awareness of biodiversity and its importance increased. The people in these areas are growing

diverse crops in the same field and they started maintaining community seed bank also. The programme is also successful in empowering poor marginal farmers especially women. However successful the programme may be in some aspects, the replicability and sustainability of the programme ultimately depends upon the cooperation of people who were benefited under this.

CHAPTER - VII

CONCLUSIONS

Food Security exists when all people at all times have physical 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 basically understood in terms of food availability, stability and accessibility. Ensuring availability of food implies efficient domestic production and internal trade to make enough food available for the entire population. However, despite food being abundantly available, it may not be within easy access of certain sections of the society. Hence, enhancing people's purchasing power to buy food where it is not produced or making it available at subsidised rates through the public distribution system and employment programmes provides a safety-net and ensures accessibility to adequate and safe food.

Food problem remained and food security is still haunting the country. Despite an expenditure of Rs. 27,000 crore on food subsidy the centralised foodgrain distribution system is not in a position to reach millions of people who are in remote places. Even in the places it could be reached, many people are not in a position to lift it because of the lack of purchasing power. So in order to provide food and nutritional security to the people living below poverty line and also to the people living in remote areas, several NGOs entered into the network of localised and decentralised production and distribution system of foodgrains. This study attempts to capture through documentation of a few best practices in micro level food security efforts, analysing factors for their success or failure and examine their replicability and sustainability aspects to draw lessons.

The study area was selected based on the location of micro level experiments in consultation with various state governments and NGOs keeping in view food surplus and food-deficit states. Hence, the study covered four micro level important experiments implemented by four NGOs in four States

namely Maharashtra, Chhattisgarh, Orissa and Andhra Pradesh, four districts, seven blocks, thirteen villages and three hundred households.

An assessment of the role of PDS in meeting the food requirements of the people reveals that though they are aware of their entitlement of PDS, they did not avail of due to locational factor and geographical accessibility of fair price shops, due to lack of purchasing power at a time, lack of information and availability, bad quality of grains, irregular supply, improper and under-weighment, and leakages at the fair price shops. Therefore, to cater to the food security needs, alternative food security system through grain banks emerged in the study area with meagre asset base and heavy burden of liability, the households are living in high risk situation of food insecurity. The annual income level is around Rs.12638 per family indicating much lower than the cut-off national income level of a BPL family. Therefore, besides their own source, community grain banks are meeting the foodgrain requirement of the people in the study area. The drawal from community grain bank was found to be mostly during the months of May, June, July, August and September. These are the months of lean period scarcity during a year. The community grain banks come to their rescue in providing food during this period. Discussion on various models of community grain banks and food security are presented in subsequent sections.

ADS, Maharashtra

The Academy of Development Sciences (ADS) grain bank programme is able to meet its objectives of helping the focus groups overcome the exploitation of the local moneylenders and eventually achieve food security at the community level, by primarily dealing with the vulnerability factor. The model has also been able to ensure food security to a great extent by ensuring food availability, stability and accessibility through decentralised resource management and decision-making. Such decentralisation is significant, as it pays tribute to the indigenous knowledge of the focus groups. As a result, it enables those with scarce resources to participate and cooperate in addressing lean season food scarcity, overcoming indebtedness and gaining a sense of dignity in solving their own problems. The process facilitates empowerment

as people overcome their basic preoccupation with food security and actively participate in the governance of their communities.

When people are able to devote the most crucial days of cultivation and harvesting in their own fields, instead of the moneylender's fields, food availability at the household and community level improves. Timely credit made available from the village cash fund for agricultural inputs further enhances productivity. The interest on grain loan, after repayment to the agency, adds to the grain stock in their grain banks. So, even after the agency withdraws and the village grain bank assumes autonomy, food stocks in the village ensure stability of food in distress period. It takes care of inter-annual and seasonal fluctuations in crop yields. As vulnerability is gradually eliminated, people's negotiating power is enhanced and they are able to demand higher wages as agricultural labourers. On one hand this enhances their purchasing power and on the other, local sale of surplus grains proves profitable as middlemen and agents and intermediate costs are eliminated. Such local transactions cushion the blow of market price fluctuations. Foodgrains are thus easily accessible.

From the statistical analysis of landholdings of grain bank members, one can infer that the targeting of the programme is quite accurate. Villagers themselves select members in an open and transparent way through village meetings. The basic criterion for selection is the potential member's willingness and ability to repay the grain loan. However, this does not eliminate those belonging to the bottom rung from the programme. The landless and those with land less than one acre alone constitute 63.17 per cent of the total grain bank members in this region.

Before concluding it needs to be emphasised that the ADS model can further consolidate its efforts to incorporate good governance as the ultimate goal. This will then take care of all other issues facing the focus groups beyond just food security and lean season scarcity. The *Panch* Committee and *Gavki Vikas Samiti* can collaborate with government and other institutional functionaries at village and district level, respectively, to address other development issues in their region. There is also adequate scope to address gender issues in not just food security but also wider development concerns.

Ensuring adequate women's participation in the People's Institutions will help incorporate their perspective and vision in development issues.

Rupantar, Chhattisgarh

Rupantar promotes decentralised food security system in ensuring food security on sustainable basis in the study area.

Firstly, it emphasised food security by preserving the bio-diversity in the area or region. Chhattisgarh region is known to have grown amazing diversity of rice of indigenous varieties. These indigenous rice varieties are capable of giving the equivalent of or even higher than green revolution varieties without use of chemicals in the field conditions of simple tribals farmers having low resource base and a little formal education. It was possible to maintain high yields through using indigenous seeds, local resources and skills. Thus, local self-reliance technology was to be propagated and recommended to the farmers. Rupantar has set up its own bio-diversity programme to propagate indigenous technology. Rupantar collected and grew 270 varieties of foodgrains. They have set up two demonstration plant-cum-seed multiplication centres to train and propagate to tribal farmers. Emphasis was given on growing rice varieties in rainfed conditions. They also emphasised good quality of seeds so that farmers can be self-reliant. It also promotes organic farming among the tribal farmers and help the small and marginal farmers increasing their yields through local varieties of seeds. Rupantar, therefore, emphasises local crop bio-diversity depending on local variation of soil, climate, water, and cultural patterns. A large number of crops and varieties are grown. Farmers of Chhattisgarh have been utilising bio-diversity resource in agricultural production, crop protection, sustaining and promoting soil fertility, food collections, etc. The large number of agricultural inputs is based on bio-diversity resources. These patterns of internal agricultural inputs promote a self-reliant and sustainable agriculture and food security for the local people. Preservation of bio-diversity will help maintaining food security of the people. Secondly, the tribal people depend on a diversity of food resources, both cultivated and uncultivated. People depend largely on forest and bio-diversity for their sustenance and livelihood from

natural and common property resources. Rupantar promotes to preserve these resources through community control.

The existing food security system include a wide bio-diversity of cereals, pulses, oilseeds, indigenous fruits, flowers, vegetables, greens tubers and mushrooms. These foods are getting commercialised and a larger number of community are deprived of this diversed food. Rupantar intervenes to protect this diversified food for the food security of tribal and other people.

Traditional food security system

Thirdly, people in the study village depend for 4 to 5 months on their own land for food. Another four months they depend on the forest. They also go for wage labour for few months. In critical months the Charjaniha is much helpful as the entire community contribute and participate in it.

Rupantar helps in strengthening the traditional culture of food security system known as Charjaniha (char-four, jan-person, Charjaniha - village collective). This is an important traditional customary institution in tribal society. The Charjaniha plays a central role in the collection of central processes of village life. It provides a fit platform for decentralised food security system under community control. This acts as a grain bank of the community. Procurement is through voluntary contributions and preferential collection from affluent families and through donating to public fund. Community collection is through rituals or through group of women dancing in the village to build up the collection. The *Charjaniha* resources can be held in paddy, in minor millets and even NTFP product like *Mahula.* These resources are used for community functions as well as for distribution to the needy households in lean months from June to September and in drought years. In *Charjaniha* there has been individual contribution by households. The members return the grain as per the period fixed by the group with additional money or grain as per the rate fixed by the community. Over the years quantity of grain has been increased with *'Charjaniha'* by taking up collective farming activity and output added to *'Charjaniha'*. Even labour households contribute certain part of the monetary income through government employment programmes to

Charjaniha. The period to return grain was six months to one year normally. The interest rate varied from 2 to 15 per cent in the study villages. The repayment was on time in the study villages. All households were members in Charjaniha system of grain bank. It helps the village people in critical hunger months. They do not go to moneylender during this period. These institutions are weakened in some of the villages. Rupantar intervened in construction of community storage system and by contributing 20-30 qtls of grain, by helping them in maintaining proper records and capacity building. Besides, a seed bank is also set up for ensuring availability of seeds to the farmers in each village in the study area. Farmers exchange seeds from the seed bank. This is very much helpful to the villagers for increasing their productivity. In the study villages both grain bank and seed bank were working very efficiently. This way community- managed food security system through procurement and distribution has been strengthened by involving the community in decision making in all functional aspects of grain bank and seed bank in their villages.

Women play a major role in all aspects of cultivation in the study area. They work in ploughing the fields, sowing, weeding, harvesting and the care of sown fields. The common taboo on ploughing by women does not seem to be rigid here. Post-harvest operations are entirely controlled by women. Therefore, women should be further empowered to play a central role in community-based food security system like *Charjaniha.*

PDS is not effective in the area because of their distant location of fair price shops, about 10-15 kms. Secondly, BPL families lacked the purchasing power to pay for grains and other items at even the subsidised rates. Some strategy has to be thought of to improve access to PDS ration items. Rupantar helped to establish alternative PDS shops in the study villages to meet their essential items from the shops.

Rupantar's intervention increased the production levels in the villages. By strengthening traditional system by contribution of foodgrains up to 20-30 qts in each grain bank improved the food security of the people in critical

times. Community storage system is also established by financial help and the awareness about health and education increased to take up other development issues in their villages.

Prepare, Orissa

Prepare, as NGO approached the problem of Food Security at micro level with multi-dimensional way of problems and solutions. This approach is helpful to all types of people in the tribal area. Since forest is the major source of livelihood to tribals, they go to forest almost daily for either to collect firewood or tendu leaf or some fruits or tamarind or mangos or to do cultivation as per the seasonal availability. Living on forest along with only forest produce is difficult and are vulnerable to the food insecurity. Therefore, Prepare studied the tribal people in-depth and came with solutions like 1. Grain Bank wherever required, 2. Giving small loans on easy terms to cultivate some assigned cultivable lands in the midst of the forest or to purchase livestock such as goats, pigs, etc., which is part and parcel of their life. The loans are extended to the tune of Rs.500 to Rs.2000 for various purposes such as for land development, livestock, even to provide to purchase lands to the extent of half to two acres.

To effectively attend to their food security problem, people are organised into Self-Help Groups and extended all the facilities with effective supervision and monitoring. Such close monitoring is not possible with the government machinery. Particularly in the rain season, they suffer from food shortage and also forest produce. The grain banks help in the months of June to September. As a long-term approach, all rainfed cultivation is encouraged without using any chemical fertiliser. Awareness camps and short duration training were conducted to know and maintain health and sanitary conditions in the study villages–Chitkapanga, Sankhilapadar and Minajhola.

The land development and irrigation works were taken up which encouraged the tribals to develop their own land and they are paid wages and also sometimes grains for working in their own fields for development. Consumption loans were also extended to them so that they need not go to the

moneylender. Their forest produce has been graded and was a person arranged to procure and sell competitively from their own community.

The grain banks were working as an alternative PDS and are helpful to the needy. Though TPDS extended the facility, the location and maintenance of Fair Price Shops could not help much. However, they also try to avail of the facility. It would have been more helpful if the FPS were available nearby their settlements and all are extended with BPL cards. Seed banks are also functioning very well and useful to the tribal communities to exchange seeds.

With the intervention of Prepare, the yields of the crops increased and could support them atleast 4-5 months. The wage labour could give them 3-4 months food and forest produce could support them for 2-3 months. But all the sources could support only for 8-9 months. Therefore, the grain banks introduced by Prepare and the schemes to enhance the production, wage employment for land development, livestock schemes and other schemes were very helpful to combat the struggle for living and overall help in food security.

DDS, Andhra Pradesh

The community food security programme implemented by DDS, also known as Alternative Public Distribution System (APDS) through community grain fund is one of the core programmes around which a range of activities are organised at the community level. This is an innovative programme where foodgrain production, procurement, storage and distribution are done at the local community (village) level and are entirely managed by the women *Sangham* members. The project, conceptually, is construed as an alternative development strategy with special reference to public distribution of low-cost grains by reducing the dependency on the State.

DDS in Medak started the APDS in the year 1995 in 32 villages. The second phase of the programme started in 2000 in 11 villages and the third phase in the year 2001 in 8 villages. This programme is successful in converting fallow lands into cultivable lands and also improving the soil fertility through application of farm yard manure and deep ploughing by tractor /bullocks which

increase the yields of crops in the fallow lands of the poor households .This process of development of fallow lands created an additional employment in the farms of poor households. The awareness of bio-diversity and its importance increased. People in these areas are growing diverse crops in the same field and they started maintaining community seed bank also. The decentralised distribution network through community grain bank is able to meet the hunger needs of the people during the lean season. The increase in the production and income enabled the people to lift the items supplied to them through Fair Price Shops of public distribution system. The production of variety of crops in the fields has not only provided nutritional security but also acts as crop insurance.

Though there are some lacunae in the distribution programme because of the poor repayment of grains due to crop losses sometimes, the programme is successful in production aspects and also in creating the awareness among the people about bio-diversity and also the importance of its conservation. The programme is also successful in empowering poor marginal farmers, especially women. However, successful the programme may be in some aspects, the replicability and sustainability of the programme ultimately depends upon the people who are benefited under this programme.

For the success of these experiments, several factors are responsible. These include: understanding and analysing the food insecurity situation of the marginal groups in the specific context, examining their vulnerability factors, organising, mobilising the people and involving the community in the process of decision-making, utilising the local resources, unifying their collective strength and contribution, enhancing their collective bargaining power and finally building a community-based institution i.e. grain bank to meet lean season scarcity situation.

These experiments have an effect on various aspects.

Economic

The availability of foodgrains through grain bank provided by the agency as well as by contribution of members during lean season period ensured food

security. The stock of grain accumulated as a result of repayment after returning the loan amount transforms into a community asset owned by the village. The surplus grain stock sold to other villagers builds into village cash fund. The cash fund is utilised to meet the credit needs of the members and meets the food requirements of members in case of crop failures. The grain bank protects people against rise in prices of foodgrains in the open market during lean season period. In a sense, primarily it alleviates lean season scarcity by eliminating the exploitation of moneylender. Food security achieved through grain bank resulted in achievement of economic empowerment through increasing asset base and increasing in negotiating and bargaining power. In some cases community grain fund brought back sub-marginal land into cultivation. It helped in reducing migration by encouraging labour-intensive land development activities thereby increasing the production and consumption of coarse cereals as per the food habit of the people thereby improving their nutrition status. This helped the benefits of crop diversity and acted as insurance against fluctuating weather condition. This approach further helped in meeting the needs in terms of food, fuel, fodder, fencing and fertility of the soil. This also further helped in maintaining community grain bank and organic farming. Further, a multi-prong approach through land development, minor irrigation, horticulture and livestock rearing also helped in improving food security of the people in remote areas. Further, consumption loan extended through SHG in some cases helped the people from protecting them from going to moneylender during the critical hunger period. Besides, procurement of forest produce by the community and marketing them improved their economic condition. Grain bank operation acted as an alternative PDS providing food to the needy. Besides, seed bank and seed exchange system helped the farmers to increase their productivity ensuring food security. The traditional grain bank acted as a safety-net for the people during the critical hunger months. The seed exchange system through grain bank reduced their dependence on the market as well as on moneylender. This approach helped people to identify, and preserve a range of uncultivated bio-diverse food available locally as well as preserving a wide variety of local indigenous paddy seeds in the area and ensured food security of the people.

Social

Self-sufficiency in meeting the basic food needs has given a sense of dignity to overcome the situation of helplessness during the lean season scarcity period. The involvement of people in social and resource management processes helped them in building confidence/self-reliance and meeting challenge unitedly. This system helped reliance on the community through developing mutual cooperation among them. Functioning through SHG strengthened social mobilisation which is key to empower the community. In some cases the programme encouraged massive participation of women in management of food production, distribution and record keeping making them economically and socially empowered.

Political

Participation of the entire community in decision-making processes of functioning of grain bank was visible and it ensured transparency and accountability showing the spirit of oneness and self-reliance and resolving conflicts amicably together. Besides, the participation was ensured through formation of villages committees representing all sections at various levels. Sometimes participation in planning and implementation of grain bank ensured holding gram sabha and organising SHGs at village level. Participation of women in some cases was massive to take care of the entire process of grain banks management. Reviving traditional grain banks helped them to ensure food security in critical period. Collective decision-making and participation of the community is visible in monitoring and supervision of activities.

The intervention of micro level food security efforts along with grain banks alleviates lean season scarcity of foodgrains by eliminating the role of moneylenders. Once the exploitation of local moneylender/middle men have been dealt with, the vicious circle of poverty breaks. The intervention of grain banks protects their purchasing power to repay their loans and proves effective in countering food prices in the market. The pull away from the moneylenders and the push to repay the grain loan motivates them to invest labour in their own fields. This shift from the role of labourer to cultivator is significant.

Having overcome their pre-occupation with survival needs they look towards meeting larger goals of development in their village, block and district. Therefore, this kind of intervention is necessary in large scale suiting to the local variations in drylands, tribal and remote areas of the country.

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MICRO-LEVEL EXPERIMENTS IN FOOD SECURITY – A STUDY ACROSS STATES

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CONTENTS

I	Introduction	... 1
II	Socio-economic Features and Performance of Food Security System	... 17
III	The ADS Grain Bank and Food Security Model, Maharashtra	... 31
IV	RUPANTAR Grain Bank and Food Security Model in Chhattisgarh	... 63
V	PREPARE Grain Bank and Food Security Model in Orissa	... 82
VI	DDS Community Grain Bank and Food Security Model in AP	... 97
VII	Conclusions	... 126

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