

## **MIRJAPUR (N) VILLAGE PROFILE**

### **M. Thimma Reddy**

#### **MEDAK DISTRICT**

Mirjapur (N) one of the sample villages is located in Medak district of Andhra Pradesh.

The Medak district is spread over 9702 sq.kms. This area is a part of Deccan Plateau, characterised by semi-arid tropical conditions. The district generally experiences a dry climate. The year may be divided into four seasons. The period from March to May is the summer season. The hottest month in this season is May. This is followed by southwest monsoon season from June to September. October and November constitute post monsoon season. The winter period starts from December and lasts till February. Temperature in the district ranges from a minimum of 14 C to a maximum of 42-C. The average annual rainfall in the district is 886mm. The rainfall during the monsoon season i.e., from June to September accounts for 84 percent of the annual rainfall.

The soils of the district are mainly red earths comprising loamy sands, sandy loams and sandy clay loams. Red laterite soil is predominant in Zaheerabad area. Regar black cotton soil comprising of clay loams, clay and silty clay are found in Sangareddy, Andole, Narayankhed and Narsapur areas.

Agriculture is the important source of livelihood for people. 42.64 percent of the geographical area is under agriculture, 30 percent is under fallows and nearly ten percent under forests. Rice, jowar, bajra, maize, green gram, black gram, red gram and bengal gram are the important food crops in this district. Sugar cane, cotton, groundnut are the important cash crops. Only 22 percent of the agricultural land is irrigated. Agriculture in this area is highly dependant on the vagaries of monsoons. The soils are generally poor and lack moisture retaining capacity.

Medak is one of the most backward districts in the state. Out of 45 mandals in the district 19 of them are considered as backward. Out of 192 backward mandals in the state 19 of them are in this district. In the development ranking this district is placed at 11<sup>th</sup> place. In rural poverty Medak is ranked 6 and 22.2 percent of the district population are poor.

The population of the district is 22.69 lakhs in 1991. There are 970 females per 1000 males. This stood at 986 in 1971. 26.52 percent of the population are literate. 36.98 percent of males and 15.73 percent of females are literate. In female literacy it is ranked 21 out of 22 districts. Rural female literacy is only 13.83 percent compared to 23.92 percent at the state level. In Medak district 46.91 percent of the school going age children are enrolled. While 55.11 percent of the boys are enrolled, only 38.39 percent of the girls are enrolled. Under DPEP 2225 Education Committees are to be formed. Out of this 2115 committees are formed.

Child labour is still prevalent in this district. In Medak district 12.9 percent of the boys and 14.7 percent of the girls are working. This shows that a substantial number of children who are supposed to be in schools are instead working in the fields supplementing their parents' income.

Similar undesirable trend is visible in the case of age at marriage of the girls. The data shows that 36 percent of the girls married at age less than 18 years.

Various welfare schemes are being undertaken in this district to ameliorate the conditions of the poor people. The Public Distribution System is one of the important programmes to provide subsidised rice to the eligible poor. There are 5,24,048 ration cardholders/families in this district. Out of this while 3,69,248 had white cards, remaining 1,54,800 had pink cards. While 63,670 Qtls of rice is allotted, off take is 63,320 Qtls. Under the mother and child health programme 65.1 percent of the expectant mothers had safe delivery, and 85.4 percent of the children are fully immunised. Under DWCRA programme 4135 women's groups are formed.

### **Nyalkal**

Nyalkal mandal is one of the 45 mandals in Medak district. The population of the mandal according to 1991 census is 46,669. This population is spread over 39 villages. While 45 percent of the total population are working, among them 88.40 percent depend on agriculture. In this mandal there are 978 females per 1000 males. While female-male ratio is slightly better in the mandal compared to the district situation, on other counts it is lagging compared to the district averages. Literacy rate in the mandal is lower than the district level achievement. In the Nyalkal mandal only 17.12 percent of the population are literate compared to 26.52 percent at the district level. 26 percent of male and 8 percent of female population are literate.

Nearly 50 percent of the total geographical area of the mandal is under agriculture currently, while nearly 35 percent of the area is under fallows remaining area is under forests, non-agricultural use or pastures. Agriculture in this mandal is predominantly dry land based, depending on rains. Normal rainfall in this area is 915mm. But during the last few years it is receiving below normal rainfall. Only 18 percent of the net agriculture land is irrigated. Wells and irrigation tanks are the important source of irrigation in the mandal. Jowar, green gram, red gram, black gram are the important food crops in this mandal. Sugar cane is the important cash crop and most of this crop is raised under well irrigation.

### **Mirjapur (N)**

Mirjapur (N) is situated at a distance of 20 km from Zaheerabad town. It is located on the road linking Zaheerabad with Alladurg. In this village crops were raised on 940 acres of land and 234 acres were kept fallow.

This village is inhabited by about 170 households. Out of this 3 households belong to Bahmin caste. 20 households are of Reddy caste. 15 households belong to Baliya/Lingayath caste. Gollas account for 40 households. 15 households belong to Tenugu caste. While 6 households belong to Pakkeera caste, only one family belong to Chakali/Washermen caste. While 40 households belong to Mala caste, 30 households belong to Madiga caste. While Brahmin, Reddy and Baliya are upper caste people, Golla, Tenugu and Pakkeera are backward castes and Mala and Madiga are Schedule castes.

In this village which is predominantly agricultural with insignificant non-agricultural employment a large chunk of the agricultural land amounting to 270 acres are owned by the

three Brahmin families, who in fact do not stay in the village. They stay in the nearby town of Zaheerabad. They are absentee landlords. Their lands are leased out for cultivation. Some of their lands are lying fallow. The next important land owners hail from the Reddy caste. Land owned by each family range from 5 to 30 acres. Balija households own 2 to 10 acres of agricultural land. Households from Golla caste own 1 to 5 acres of land. Households from Tenugu and Pakkeera almost do not own any land. Some households from Mala and Madiga castes own 1/5<sup>th</sup> of an acre to 3 acres of land. Most of this land presently owned by the SC families was distributed by the state government.

Agriculture in this village is predominantly dry-land agriculture, which depends on vagaries of monsoons. Only a small portion of land is irrigated under wells. Under wells sugarcane is the important crop. Only recently, that too after establishment of rice mill nearby paddy is being cultivated. In the un-irrigated lands green gram, bengal gram, red gram, sorghum and black gram are cultivated. In the past coriander, ground nut and sorghum crops were predominant.

Agriculture is the only source of employment in the village. While out of 170 households only 30 household have enough land for their sustenance, other families have to hire out their labour. In other words majority of households in the village depend on agriculture wage labour. For majority of households in this village hired labour is the main source of livelihood. As the agriculture in this village is predominantly rain fed, the agricultural work starts just before the on set of monsoon rains in the month of June and comes to an end in the middle of March with the harvest of Rabi crop. During the rest of the period almost the whole village will be left unemployed.

Until a few years back wages were paid in kind. They were paid one seer (approximately one KG) for one days labour. At present they are paid in money. While men are paid Rs.30 per day, women are paid Rs.20. In this village the system of annual farm servant system is still prevalent. The annual wages range from Rs.2000 to Rs.8000 depending on the age and ability of the labourer. Some annual farm servants were given other perquisites like food and clothing. Though the annual farm servant system provide security of employment through out the year the terms of the contract are very adverse to the labourer, bordering on bonded labour. Only those in dire need of money take up this annual farm servanthip. In the case of the daily wage labourers, there is a complaint that they don't get the wage payment in time. The land owners resort to this in order to see that labourers will be available to them when they need them during busy agricultural season.

## **Food Security**

As in any part of the semi-arid tropical areas in the village of Mirzpur (N) also the employment opportunities and prospects for food security depend on the performance of agriculture. This in turn depends on the behaviour of monsoons/rains. In this area crops are raised in both Kharif and Rabi seasons. Kharif is undertaken during the monsoon period while Rabi is post monsoon farming using the residual soil moisture. In this area we have the South West monsoon which start in June and culminate in September. As a result, there is the prospect of availability of work round the year at least for some. Lands are prepared well in advance in March. If the monsoon arrives in time Kharif crops will be sown in June or early July. Important crops sown

in Kharif are black gram, green gram, red gram and Kharif sorghum. Agricultural work starts from June and while those who have lands work on their lands the land less hire out their labour. Those who have small pieces of land search out for work once work on their fields is over. At times work on their fields depends on the availability of bullocks on hire. During this season for many of the villagers normally work availability is good and so is the food security position. Between July and October labour find work in inter cropping operations and weeding. By the end of October Kharif crop harvesting will come to an end. The food security status of the people is comfortable during this season. In the case of small farmers whose fields claim all their time and work may be food insecure during this season as the food stocks from the previous agriculture year are exhausted and for replenishment of their stocks they have to wait until the harvesting of the crops. Usually by the end of season people try to collect as much grain as the employment situation permits that will see them through lean season. Depending on the rain farmers will go in for Rabi crop. During Rabi season Rabi sorghum and Bengal gram are sown. By March end the harvesting of Rabi crop will be over. Between November and February people also find work in sugarcane fields. The lean season extends from March to June, and some times up to September depending on the performance of the previous crop. If the performance of crop in the previous season is not satisfactory then many people will not be able to get grain until the harvesting of the next Kharif crop. Food security position of large number of the agriculture dependent people will be precarious during this lean season. This shows that the food security situation of the people depend on the employment available.

In this area drought is the ever-present threat to food security to the vulnerable households. While the overall effect of drought is seen in the entire area there is considerable variation of its impact on the agriculture in different villages. There is a sharp decline in crop yields in the project area of rain fed crops. The water table has gone down leading to a crisis in drinking water.

Food security situation of different households also depends on their endowments. While the position of large and medium farmers is comfortable, that of small and marginal farmers is not comfortable. The food security position of the landless households who completely depend on wage employment is precarious. It is intertwined with the occurrence of rainfall and performance of agriculture. If there is deficit in rainfall and performance of agriculture is below normal the food security position of the landless will be bad as their source of income would have declined. Small and marginal farmers also experience similar conditions as their reserves are limited to cope with adverse conditions.

Food security situation of people is also linked with the price behaviour of the food grain. Usually food grain prices are high during lean season. This is also the period during which income/money at the disposal of the village households is low. High prices and low income combined together create famine like conditions.

As most poor households and small farmers do not have bullocks, this operation is invariable undertaken on their lands by bullock owners through a crop sharing arrangement. The share given for the bullock operations is 25% of all the produce in the farm. One advantage that CEC sees in this kind of arrangement is the sharing of the crop production risk which is high in rain

fed crops. The women's collectives adds that in such a sharing the bullock owner has a stake and therefore does a good job and in time as that is vital for improving productivity.

The bigger landowners give the weeding task as a contract to a group of labourers while they do the supervision. This system is preferred by able bodied women as they are paid on piece work basis. They could work more and earn more. Even then their daily wage accruals are less than the statutory minimum wages. The women's collective involved in this project prefer to work on their own land. But they need additional hands. Since the women form the household is also working in the field their effort leads to a 'demonstrative' effect with all the people who have come on a daily wage basis to work efficiently. In some of the villages the women's collective have developed a schedule for weeding in different lands and thus enabled all the lands being weeded in time and effectively. The daily wage for weeding varies between rupees 20 in Nyalkal village to rupees 15 in the interior villages.

Harvest wages in these crops are always paid in kind whatever the category of the farmer. This is estimated at 1/8<sup>th</sup> of the harvest. The average crop yields in Mirzapur (N) is calculated at 275 kgs per acre.

The major inter crop in kharif sorghum is red gram. This crop has been failing for the last several years due to pest attacks. During the agriculture year 1999-2000 in Mirzapur (B) the farmers could get an yield of 50 kgs per acre. There other minor inter crops such as cow pea or a local variety of bean. The produce is used for immediate household consumption or as cattle field. These crops have a yield of about 8-10 kgs per acre but are highly nutritious.

## **STORAGE**

The Group members own small patches of land extending from 1/5 th of an acre to 3 acres. As such the quantity of agricultural output/ grains that they get at the end of the agricultural season is small. These small quantities did not pose much of a problem in storing. The quantity that they obtained through own cultivation range from one to ten quintals. They used to store it in jute/gunny bags or in earthen pots.

They used to take more care about the seed grain. In order to save the grain from pests they used to keep neem leaves and ash in the grain. They do not use the same treatment for grain meant for immediate consumption, as this will alter the taste of the grain. If the same treatment is used for the grain meant for consumption, the grain would turn bitter.

While using the above storage practices for grain meant for consumption, they faced the problem of pests. To tackle them they did not use any pesticides/chemicals. To do away with the pests the grain would be dried in sun and it was effective. The other problem that they faced in storage process of that small quantity is with rodents. To a great extent they are helpless. Though they prepared bait mixed with poison it is effective to a small extent only.

Among the crops that they raised they stored only sorghum for self-consumption, while other crops are meant for sale in the market. As these crops are to be shifted to the market immediately from threshing, as such they did not pose any problem in storage to them. Though market prices bothered them, they are forced to sell immediately as they have to clear loans.

Big farmers have large out puts, which need to be stored. A decade earlier when kind wages were in vogue it was necessary for them to store food grain, which is used to pay wages along with seed grain and the grain meant for household consumption by the farmers' families.

Storage was mainly done in big bamboo bins/baskets, which in local parlance/terminology is called "gumma". These bamboo bins are usually five feet high and of about three feet diameter. They are capable of storing up to 20 quintals of grain. Once these bamboo bins are filled they are sealed with dung and mud mixture.

While storing large quantity of grain the main problem faced by them was that of rodents. To deal with this they used to place thorns at the bottom of these storage structures. But they are not of much use against rodent attack. Besides this with the increasing cost of bamboo as well as with decline in the number of people who used to weave these bins its usage has come down. Now big farmers are also using jute bags to store grain. As the cash wages replaced kind wages their need to store large quantity of grain to meet wage payment needs has declined. Now they need to store grain for their self-consumption and for seed purpose.

### **Sangam's Experience**

The Sangam's activity in the village started six years back. Their activity started with the cultivation of 8 acres and it increased to 33 acres at present. The quantity of grain at their disposal to be stored also increased. At present they have 60 quintals of sorghum with them.

Initially all the collected grain is stored in the house of the leader of the Sangam, Mrs. Bayamma. They were stored in jute bags. The major problem they faced is the attack from rodents. 5 to 20% of the grain was lost because of this problem. Even bait did not work. More or less they are helpless against this problem. They also faced problems with pest attack to the stored grain. When the problem is severe they used to dry it in sun. All the members of the Sangam used to participate in drying the grain.

One year back a community hall was built for the Mahila Mandali ( women's association) of the village. At present the hall is in the control of the Sangam. They used the community hall as the storage facility until the construction of the concrete storage bin. Though the community hall provided ample space to store grain the problems of pests and rodents continued. As the floor of the hall was not carpeted either with concrete or stone slabs rodents used to burrow through the floor and destroy bags and eat grain.

The problems faced by the Sangam in storing large quantity of grain made them think about alternatives in storing grain. It is in this process of exploring the alternatives that they decided to go in for a cement concrete bin capable of storing ten tonnes. They obtained financial assistance from the Centre for Environment Concerns. The present bin completed a few months back. They have stored 60 quintals of sorghum in it. Until now they did not face any problem with regard to pests or rodents. It may be that the time is too short to make any evaluation!

**Management of the Bin:** The members of the Sangam at the village level meet weekly once. It is at these weekly gatherings that the decisions regarding the management of the bin are discussed. The president of the Sangam and five member food security committee of the Sangam look after the day to day management of the storage bin.

These decisions are mainly relate to the quantity of grain to be stored in the bin, the time or intervals at which the grain is to be taken out of the bin and to be distributed among themselves are to be sold to the needy during the lean season or to be sold in the market. These decisions are mostly taken in a unanimous manner.

As this is the first year for them in the management of the bin, they have not until now come across any problem in the management of the bin or with the stored grain. The members of the Sangam are using their experience in collective land cultivation and thrift group organisation in managing the storage bin.

Other issues that are closely related to food security are education, health and sanitation. Majority of the villagers are illiterate. There is a primary school in the village with classes up to 5<sup>th</sup> class. The villagers complain that the teachers don't come to the school regularly. There is no health facility in the village. The nearest Primary Health Centre is located in the Nyalkal mandal headquarters. In most cases they follow traditional methods passed on over generations or follow quacks. Only in the case of chronic ailments or emergencies they visit PHC located in Nyalkal or government or private hospitals in Zaheerabad town. Sanitation in the village leave much to be desired. There is no proper drainage facility leading to formation of puddles of waste/drainage water in the middle of housing localities. These in turn function as breeding grounds for mosquitoes.

## INTERVENTION

Semi-Arid Tropics is typified by unpredictable weather, limited and erratic rainfall, nutrient poor soil, degraded land and looming desertification. The effects of weak endowments are on the livelihoods and natural resource base is worsened by the over-arching emphasis of government's policies favouring irrigated agriculture and green revolution technologies. Rainfed farming plays a key role in sustaining the livelihoods of the poor especially in resource poor areas. It is estimated that rainfed farming provides sustenance to 40% of the human population, 60% of the cattle and contributes 44% of the food. But because of changing government policies and changing cropping pattern food security position of substantial sections of the rural people, particularly small and marginal farmers who depend on marginal and fragile lands has become insecure. The Centre for Environment Concerns contends that it is possible and viable for dry lands to provide food security to vulnerable sections. Further the strategy of the Centre is low on cost, does not depend on subsidies, arrests land degradation, provides employment and promotes sustainable farming.

CEC is advocating provision of access to productive lands for women's groups, through lease agreements. According to CEC the following are strategic reasons in pushing this land lease scheme for dry land agriculture based food security:

- Encash on the livelihood opportunities as 70% of agriculture land use in dry land is by land lease.
- Facilitate the adoption of cropping patterns and agricultural practices suited to sustainable land use.
- Arrest the growth of high-risk commercial crops and promote food crops.
- Regain loss of women's control in dry land agricultural management.
- Opportunities to enhance wage and income opportunities for women.
- Productive and conjunctive use of women's micro-finance opportunities with agricultural development programmes.

The objective of the programme is to recognise the importance of women in sustainable land management and food security and promote policies for women's access to productive resources. CEC field projects have borne out the scope and opportunities for women's groups inland lease in terms of access to food, employment and sustainable agricultural practices. It further found that in these lands women work as a unit, strengthening co-operation. They meet, discuss and take decisions regarding the land. This has evolved them into decision-makers, not mere decision receivers and enhanced confidence in their ability to manage their affairs.

Under this programme Sangham members lease the fallow lands owned by farmers in the selected villages and cultivate them collectively. The decisions regarding the lease of lands, terms of lease, preparation of lands, crops to be sown, inter cropping and harvesting is taken by the women themselves. These decisions are evolved collectively through regular group meetings. In each selected village this programme is run by a 5 member committee called Food Security Committee which has been selected from among the members. This committee is managing the fallow land development and sorghum buffer stock revolving programmes.

Like in other parts of the country, land holdings and distribution is skewed. A large proportion of land is owned by a small number of big farmers. This is true in the case of fallow lands also. A large proportion of their lands are lying fallow for the last decade or even more.

Under this programme there are two types of lease agreements are agreed between the land owner and the sangham. Under one agreement type, a three year lease amount is paid to the land owner in advance and the land is used for the period. Under the other type a lump sum amount is paid to the land owner and interest there on goes towards the annual lease payment and at the end of three years the land owner has return that money to the sangham. Thus for the interest on the amount, the members enjoy the land use for three years.

The land lease programme while bringing unproductive lands to productive use also has a key role to play in enhancing employment opportunities. As these are agriculturally poor areas there are very few avenues of employment and underemployment is rampant.

Because of group activity confidence of the members of the group in their ability increased. This also enabled the members to understand each others problems.

- a) Landlords are coming forward on their own to offer lands on lease. Earlier these women used to request the landowners for lands. In other words the roles are reversed.



- b) With village committees shouldering much of the project implementation responsibilities, the organisation workload has come down and provides the time for planning other development programmes. As the committee handles the money also we have total transparency.
- c) The guarantee of earning additional pulses for family at least 20 to 25 kgs for one season.
- d) Increased participation in decision making for women

This programme has been taken up by CEC for the following reasons:

- Providing access to land to Women's Collective
- Enhancing employment opportunities
- Income for the members of the Collective and
- Shifting crop production to crops based on labour rather than capital/technology
- Increasing food crop production
- Developing land management skills among women
- Empowering women through control over productive resources.

#### Fallow land development

A survey has shown that over a third of cultivable land in this area is kept fallow. The recurring droughts led to shrinkage of natural resources and endowments for farming among the peasants. This in turn also led to reduction in the availability of work to those who depend on agricultural wage labour. The changing crop pattern where the coarse cereal food crops like sorghum were neglected had its impact on the food security of the village people. The fallow land development programme specifically addresses this issue....

Following the selection of the fallow land for treatment, CEC provided financial assistance to each of the participating members through the village sangham. The assistance provided to the members was towards the cost of ploughing by tractor and for weeding. Though financial assistance was also proposed for procuring and application of farm yard manure on these lands in the project proposal, this money was not utilized as the participating members used the manure from their own source. Previously these people used to sell the farm yard manure to the bigger land owners especially those practicing irrigated agriculture and cultivating commercial crops. The decision to apply manure to their own lands instead of selling them to others was collectively taken by the women's groups.

The traditional practice of the farmers in red soils under rain fed conditions is to grow green gram in first year and replace it in the following year with a sorghum and inter cropped with red gram. In the black soils they raise two crops, one crop in the Kharif (south west monsoon season) and the second crop in Rabi (post monsoon). During Kharif, green gram and black gram of short duration variety that matures in 2 1/2 to 3 months is sown. During Rabi in some lands white sorghum is sown and others it is bengalgram.

#### **Achievements**

- a) Many acres of unproductive and fallow lands is turned into productive food growing crop lands.

- b) Soil erosion reduced because of deep ploughing and involvement of the farmer to abandoned lands.
- c) Because of timely land preparation operations, seed application and weeds the entire rainfall could be harvested and good yields are expected. This will have a demonstration effect by which more farmers will seek participation in the programme.
- d) As the area involved for land re-development is large, the sangham members could bargain for about a 30% reduction in tractor hire charges. Now they could even hire tractor on credit, which is not the case in the past. This would lead to greater access to ploughing energy for women's groups and lead to timely operations.
- e) For the first time the women members were involved in measuring the extent of diesel consumed by the tractor while undertaking ploughing and land development. This is very important to know as the payment for the tractor is based on the extent of diesel consumed.

### **Buffer Stock**

Setting up buffer stock of food grains is also an important activity envisaged under this programme. This is meant to meet the food needs of the member families in lean seasons during which employment is not available and also during which period prices of food grains shoot up. This programme is organised by the Food Security Committee along with the land lease programme.

### **Storage Bin**

While production of food is one side of the food security issue preserving of the produce is another side. Because of the inadequacies in the storage of food grain a good proportion of food grain is lost due to dampness as well as due to rodent menace. To overcome this problem construction of storage bins is taken up. Under this programme one storage bin has been constructed in Mirzapur (N) village.

In the sample village of Mirzapur (N) CEC is carrying its activities for the last four years. In this village both the Fallow Land Programme and Land Lease Programme are taken up.

The fallow land programme has been implemented covering 52 acres. The fallow lands are owned by the members of the women's sangham. Under land lease programme 23 acres of land is taken up for cultivation. In the lands that has been brought back into productive use, sorghum is the important crop followed by green gram, black gram and red gram. During the present agricultural year in Mirzapur(N) 60 quintals of jowar was collected

The procurement price has been agreed at the prevailing market price of Rs 600 per quintal. The price is the prevalent local sale price immediately after the harvest in the local grain market. At this price the value of the grain stored in the bins at the time of writing this report is Rs 90,000/-.

### **Achievements**

- Members are able to receive 3 quintals of sorgham per acre under fallow land development programme
- More request from the villagers for fallow land development
- Demand from members for timely ploughing to reduce ploughing costs
- Addition in income of 30 kgs of grain and Rs.250 per each sangam member from landlease programme
- Members are willing to pay their own contribution for landlease programme