CHAPTER VI

CONCLUSIONS

"Throughout the ages, meteorological phenomena have occupied a central place in the pre-occupations of mankind. In no other field was man felt himself so constantly and intensively at the mercy of "natural forces" and so defenceless against events affecting his daily life, often with tragic consequences. Droughts, floods, freezes and other climatic disasters inimical to life have always been regarded inevitable. There was nothing else to do but to endure them. We still mostly endure them..." (Gracia 1981 : 3). This study is essentially an attempt not as much as an enquiry into the causes of drought but in a modest was an attempt to understand, with reference to a region, the magnitude of the impact of drought and how people struggle to endure it.

There has been extensive documentation of the drought related impact on economic, environmental and social sectors. The third world spread over all the three continents of Asia, Africa and Latin America especially are vulnerable to severe and frequent droughts. Agricultural production, livestock, employment opportunities and food security suffer severe set back causing extensive social convulsions of suffering. The slowness with which drought affects seem to often lead to ignoring of the phenomenon as a relatively of less severe consequence. But the impact of the drought, though not dramatically catastrophic, is traumatically crippling particularly on the poorer sections of the society. The regions subject to frequent droughts languish economically untouched by much of progress that by the passes these places and people.

The two districts chosen for the present study, viz. Mahabubnagar and Anantapur, form a part of the drought zone of Andhra Pradesh and languish as the poorest region of the state. The rainfall in these districts is scanty and highly variable. There is hardly any technological breakthrough that enables crop culture below a certain minimum precipitation. As a result the cropped area undergoes wide variations with the change in rainfall.
In Anantapur district, the elasticity of acreage response to rainfall is as high as 0.25. The output and productivity are also highly sensitive to variations in rainfall. Anantapur which is gradually emerging as a monocrop agricultural district with groundnut occupying almost three fourth of the area under cultivation, shows that sensitivity of output to rainfall variation is as much as 1.07. It is also high for the other two important crops viz. bajra (1.19) and jowar (0.49). Similar variability is noticed in the productivity of these crops. The sensitivity indices refer to the percentage deviations in production or productivity from the trend due to one percent deviation in rainfall. The instability indices of crop output also are very high for most of the important crops.

Interestingly, the sensitivity analysis of rainfall on area, output and productivity in Mahabubnagar district does not show much clear results, except for productivity. But the visitation of droughts, the disjunction in production and employment are no less severe in Mahabubnagar. In fact, the magnitude of seasonal migration, an important sign of distress, is very high in Mahabubnagar.

To study the extent of impact of drought on different sections of the society such as small and marginal farmers, agricultural labourers and rural artisans, household surveys were conducted in seven villages of Anantapur and Mahabubnagar districts. The four villages surveyed in Anantapur district are East Kodipalle, Pillalapalle, Chintarlapalle and Adavigollapalle. The village profiles show that most of these villages have been experiencing severe drought during the late 1970s and even during the later decade. There were shorter spells of drought in the area since 1988. Most of the villages are dependent on agriculture and are supported with livestock and other agricultural labour services. The social and economic infrastructure is not well developed and even credit facilities are available to limited extent. Most of the villages have drinking water problem and suffer from lack of rainfall leading to scarce irrigation. However, the villagers are resorting to in-well bores upto 250 to 300 feet of depth. The cropping is done in dry areas with sowing of groundnut, korra, bajra and castor.
In Mahabubnagar, the three selected villages are Raikal, Marchala and Patherchad. These villages are also affected by the drought. There is a problem of drinking water for human beings and fodder scarcity to cattle as the tanks and ponds have dried up. The important crops are groundnut, bajra, redgram, cowgram and greengram. The infrastructure like roads and communication facilities in these villages is not developed. Farmers of all classes suffer during the Kharif season in both the districts as substantial area remains unsown during the drought year. In the four villages of Anantapur district, during the drought year only about 7.10% of the normal area is cultivated. While in the three villages of Mahabubnagar district about 17.46% of the normal area is cultivated during the Kharif season. There is also a decline in the production of crops such as groundnut, bajra, rice, jowar and cotton in Anantapur district in 1990-91 when compared with 1987-88 and 1988-89.

During the drought period, it was observed in both the districts that employment got reduced and wages to males decreases from Rs. 20 to 25 to Rs. 15 to 18 and in the case of females there was a decline from Rs. 15 to 20 to Rs. 8 to 15. Even in the case of labourers who migrate, the wages were at lower level ranging from Rs. 18 to 25 per males and Rs. 12 to 15 for the females.

During a drought year, the employment situation in East Kodipalle village showed that 87.5% of the males and almost all the females in cultivator category found work for only about 60 days on an average. Agricultural labourers got employment upto 76.3% for males and 70.0% for females with work days ranging from 98 to 77 days. Similar situation prevailed in the remaining three villages with slight changes.

In Mahabubnagar, the employment situation in Raikal showed that even during drought, most of the female cultivators did get employment for almost 150 days on an average but much of it is thin employment on own farms. In the case of male and female agricultural labourers, about 90% and 85% of them, respectively were able to get employment for about 1 10 days on an average. In this village, there was no migration even during the drought year. The overall observation for the district on employment in
that during drought the farmers engage themselves in **agricultural activities for a period** of 90 days during the **Kharif season**. Though the **level** of employment of all households decline substantially during drought, **the agricultural labour households experience** much severe decline than the cultivators. The intensity of employment of even cultivator households declines considerably but even the thin employment offered by own farms helps them survive. Hence the continued aspiration of the landless for some land.

Under the **pressure** of drought the farmers adopt different strategies such as migration, resort to non-farm activities, sale of cattle and even land. In Anantapur villages, during drought 92.4% of total livestock has been disposed. In Mahabubnagar, 78.2% of cattle, 93.5% of buffaloes, 88.8% of cows, 84.3% of sheep, 36.3% of goats which accounted for 83% of the total livestock, were sold during the drought year.

The shepherds resorted to wool collection and **blanket** making which earn them Rs. 25/- per day for males and Rs. 20/- per day for females. Wool shearing provides employment upto 75 days to **Kuruvas**.

Of the 26 households of Kuruvas and Gollas in the three villages of Mahabubnagar district, there were 40 male and 34 female adult members. Of the 40 males, 37.5% of them are engaged in sheep rearing, 45% of them work as agricultural labourers and 17.5% as cultivators. Of the females only one person is engaged fully in sheep rearing, while 91% of them work as agricultural labourers and only six percent are cultivators.

The adjustment strategies adopted to drought differ among various sections of people. For cultivators, the strategies are short-term migration, farm and non-farm activities. For the shepherds particularly the Kuruvas and Gollas, the adjustment strategies lie in sheep rearing, farming and agricultural labour activities along with transhumance with sheep for six months. The shepherds rely to a great extent on their traditional pattern of sheep rearing, sale of sheep, wool etc., during drought. But they face problems such as scarcity of fodder, drinking water and diseases due to which the sheep perish. The problem of scarcity of fodder due to drying up of pastures is overcome by them by increasing their transhumance range, i.e. by moving into the forest edge.
habitats and foothill zones of Nallamala where the sheep can feed on a variety of dry deciduous plant species. But several shepherd informants emphasised that the major effects of drought for them is a sizable decline in the number of sheep in their herds. The other effects are the low prices at which they have to sell their sheep and sheep products than in normal year. Since sheep are the asset for these shepherds, the above factors, destabilise their economic system and to withstand these conditions, shepherds with especially small herd size, most often make borrowings. However, those with larger herd-size manage to adjust without recourse to borrowing.

In Mahabubnagar, the shepherds (Kuruvas and Gollas) migrate with sheep seasonally to forest areas for grazing. During the drought it is their transhumance which provides them additional incomes and works as an escape strategy. Though the shepherds possess land, the returns from cultivation are only supplementary compared with the main returns from the sheep rearing. Many shepherds derive their sustenance and asset generating incomes from their main activity of sheep rearing. Among those shepherds who do not have sheep or goats, agricultural activities such as farm labour helps them to overcome drought effects.

Most of traditional societies have evolved indigenous survival strategies to tackle drought. They range from alternative occupations to migration, crop diversification and transhumance in the case of shepherd groups. In Anantapur, we observed crop concentration around groundnut crop over a long period between 1950s and 1990s. In Mahabubnagar, though the crop diversity is high, the castor stands out as the most important crop. Both the districts show over exploitation of groundwater, fodder shortage, distress sale of cattle and lack of proper adjustment leading to pathetic conditions of cattle and peasants. Lack of employment works resulted in the migration of labour. Construction work, short-term migration to near by villages, fruit and seed collection, and other alternative occupations to generate incomes sticking to traditional artisan activities, are the basic strategies in these drought affected villages.

The overall observation is that though the rural society is able to survive the drought with its indigenous characteristics of its people, there remains a long term
solution to stop **migration, restore cattle and stabilize cropping patterns.** Proper organisation of rural people particularly of small and marginal farmers, agricultural labourers, rural artisans and shepherd groups (specifically the Kuruvas and the Gollas) is essential at the grass-root level. At the **administrative** level the governmental programmes are to be reshuffled and should be made more beneficiary friendly to these groups in their content and approach in implementation and coverage.

Though The Government has been operating several developmental programmes for these groups, the benefits are not within the reach of many of the shepherds. Though some of the shepherds are organising into units and setting up establishments such as welfare societies, they suffer due to lack of financial support from banks and financial institutions.

The Government-run short-term drought mitigating programmes have certain limitations in implementation and lack demonstration ability of prevent the drought affected population from migrating and over utilisation of existing resources. The long-term measures taken during the past three and a half decade could not provide any drought proofing to the people in this semi-arid drought vulnerable region. This reveals that the efforts done in the previous years are scanty and meagre in nature when compared with the quantum and magnitude of the drought.

There is a need for reallocation of resources such as credit and infrastructural facilities so as to make these available to the stratified and marginal groups on whom the drought shows its differential impact. For the time being the **Government** will have to continue to rely on short-term relief and rehabilitation measures in the event of recurrence of droughts. Rural socio-political institutions (village panchayats, co-operative societies, voluntary agencies and charitable trusts) did not associate so far with the **Government** in delivering the relief materials to the people. All their efforts have been independent and scattered in nature with a very limited impact on the living conditions of the drought affected society.
It is necessary that all the pending projects be implemented on war-footing and accommodate drought programmes into the general development plan of the State Government as it's inevitable component. There is also a need to formulate an ecologically well balanced drought mitigating policy which shows concern for the cause and welfare of human and livestock as well as water, land and flora and fauna, over a period of time to attain sustainable rural development. There is a need to organise the village institutions like panchayats, co-operatives and voluntary agencies along with the Governmental agencies at the top level to protect the drought affected sections of the society to participate in drought eradication at the community level.