

**Report of the
Commission on
Farmers' Welfare,
Government
of
Andhra Pradesh**

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Report of the Commission on Farmers' Welfare,
Government of Andhra Pradesh

Executive Summary

Agriculture in Andhra Pradesh is in an advanced stage of crisis. While the causes of this crisis are complex and manifold, they are dominantly related to public policy. The economic strategy of the past decade at both central government and state government levels

- has systematically reduced the protection afforded to farmers and exposed them to market volatility and private profiteering without adequate regulation,
- has reduced critical forms of public expenditure,
- has destroyed important public institutions, and
- did not adequately generate other non-agricultural economic activities.

While this is a generalised rural crisis, the burden has fallen disproportionately on small and marginal farmers, tenant farmers and rural labourers, particularly those in dryer tracts. The most extreme manifestation of the crisis is in the suicides by farmers.

The Commission on Farmers' Welfare has deliberated on this problem and held discussions with a large number of farmers during its field visits and has also consulted experts in various relevant fields. While the issues are complex and require detailed investigation of each area, they generally reflect not only structural conditions but especially the collapse of public institutions that affects farmers and farming. The Commission feels that solutions to the current crisis require interventions in six important areas, which would do the following:

- correct spatial inequities in access to irrigation and work towards sustainable water management
- bring all cultivators into the ambit of institutional credit, including tenant farmers
- shift policies to focus on dryland farming through technology, extension, price and other incentives
- encourage cheaper and more sustainable input use, with greater public provision and regulation of private input supply and strong research and extension support
- protect farmers from high volatility in output prices
- emphasise rural economic diversification, to more value-added activities and non-agricultural activities.

These goals form the basis of the recommendations made by the Commission. All of these issues have to be tackled at different levels and requires intervention by various institutions over the short as well as medium term. The new role

envisaged for the state government will require a substantial increase in public expenditure. Therefore we expect that public expenditure on agriculture and allied activities should reach 5 per cent of GSDP in the next budget. It is clear that the effectiveness of these recommendations will depend essentially upon the political will to translate them into government policy and on the ground-level implementation.

The main text of the Report provides a detailed account of the identified problems and the required interventions. The areas covered are land relations, rural credit, irrigation and power, agricultural research and extension, input provision, crop prices and markets, the special problems of drought-prone areas, non-agricultural employment, issues on health, nutrition and education of farmers, and the issues involved in effective implementation of the proposed policies.

This Executive Summary brings together the essential steps that need to be taken to deal with the crisis on an immediate priority basis.

Land

Land relations in Andhra Pradesh are extremely complicated and this complexity has contributed significantly to the problems facing actual cultivators in the state. Unregistered cultivators, tenants, and tribal cultivators all face difficulties in accessing institutional credit and other facilities available to farmers with land titles.

- The immediate priority is to record and register actual cultivators including tenants and women cultivators, and provide passbooks to them, to ensure that they gain access to institutional credit and other inputs. There should be a systematic official drive over three months. In such registration, the onus should not be on the tenant to prove his/her tenancy, but on the landlord to disprove it.
- The land rights of tribals in the agency areas must be protected.
- There is considerable scope for further land redistribution, particularly when waste and cultivable lands are taken into account. Complementary inputs for cultivation (initial land development, input minikits, credit, etc.) should be provided to all assignees, and the future assignments of land should be in the name of women.

Credit

The heavy burden of debt is perhaps the most acute proximate cause of agrarian distress. The decline of the share of institutional credit and the lack of access to

timely and adequate formal credit in the state have been a big blow to farmers, particularly small and marginal farmers. The basic task of the state is to ensure that the formal banking system in rural areas meets all the credit requirements of farmers, including tenant farmers. Although banking policy and trends are affected by national decisions, the government of Andhra Pradesh should take a lead role in reviving social banking. Through state and lower level institutional mechanisms, immediate steps can be taken to ensure that the right amount of credit reaches cultivators at the right time at minimal cost.

On debt relief:

- The Helpline already set up by the state government should be used as a facilitating mechanism for helping farmers in distress to access bank loans.
- The state government should initiate a Distress Fund, with support from RBI and NABARD, that will provide support to banks in chronically drought prone areas, and permit some debt relief to cultivators.

The state government should approach the RBI, the NABARD and the public insurance companies with the following requests:

- Interest should not be charged for the period of current rescheduling. Whenever an area is declared as drought-affected, interest should be waived, without changing the other terms of rescheduling.
- The accumulated interest on a loan should not exceed the principal amount of the loan. All the excess of accumulated interest over principal should be automatically written off by the banks.
- The interest rate on all crop loans should be lowered to 6 per cent annual rate.
- It is essential to expand the coverage of crop insurance in a comprehensive manner. The 50 per cent subsidy on premium for such insurance given to small and marginal farmers should be continued.
- A comprehensive insurance plan for rural dwellers should be provided.

Water

Inadequate and declining water supply is one of the most significant problems facing most farmers in Andhra Pradesh, not only a constant concern but also a major source of increased expenditure. The uneven distribution and unequal access to canal irrigation and the decline of other surface water sources have led to greater reliance on the exploitation of groundwater, which entails substantial costs on individual cultivators.

- A massive programme for restoration of tanks and other minor water bodies must be taken up, giving priority to the drought-affected regions.
- The state government should evolve a water policy with an emphasis on equity in the spatial distribution of surface water resources in the State and on the conjunctive use of surface and ground water.
- Necessary steps have to be taken to register and regulate the use of ground water resources, with the aim of public control over ground water and distribution based on progressive water rates in the medium term.

Agricultural research and extension

The lack of agricultural research in priority areas such as dryland farming and the collapse of public agricultural extension services have been among the more important contributory factors to the generalised agrarian crisis.

- Public sector agricultural research has to be strengthened and reoriented particularly towards dry land crops. This has to include establishment of more research stations in the dry land areas.
- The public agricultural extension system, which is in a state of near-collapse, has led to a situation where the cultivator is totally dependent on the local input supplier cum creditor. The public extension network has to be revived and strengthened. This will involve large-scale recruitment and training of adequate qualified staff.

Input provision

The increasing costs of purchased inputs, as well as the problems of quality in terms of sub-standard and spurious seeds and pesticides have also figured as the dominant proximate factors for the crop failures, given the drought conditions. This has also been recognised as a crucial risk factor linked to the distress of farmers.

- The state has to play a central role in ensuring the provision of high quality inputs at affordable prices at the right time to all cultivators both by direct intervention as well as by appropriate regulation. Measures to be taken include the strengthening of the Andhra Pradesh Seed Corporation along with all its regional production units.

- The enactment and implementation of the State Seeds Bill 2004 should be expedited.
- An aggressive strategy for a paradigm shift in fertilisers policy is required. The state government should consciously promote and facilitate the production and usage of bio-fertilisers, vermi composting, green manuring and other eco-friendly fertility enhancing activities.
- In view of the serious negative impacts on account of chemical pesticides and insecticides, the government should change its policy towards promoting natural pest management. This should be done in mission mode.
- In the interim, the immediate requirement is to ensure vigilance with respect to quality and prices of chemical inputs. Steps should be taken to create the required infrastructure and ensure strict enforcement as quickly as possible.

Markets and Prices

Low and declining prices for major commodities produced in the State are responsible for the collapse of rural incomes. The volatility of crop prices has been a major source of income instability and distress for farmers. The problem has been aggravated because the public procurement agencies have not been procuring sufficiently to ensure that Minimum Support Prices are maintained. The marketing of agricultural produce has become one of the critical areas where the farmers are exploited.

- Timely and adequate procurement operations by central and state government agencies are needed to ensure a remunerative price to cultivators and to arrest distress sale.
- A Market Price Stabilisation Fund should be created.
- Marketing infrastructure is inadequate and there are numerous procedural problems in the marketing yards. The Marketing Department must take measures to provide adequate and non-exploitative arrangements in the market.
- The state government should demand from the central government the introduction of a system of variable tariffs and if necessary Quantitative Restrictions on agricultural commodities to ensure stable import prices that protect domestic cultivators and their livelihood.

Employment

The present crisis is also a crisis of rural employment. Agricultural employment has fallen, non-farming employment has virtually stagnated and there have been hardly any non-agricultural livelihood opportunities that would allow members of farming households some kind of buffer against losses in cultivation.

- There is urgent need to provide rural workers with at least 100 days of employment at minimum wages, and to this effect the state government must ensure that an Employment Guarantee Act is enacted and implemented at the earliest, with coverage extended to the rural areas of all districts in the state within a specified time frame.
- Opportunities for rural non-farm employment must be increased. This requires policies to encourage the post-harvest handling of produce and agro-processing, as well as renewed emphasis on strengthening co-operatives for dairy, weaving and other non-agricultural activities.

Public Distribution System

- The public distribution system must be strengthened so as to make available basic minimum quantities of cereals at affordable prices to all vulnerable households.
- All poor households should be supplied with BPL cards.
- The state government should request the Government of India to provide coverage under the Antyodaya and Annapurna schemes to all BPL card holders in drought-prone areas.
- At present the BPL allocation of rice per person is too low and the total entitlement is fixed at 20 kg per family. The per person entitlement needs to be doubled to meet the basic food requirements of the family.
- There must be a major drive to provide nutritious cereals such as jowar, bajra, and ragi at especially subsidised and very low prices to all card holders through the Public Distribution System. The prices must be sufficiently low to attract consumers; in case it is not, it could be further lowered through a subsidy from the state government.

Health and education

The decline in the quality of public provision has pushed even poor farmers to private health care and education. This has added to farmers' problems, as high medical expenses have led many cultivators into deep debt. The poor quality of public education at all levels has also encouraged greater use of private services among farmers' families.

- Public expenditure on health has to be raised and used to provide good quality low cost care to rural households.
- More budgetary resources have to be allocated to education, particularly to primary and secondary education in rural areas.

Implementation

The new role envisaged for the state government will require a substantial increase in public expenditure. The effectiveness of these recommendations will therefore depend essentially upon the political will to translate them into government policy, and on the quality, accountability and responsiveness of public delivery systems. In order to achieve a substantial degree of accountability and ensure a much greater degree of public participation and voice in the implementation of these policies, the panchayati raj institutions in the state will be substantially revived, given greater powers and made to function in a democratic and participatory manner.

Agriculture Technology Mission

The basic goal of the this Mission must be to create and revive public institutions in the rural areas and implement policies which will immediately reduce agrarian distress, and over time provide protection to farmers, encourage the most productive and sustainable forms of land and water use, provide stable livelihood and employment to the rural population and improve the incomes of the rural population over time.

- The ATM must act as the umbrella organisation for the planning, direction and implementation of all of the policies relevant to agriculture and allied sectors and the welfare of farmers and farm workers. It should be a permanent body co-ordinating the activities of various departments.
- The focus should be on empowering the farming community, with the active involvement of locally elected bodies such as panchayats and participatory institutions such as gram sabhas.
- The ATM must have a holistic approach to the problems of agriculture in the state, addressing the particular problems in each area within a broader context and in such a manner as to encourage co-operation and synergy between the activities of various state/central government departments/agencies and local level institutions.
- It should formulate policies and take action on meeting the challenges of the WTO regime, organising policy research on critical issues in agriculture and recommending policies to meet the changing needs in this

sector and suggesting the measures required for educating the farmers through farmers' organisations.

Acknowledgements

In the course of its work, the Commission on Farmers' Welfare has interacted with a large number of farmers, bankers, officials, academics and other experts, as well as other concerned citizens in villages and district headquarters of nine different districts covering all the various agro-climatic zones of the state, as well as in Hyderabad. A large number of people spared the time to interact with the Commission and/or to provide written submissions. (The lists of field visits and written submissions to the Commission are provided in the Appendix.) We are grateful to all of them for their valuable insights and suggestions, which proved to be of immense relevance when analysing the problems of the farming community in the state and considering possible solutions to these problems. These inputs have contributed greatly to the Report, which is really based on the experiences and analysis provided by so many people.

The Commission would like to place on record its gratitude and appreciation of the tremendous help provided by the Special Invitees to the Commission, especially Shri K. R. Venugopal, Prof. C. H. Hanumantha Rao, Shri Bhavani Prasad and Shri P. Sainath. This Report would not have been possible without their committed involvement in the entire process and very substantial contributions, both written and through discussions. The Adviser to the Commission, Prof. Utsa Patnaik, also played a very valuable role in the discussions and provided inputs for the Report. In addition, the Commission has benefited from inputs, advice and comments from particular individuals such as Dr. S. K. Rao, Principal, Administrative Staff College, Hyderabad; Shri Jagan Mohan, Director of the Regional Rural Bank, Warangal; Shri P. S. M. Rao; Shri Narasimha Reddy of Eenadu; Dr. Gopal of Centre for Environmental Concerns.

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Finally, the Commission is grateful to the Government of Andhra Pradesh, not only for giving us the opportunity to study this pressing issue, but also for providing us all the facilities and freedom with which to pursue our work and come to our conclusions.

Chapter 1: Background

I. Dimensions of the agrarian crisis

Agriculture in Andhra Pradesh is in an advanced state of crisis. While discussing this crisis, it is important to be aware of the substantial regional variations both in absolute levels of production and income and in the way that this crisis has played out in recent years. Drought-affected areas in Rayalaseema and Telengana bear the brunt of the burden, even though even farmers in irrigated areas have been facing problems. In addition, the burden has fallen disproportionately on small and marginal farmers, tenant farmers and rural labourers.

The most extreme manifestation of this crisis is in the suicides by farmers, who are typically driven to this desperate act by the inability to repay debt incurred in the process of cultivation, which has become a volatile and economically less viable activity. But this is only the tip of the iceberg of generalised rural distress which had become prevalent across the state, and has also been expressed in severe cases in kidney sales and hunger deaths in certain areas. The problems of farming are evident, ranging from frequent droughts and soil degeneration, to lack of institutional credit and insurance leading to excessive reliance on private moneylenders, problems in accessing reliable and reasonably priced inputs to problems of marketing and high volatility of crop prices. But the crisis is also reflected in other features of the rural economy: the decline in agricultural employment and stagnation of other employment, leading to reduced food consumption and forced migration of workers; the evident decline in per capita calorie consumption even among the poor.

Production indicators give the first indication of the problem. The growth rate of aggregate agricultural output declined from 3.4 per cent per annum in the

1980s to 2.3 per cent per annum in the 1990s. Yield growth also declined. For example, the growth rate of rice yield declined steeply from an annual rate of 3.1 per cent in the 1980s to 1.3 per cent in the 1990s; for cotton the corresponding figures were 3.4 per cent and 1.4 per cent.¹ National-level studies estimate that crop yields in Andhra Pradesh declined by 1.8 per cent per year over the 1990s. In addition, the volatility of yields has also been higher in the later period.

Meanwhile, prices of crops produced by farmers in the state have become much more volatile as they have been more influenced by world market trends. From 1996, the falling international prices of many crops had their ripple effects in India even when the actual volume of imports did not increase, merely because of the possibility of such imports. There have also been much sharper fluctuations in such prices, which have changed sharply from year to year for some crops like cotton and groundnut. This has created a pattern of shifting, uncertain and unreliable relative price incentives for farmers.

Despite all this, it is certainly not the case that agriculture in the state has been stagnant over this period. On the contrary, there have been very substantial changes most particularly in cropping patterns, as farmers across the state have moved from traditional rainfed cereals to non-food cash crops. Table 1 gives an idea of the extent of the shift over four decades, but it should be noted that a substantial part of this change occurred in the more recent past. There have been large reductions in the acreage under jowar and other millets such as ragi, and increases in the area under groundnut, other oilseeds and cotton. This shift towards more emphasis on non-food cash crop production reflected several forces. There was the obvious need for farmers' households to access more cash income in order to meet a range of cash expenses for immediate consumption and even for cultivation. In addition, there was a pattern of increasing expenditure on health. Cash crop production typically entails more monetised inputs, such as seeds fertilisers and pesticides, and these were

¹ Estimates courtesy CESS, Hyderabad.

typically financed by incurring debt, most often with the input dealers themselves who also doubled as traders. Once such a money debt was incurred, cash crop production was further necessitated by the need to repay interest and principal, and it became almost impossible for farmers to move back to the old subsistence crops that did not command a market.

Table 1.1: Changes in Cropping Pattern
(per cent of cropped area)

Crops	North Coastal Andhra		South Coastal Andhra		Rayalaseema		South Telengana		North Telengana		Total State	
	1958	1998	1958	1998	1958	1998	1958	1998	1958	1998	1958	1998
Rice	38.9	33.0	40.5	48.6	9.1	11.1	14.8	23.9	20.8	29.5	23.1	30.5
Jowar	2.1	0.3	16.6	0.3	18.3	5.3	26.7	17.1	31.0	9.4	20.8	6.1
Other Millets	15.7	7.4	5.9	1.7	10.5	1.6	11.3	6.9	7.3	9.7	9.1	4.7
Pulses	11.0	13.4	9.1	14.8	6.5	5.6	11.8	14.6	15.1	12.0	10.7	11.9
Food Grains	66.9	54.4	72.1	65.4	44.4	23.6	64.4	62.5	74.2	60.6	73.1	53.2
Groundnut	7.1	9.5	3.6	1.8	20.3	48.3	10.5	9.5	8.0	5.3	10.5	15.3
Oilseeds	11.3	12.9	6.3	3.7	21.4	56.3	19.5	20.3	15.1	10.8	15.3	20.8
Cotton	0.2	0.7	0.8	7.0	7.9	5.2	0.4	8.2	4.0	17.6	3.1	8.2
Others	21.6	32.0	20.8	23.9	26.3	14.9	15.5	9.0	6.7	11.0	11.6	17.8

Source: S. Subramanyam (2002)

The technological problems of decelerating crop output and volatile and falling yields have been dramatically accentuated by the changes in relative prices, such that, especially from the mid-1990s, output prices have stagnated or fallen while the costs of inputs have gone up very sharply. This has created genuine questions regarding the viability of farming in the current context.

Table 1.2: Net income per hectare at 1971-72 prices in Andhra Pradesh

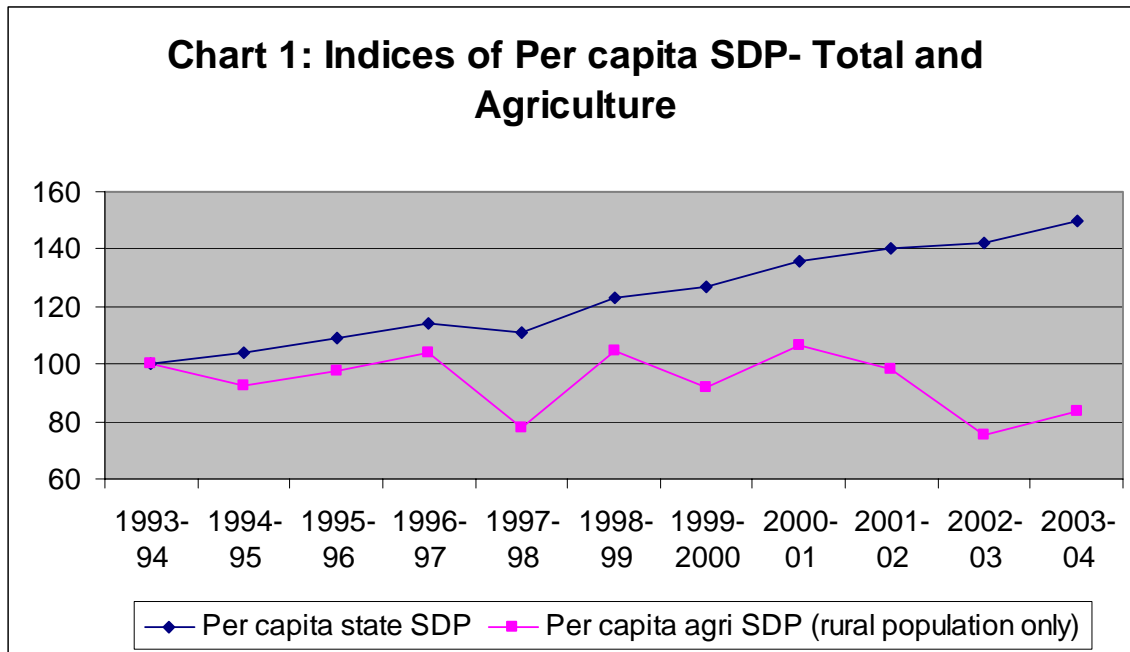
	Paddy	Groundnut	Sugarcane	Cotton
Early 70s	314	-		0
Mid 70s	81	-116		186
Late 70s	-36	-65	1056	638
Early 80s	150	-15	809	-
Mid 80s	140	-88	2194	-
Late 80s	215	-52	816	104
Early 90s	221	-9	1119	-
Mid 90s	227	-117	1563	474
Late 90s	167	-123	1139	-

Source: CACP, quoted by Directorate of Economics and Statistics,
Government of Andhra Pradesh

Table 2 gives an idea of the stagnation of returns and actual decline in returns from cultivation of several crops. In some cases, the subsequent patterns have indicated both more losses from cultivation and greater volatility. The Commission on Agricultural Costs and Prices, Government of India (CACP) reports show that the returns from cotton cultivation per hectare in current prices were negative (a loss of Rs. 1641) in 1996-97 and only Rs. 72 per hectare in 1997-98, after taking into account the total costs. Since it is widely believed that the CACP underestimates many elements of cost in Andhra Pradesh, it may be that the actual situation is even worse than this already dismal picture.

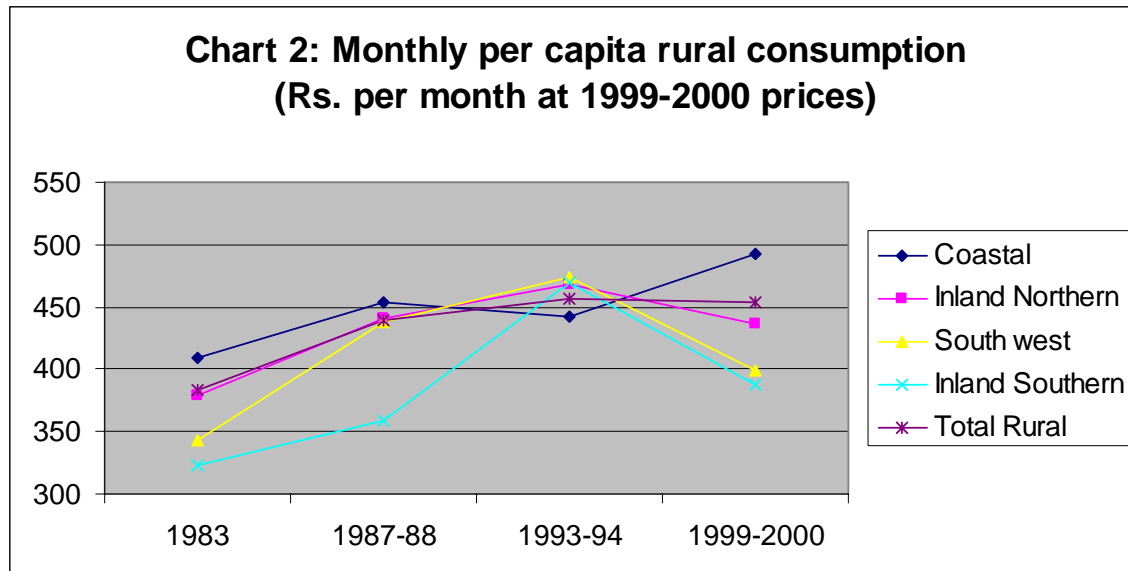
When all this is combined with the effect of falling prices, it is not surprising to note that the share of GDP in agriculture in A.P. declined much faster than all India, and that per capita GDP from agriculture in constant terms barely increased after the mid-1990s and actually fell in recent years. Chart 1 indicates the behaviour of the index numbers for per capita income (that is net domestic product in constant 1993-94 prices) for all sectors and for agriculture alone. While aggregate per capita income increased moderately from 1993,

agricultural income per capita of rural population shows no such increase, and has actually declined. In fact, between the triennium 1993-94 to 1995-96 and the triennium 2001-02 to 2003-04, per capita agricultural product actually declined by around 12 per cent.



Source: Calculated from NAS and Census of India

This has also been reflected in indicators of per capita consumption, which probably provide a more accurate picture of the real economic conditions in the countryside. Chart 2 indicates the trend in the four regions of rural Andhra Pradesh according to the NSS consumer expenditure surveys.



Source: NSS Consumption Expenditure Surveys

Note: The NSS regions correspond to the following districts:

Coastal includes North Coastal Andhra and South Coastal Andhra;

Inland Northern refers to North Telengana;

Inland Southern refers to South Telengana and Kurnool and Cuddapah in Rayalseema);

Southwest refers to Anantapur and Chittoor in Rayalseema.

Aggregate per capita consumption for the rural areas of the whole state taken together increased marginally between 1983 and 1999-2000. But it is notable that there appears to have been hardly any increase since 1993-94, despite the moderate increase in per capita SDP indicated above. What is even more significant is that per capita consumption *fell* after 1993-94 in all the regions of rural Andhra Pradesh barring the coastal Andhra region. This fall was particularly marked for Rayalaseema (comprising the Southwest and Inland Southern regions). So, in most of the rural areas of the state, average consumption expenditure actually declined in real terms in the period 1993-94 to 1999-2000. Even the rise in per capita income in Coastal Andhra may have an element of inter-regional inequality because of the differences between the backward North Coastal region and the advanced South Coastal region.

This is quite consistent with the picture of growing difficulty of cultivation. But in addition to the agricultural patterns, the general stagnation of the rural economy and the absence of non-agricultural income generation possibilities

contributed further to the deterioration of living standards in the countryside. Part of the problem in employment generation stemmed from agriculture itself – not only was this sector depressed, but the increasing mechanisation implied falling labour use per hectare of cultivation. It is not surprising that in this context, agricultural employment fell and total rural employment stagnated.

At first sight this appears to be incompatible with the general perception that rural poverty has declined and the official estimate that the actual incidence of poverty in the state in 1999-2000 was only 11 per cent. But most analysts agree that this is a gross underestimate.² It is evident that the official poverty line of Rs. 262 per capita per month (in 1999-2000) implying Rs. 8.60 per day, is far too low to meet the actual requirements of food and other necessities.³ In addition, per capita calorie consumption also appears to have declined. A further cause for concern is the composition of cereal consumption increasingly away from the more nutrient millets to rice.

II. Causes of the agrarian crisis

The causes of this widespread crisis are complex and manifold, reflecting technological and weather-related factors, changes in relative prices and reduced levels of public intervention in terms of both investment and regulation. It is true that climatic shifts have played a negative role, especially in terms of generally lower rainfall, more uneven and untimely rain and growing regional variation in the rainfall. However, the main causes are dominantly related to public policy, and in particular to an economic strategy at both central government and state government levels which systematically reduced the protection afforded to farmers and exposed them to market volatility and private profiteering without adequate regulation, reduced critical forms of public expenditure, destroyed important public institutions and did not adequately generate other non-

² Deaton and Dreze (2003) Abhijit Sen and Himanshu (2004).

³ Utsa Patnaik (2004).

agricultural economic activities.⁴ While this was true across most of rural India over the past decade, it was especially true in Andhra Pradesh.

The state of Andhra Pradesh had become almost a laboratory for every neo-liberal economic experiment, with a massive shift towards relying on incentives for private agents as opposed to state intervention and regulation of private activity, in virtually all areas. Ironically, this decline in the government's role took place at the same time that the state government was incurring massive external debts from bilateral and multilateral external agencies. Many of the problems in the economy of the state – in agriculture as well as in non-agriculture – can be traced to this reduction of the government's positive role and the collapse of a wide range of public institutions affecting the conditions facing producers.

The increase in the number of farmers' suicides is the most dramatic sign of extreme despair and hopelessness, and comes close to starvation deaths as the most blatant indicator of the extent of rural devastation. The proximate cause of such suicides is usually the inability to cope with the burden of debt, which farmers find themselves unable to repay. In most (but not all) cases, the debt was contracted to private moneylenders, as the massive decline in agricultural credit from banks and co-operatives has reduced access especially of small cultivators to institutional credit. Further, large numbers of farmers – tenant, tribal farmers, women farmers and those without legal titles – have no access at all to formal credit and are forced to rely entirely on private lenders.

But the debt burden itself is only a symptom of the wider malaise. Cultivation itself has become less and less viable over time, as input prices in Andhra Pradesh especially have sky-rocketed, and farmers have gone in for cash crops involving more monetised inputs, risky yields and volatile prices. The opening up of agricultural trade has forced farmers to cope with the vagaries and

⁴ These issues are explored in more detail in the next chapter.

volatility of international market prices, even while the most minimal protection earlier afforded to cultivators has been removed.

Public agricultural extension services have all but disappeared, leaving farmers to the mercy of private dealers of seed and other inputs such as fertiliser and pesticides who function without adequate regulation, creating problems of wrong crop choices, excessively high input prices, spurious inputs and extortion. Public crop marketing services have also declined in spread and scope, and marketing margins imposed by private traders have therefore increased. All this happened over a period when farmers were actively encouraged to shift to cash crops, away from subsistence crops which involved less monetised inputs and could ensure at least consumption survival of peasant households.

The crisis in water and irrigation sources can also be traced to these cultivation patterns. Over-use of groundwater – once again resulting from the absence of public regulation or even advice, as well as the shift to more water-using crops – has caused water tables to fall across the state. Indiscriminate drilling of borewells may have indirectly led to many farmers' suicides in the state. The prolonged period of poor and untimely rains in much of the state has exacerbated these problems and created crisis conditions. Declining public investment, inadequate maintenance and the regionally uneven pattern of spending, have all made surface water access also problematic. In consequence, there are now real problems with respect to even the current economic viability of farming as a productive activity in most parts of rural Andhra Pradesh, not to mention its sustainability over time.

Other factors have added to debt burdens that become unbearable over time. Production loans dominate in current rural indebtedness. But among the non-productive loans incurred by rural households, those taken for paying for medical expenses are the most significant. The deterioration of public health services and the promotion of private medical care have dramatically increased

the financial costs of sheer physical survival and well-being, even among the relatively poor.

The crisis in agriculture in turn has affected and been affected by the stagnation of other employment opportunities in the rural economy. The closure of many small-scale industries worsened the problems of people living in surrounding villages, as they lost possibilities of employment and chances for self-employed service activities catering to those industries and their workers. Handloom and other weavers have been adversely affected by the removal of public subsidies and the decline of co-operatives. While dairy and livestock rearing tend to be more stable sources of income, they have also become less profitable (and even turned loss-making in some areas) because of the increasing costs of feed and unequal market relations into which small producers have been pushed. There has been some growth of services employment, but nowhere near enough to fill the gap. As a result, the share of rural non-farm employment in the state actually declined from 23 per cent in 1983 to 21 per cent in 1999-00, while for the country as a whole it increased from 18 per cent to 24 per cent over the same period.

This entire process is sometimes presented as a situation in which rural people have been “left out” of the process of globalisation, or have been “marginalised” or “excluded”. But the problem is not at all that cultivators and workers in this state have been “left out”. Rather, they have been incorporated and integrated into market systems that are intrinsically loaded against them, in which their lack of assets, poor protection through regulation and low bargaining power have operated to make their material conditions more adverse.

These processes have operated differently across regions, and those areas that were historically backward and less developed have ironically been more adversely affected by the processes described above. It is clearly the case that the degree of distress experienced by cultivators in Andhra Pradesh varies

inversely with the extent of assured irrigation. Therefore, while the crisis is a serious one across the state, there is no doubt that it is more acute in drought-prone regions, where the social and economic processes have interacted with weather conditions to create circumstance of extreme difficulty.

Chapter 2: The role of government policies

The agrarian crisis in Andhra Pradesh can be linked to a combination of macro liberalisation and globalisation policies at the central government level, specific policies of the state government and failures at the level of local implementation.

I. Macro Policies

The policies of the central government since the beginning of the 1990s have had direct and indirect effects on farmers' welfare. The economic reforms did not include any specific package specifically designed for agriculture. Rather, the presumption was that freeing agricultural markets and liberalising external trade in agricultural commodities would provide price incentives leading to enhanced investment and output in that sector, while broader trade liberalisation would shift inter-sectoral terms of trade in favour of agriculture. However, there were changes in patterns of government spending and financial measures which also necessarily affected the conditions of cultivation. In particular, fiscal policies of reducing expenditure on certain areas especially rural spending, trade liberalisation, financial liberalisation and privatisation of important areas of economic activity and service provision had adverse impact on cultivation and rural living conditions.

The neo-liberal economic reform strategy involved the following measures which specifically affected the rural areas:

- Actual declines in Central government revenue expenditure on rural development, cuts in particular subsidies such as on fertiliser in real terms, and an overall decline in per capita government expenditure on rural areas.
- Reduction in public investment in agriculture, including in research and extension.

- Very substantial declines in public infrastructure and energy investments that affect the rural areas, including in irrigation.
- Reduced spread and rising prices of the public distribution system for food. This had a substantial adverse effect on rural household food consumption in most parts of the country.
- Financial liberalisation measures, including redefining priority sector lending by banks, which effectively reduced the availability of rural credit, and thus made farm investment more expensive and more difficult, especially for smaller farmers.
- Liberalisation and removal of restrictions on internal trade in agricultural commodities, across states within India.
- Liberalisation of external trade, first through lifting restrictions on exports of agricultural goods, and then by shifting from quantitative restrictions to tariffs on imports of agricultural commodities. A range of primary imports was decanalised and thrown open to private agents. Import tariffs were very substantially lowered over the decade. Exports of important cultivated items, including wheat and rice, were freed from controls and subsequent measures were directed towards promoting the exports of raw and processed agricultural goods.

In terms of fiscal policies, the reduced spending of central and state governments was the most significant feature. Due to tax reforms, the tax/GDP ratio declined at central level. Central transfers to state governments also declined. State governments were forced to borrow in the market and other (often international) sources at high interest rates. As a result, the levels of debt and debt servicing increased in most of the states. In recent years, most state governments were in fiscal crisis and did not have funds for capital expenditures. This has been especially important since state governments are responsible for areas critical for farmers such as rural infrastructure, power, water supply, health

and education. Meanwhile, at the central government level, capital expenditure declined as a share of national income, and all public expenditure directed towards the rural areas fell both as a per cent of GDP and in real per capita terms.

Trade liberalisation in agriculture accelerated from the late 1990s, in tune with WTO agreements, and involved liberalisation of export controls, liberalisation of quantitative controls on imports and decontrol of domestic trade. Quantitative restrictions on imports and export restrictions on groundnut oil, agricultural seeds, wheat and wheat products, butter, rice and pulses, were all removed from April 2000. Almost all agricultural products are now allowed to be freely exported as per current trade policy.

The impact of trade liberalisation on farmers' welfare works through various channels such as volatile prices, problems in imports and exports, impact on livelihood and other employment opportunities, etc. For farmers, perhaps the single most adverse effect has been the combination of low prices and output volatility for cash crops. While output volatility increased especially with new seeds and other inputs, the prices of most non-foodgrain crops weakened, and some prices, such as those of cotton and oilseeds, plummeted for prolonged periods. This reflected not only domestic demand conditions but also the growing role played by international prices consequent upon greater integration with world markets in this sector. These features in turn were associated with growing material distress among cultivators.

In a closed economy, lower output is normally accompanied by some price increase. Therefore, coincidence of lower production with lower terms of trade was very rare until recently. The pattern of lower prices accompanying relatively lower output reflected the effect of the growing integration of Indian agriculture with world markets, resulting from trade liberalisation. As both exports and imports of agricultural products were progressively freed, international price

movements were more closely reflected in domestic trends. The stagnation or decline in the international prices of many agricultural commodities from 1996 onwards meant that their prices in India also fell, despite local declines in production. This was not always because of actual imports into the country: the point about openness is that the possibility of imports or exports can be enough to affect domestic prices at the margin.

An additional issue for farmers was that, even as the uncertainties related to international price movements became more directly significant for them, progressive trade liberalisation and tariff reduction in these commodities made their market relations more problematic. Government policy did not adjust in ways that would make the transition easier or less volatile even in price terms. Thus, there was no evidence of any co-ordination between domestic price policy and the policies regarding external trade and tariffs. For example, an automatic and transparent policy of variable tariffs on both agricultural imports and exports linked to the deviation of spot international prices from their long-run desired domestic trends, would have been extremely useful at least in protecting farmers from sudden surges of low-priced imports, and consumers from export price surges. Such a policy would prevent delayed reactions to international price changes which allow unnecessarily large private imports. It would therefore allow for some degree of price stability for both producers and consumers, which is important especially in dominantly rural economies like that of India.

In the absence of such minimal protection, Indian farmers had to operate in a highly uncertain and volatile international environment, effectively competing against highly subsidised large producers in the developed countries, whose average level of subsidy amounted to many times the total domestic cost of production for many crops. Also, the volatility of such prices – for example in cotton – has created uncertain and often misleading signals for farmers who respond by changing cropping patterns. In Andhra Pradesh, it has directly affected the groundnut farmers due to palm oil imports. Import of fruits also and other commodities also affected the farmers. With increased trade liberalisation,

reduction in cereal consumption became very pronounced. Also exports of items like cotton have increased volatility in supplies of cotton raw material, which have adversely affected handloom and powerloom weavers whenever yarn prices have increased significantly due to export of cotton.

Financial sector liberalisation in developing countries has been associated with measures that are designed to make the Central Bank more independent, relieve financial repression by freeing interest rates and allowing financial innovation, reduce directed and subsidised credit, as well as allow greater freedom in terms of external flows of capital in various forms. India's financial liberalisation strategy involved all of these measures to varying degree.

Financial liberalisation measures, including reduced emphasis on priority sector lending by banks, which effectively reduced the availability of rural credit, and thus made farm investment more expensive and more difficult, especially for small farmers. In addition to declining credit-deposit ratios in rural areas, the shift of banks away from crop lending and term lending for agriculture, the reduction in the number of rural bank branches and less manpower for rural service provision all meant that the formal sector was unable to meet the requirements of cultivators, who were forced to turn to private moneylenders (who were often also input dealers and traders) in more exploitative relationships.

II. State government policies over the past decade

Agriculture is a state subject and therefore state governments have more responsibility in agriculture development. For the past decade, the state government in Andhra Pradesh not only participated in but aggressively pushed liberalisation policies, and also neglected agriculture. In addition, however, it was also crucial in accelerating the deregulation and privatisation which also marked the central government's approach. The primary role of the public sector enterprises was to protect the public from the adverse impacts of market forces

and provide them with goods and services at reasonable (and frequently subsidised) prices. The primary beneficiaries of this system were expected to be the poor segments of the population. But the state government in Andhra Pradesh systematically reduced the role of public investment, intervention and regulation, and expected private activity to deliver more favourable outcomes.

Because of the decline in public investment in agriculture, fixed capital formation in agriculture (which had recorded high growth in the 1980s) declined in absolute terms in the 1990s and thereafter. The area under public sources of irrigation, e.g., canals declined in the nineties due to deceleration in public investment and public neglect of traditional water sources. No new major irrigation project was taken up in the last nine years and several pending projects were not completed.

More than 10,000 Water Users' Associations (WUAs) have been formed, of which about 80 per cent are in the minor irrigation sector. However, the bulk of the area covered is under canal irrigation. Irrigation charges were increased by more than three times from 1997. Even so, the surface water rates at best cover maintenance charges, whereas in the case of lift irrigation the farmer also bears the full capital cost of the well or bore. The effective rate of collection remains low at around 64 per cent, possibly because WUAs have not yet been made fully responsible for collection of water charges, making the process fully democratic and accountable. Another notable development was that the works were executed by WUAs themselves at lesser cost instead of getting them done by contractors. But the vested interests lost no time in adjusting to the new situation by presidents of the WUAs acting as contractors. This and other malpractices invited the wrath of farmers who in several cases used the provision in the Act for recall of the presidents. WUAs are not found to be effective in respect of tank irrigation due to insufficient allocations.

In the case of watersheds, the state government followed the extensive approach of thinly covering many watersheds instead of the intensive approach of covering few watersheds, which made many watersheds ineffective. The state government also spent lot of funds on the 'neeru-meeru' programme which had some successes but generally did not yield the desired results, again because of the reliance on private contractors and corruption. Because of decline in surface and tank irrigation, ground water use has increased significantly increasing costs for farmers and bringing down the water table in most parts of the state. Power reforms increased the cost of power in the state. Although farmers paid only a flat rate (which increased from Rs. 50 to Rs. 300), they had to incur heavy losses in terms of erratic power, low voltage and burning of motors.

There was also a neglect of research and extension. The intensity of government investment in agricultural research and education in the state (at 0.26 per cent of its agriculture GDP during 1992-94) was lower than for the other three southern states and was just around half of that for All India (0.49 per cent for centre and states together). Public expenditure on extension, which is borne by the state government, declined in absolute terms in the nineties. It was only 0.02 per cent of the state's GDP during 1992-94, as against the All-India average of 0.15 per cent. There was an attempt to privatize extension services. As a result of these policies, extension services are currently in bad shape in the state. With the virtual breakdown of the extension machinery and lack of access to institutional credit, small and marginal farmers became increasingly dependent upon the private trade for credit and extension services. At the same time such agents were subject to less regulation than before, leading to circumstances in which resource-poor farmers became victims of exploitation by such agents.

By the late 1990s, the looming agricultural crisis was recognised to be substantially the consequence of inadequate agricultural services, including extension, reliable seed supply, quality pesticides, machinery, proper soil survey-testing, soil conservation, market information and market intelligence. However,

despite this, the state government of that time refused to recognise this or take palliative measures. A 'Working Paper' of the Department of Agriculture (1999) stated that government could act only as a facilitator and no public investment would be made in providing these services. Referring to the vast gap in agricultural extension, because of unfilled vacancies which at that time accounted for more than one-fourth of the sanctioned posts, it was declared that the state "doesn't have resources to employ any more extension workers", and so it was proposed that the entire cadre of agricultural extension officers be wound up. "Without any additional financial burden to the state", the extension services would be promoted through the private sector through a system of registration of unemployed grantees or retired employees, who would offer these services for a fee. Qualified graduates would be encouraged to become licensed dealers of fertilizers, pesticides and seeds. The burden on the AP Seed Corporation would be reduced by making the private sector more accountable through appropriate MOUs. The hiring of agricultural machinery would be encouraged through the corporate sector, NGOs and others. Soil survey, soil conservation, collection of market information were to be "encouraged to be developed in private sector with appropriate policy incentives".

With this approach of the state government, it is not surprising to find that many public institutions affecting agriculture were systematically eroded or destroyed. Some important government corporations and cooperative institutions in the state were closed, allowed to run down, or simply handed over to the private sector. These institutions, such as A.P. Irrigation Development Corporation, A.P. Agro-Industries Corporation, A.P. Seeds Development Corporation, Cooperative Sugar Factories, Cooperative Spinning Mills played an important role in helping the farmers. The running down of these institutions also affected the farmers adversely.

Similarly, privatisation of extension and the health sector have had adverse consequences for farmers. In the delivery of health and education, the

reductions in spending and reduced quality of public services has led to the increase of private sector activity which has created segmented markets for rich and the poor. Higher income groups have moved to private sector while the state has been offering services at usually much lower standards of efficiency and quality to the lower income groups. This impact has been felt strongly in the health and education services and has translated into an equity issue. The poor have also been affected by higher drug prices.

Keeping in view the main objectives of the 73rd Constitutional Amendment Act, the Government of Andhra Pradesh passed the A.P. Panchayat Raj Act in 1994. But the actual performance so far in terms of genuine decentralisation / devolution to the local bodies has been far from satisfactory. In the functional domain, the present status in AP shows that it transferred functions in respect of 16 subjects of which 5 subjects with funds and only 2 subjects with functionaries have been transferred to the local bodies. This performance is much worse than in Karnataka, Kerala and West Bengal. Moreover, a majority of the line departments in AP have not been brought under the control of the Panchayati Raj bodies. Only the relatively less important functions have been transferred to the local bodies. Some observers have argued that the proliferation of different local organisations led to confusion regarding responsibilities and resource control, and effectively weakened the panchayats.

III. Recent policy measures of the state government since May 2004

The new state government in Andhra Pradesh has recognised the magnitude of the agrarian crisis and has already made clear its intention to redirect state policy bearing in mind the need and interests of farmers. The Cabinet Sub-Committee Report on the causes of farmers suicides indicates that the government is already aware of the main forces behind the crisis and the policies required. There are a number of positive measures which the state government has already instituted, which deserve to be noted.

1. Relief package to families of farmers who have committed suicide: The state government has announced the provision of an ex-gratia amount of Rs. 1 lakh to the family of a deceased farmer and Rs. 50,000 towards liquidation of farm debt. This is not only an important welfare measure in its own right, but is necessary to indicate the degree of concern of the state and to bring some confidence to the rural community. Field visits by the Commission confirmed that in most areas visited, the package was being implemented carefully and sensitively. However, two problems need to be noted: (a) There is currently no budgetary provision for this package, which means that the amount has to be taken by the District Collector from other resources available to her/him. This is clearly not a desirable outcome and needs to be rectified. (b) The process of identifying the genuine cases has meant that many suicide cases are effectively excluded. Also, the focus on farm-related causes only has excluded others who have suffered economically because of the generalised rural distress, such as weavers, carpenters and others.

2. Help Lines: In order to reduce the despair and feelings of helplessness which have been associated with the suicides, Help Lines have been established in each district, where grievances of farmers are recorded and help is extended as far as possible.

3. Free power: The first important policy measure of the state government when it came to power was the sanction of free power to all agricultural connections and the waiver of power dues worth Rs. 1300 crores. This was important in immediately alleviating some of the extreme distress of cultivators especially in borewell-dependent lands, whose problems had been aggravated by the hike in power rates.

4. Moratorium on loans: Keeping in view the extreme nature of the crisis, a bill was passed in the state assembly providing for a moratorium for 6 months on

private money lenders. In addition, the two-year moratorium on institutional credit recovery by commercial banks as declared by Government of India was sought to be implemented.

5. Focus on institutional credit: There was a conscious drive to ensure increased credit from the banking institutions to farmers. In consequence, Rs. 7010 crores was disbursed during kharif 2004, nearly Rs. 2000 crore more than the previous year. There was rescheduling of the bank loans of 7.93 lakh account holders, amounting to Rs. 1608.21 crores, which was converted to terms loans. The State Level Banking Committee constituted a sub committee to consider strategies for timely and adequate credit and the formulation of village credit plans from Kharif 2005. It need hardly be added that, while these are all very positive measures, institutional credit remains very inadequate.

6. Stamp duty exemption: In order to reduce the costs of borrowing for small farmers, registration fees and stamp duty have been exempted for loans sanctioned up to an amount of Rs. 1 lakh for small and marginal farmers. Following an earlier request of the Commission, this move has now been widely publicised.

7. Crop insurance: The state government has written to the Government of India proposing reforms in the existing National Agricultural Insurance Scheme, including restoration of 50 per cent of premium subsidy to small and marginal farmers, enhancement of indemnity levels to 80 per cent, reduction of premium rates to 2 per cent for cereal crops and 3 per cent for commercial crops and payment compensation in two spells for kharif and rabi crops.

8. Control of seed supply: The State Cabinet has approved a new State Seed Regulation Bill 2004 to regulate production and sale of seeds. It is hoped that this will reduce or eliminate the supply of spurious seeds and reduce other problems. Even before this, a special drive was taken up in October 2004 to regulate the

quality of inputs, which also involved seizure of supplies of spurious seeds and other inputs. This is also immediately necessary to restore confidence among farmers.

9. Rs. 31 crores has been sanctioned for establishment of seed and fertiliser testing labs in all districts, seed villages and revival of public sector seed farms.

10. A comprehensive Bio-fertiliser bill to induce eco-friendly fertiliser usage mechanism is being actively considered by the state government.

11. The Chief Minister has written to the central government, Government of India, requesting that the import duties on cotton and palm oil should be increased in order to protect cotton and groundnut farmers in the state. While no action has been taken thus far, it is to be hoped that the central government will take note of the seriousness of the matter and respond favourably.

12. The Chief Minister has also requested the central government to direct the Cotton Corporation of India not to collect transport charges from cotton farmers in Andhra Pradesh. This recommendation has been accepted.

13. The state government has lifted the ban on new recruitment of Agricultural Officers imposed by the previous state government. Orders have been issued for recruitment of 270 Agricultural Officers and 491 Agricultural Extension Officers to fill up the vacant posts.

14. The state government has launched a drive to redistribute government lands of 1 lakh acres by 26 January 2005, and promised to continue the drive subsequently.

15. The state government has given priority to irrigation development. In the first phase, works worth approximately Rs. 8,000 crores are being taken up.

16. A separate Ministry has been created for rain-shadow areas, to focus on the problems of drought-prone regions.

These have all been necessary and important measures, and have certainly alleviated the worst effects of the crisis for the farmers in the state. However, the crisis in agriculture is so deep and widespread, that in spite these positive measures, the conditions of farmers remain precarious, as evidenced by the continuing suicides despite various relief measures. Much more will be required to make material improvements in the conditions of farmers. In particular, the destruction of various rural institutions has been so complete that it will take time and effort to rebuild them and generate new ones that can serve the farmers and rural workers. Since the state government has already indicated its commitment to work for the betterment of the rural community and already taken several positive steps, the Commission is confident that it will also undertake all the necessary measures in the short term and medium term.

Chapter 3: Land-related issues

I. Past land reforms

The early land reform measures in Andhra Pradesh combined and carried forward the legal measures brought from two different administrative histories, one from the Madras Presidency from which the Andhra region was brought in, and the other from the Nizam state of which Telangana was a part. As in the rest of the country, the reforms in the state can also be broadly classified into the abolition of intermediaries, tenancy reforms, ceilings legislation and other government initiatives.

In terms of abolition of intermediaries, the Madras Estates (Abolition and Conversion into Ryotwari) Act 1948 was the first legislation soon after Independence, that removed intermediaries and brought all land in Andhra area under Ryotwari. In the Telengana region, with the Abolition of Jagirdari Act of 1949, the Jagirdari tenurial system ended. With respect to tenancy legislation, the Hyderabad Tenancy and Agricultural Lands Act was enacted in 1950. It resulted in the conferment of protection to nearly 6 lakh tenants who held over 75 lakh acres of land, constituting 33 per cent of the total cultivated area. This was considered to be one of the more progressive pieces of legislation in the state. The AP (Andhra Area) Tenancy Act 1956 was enacted to ensure that tenant was not evicted from her/his holding except by law. The result of this legislation is mixed, often driving the tenancy underground.

Regarding land ceilings, as in most other states, the first round of legislation in 1961 was a miserable failure. Following the evolution of the National Guidelines, the AP (Ceiling on Agricultural Holdings) Act was passed in 1973. In spite of several fraudulent means to falsely retain land, against an estimated surplus land of 20 lakh acres, only 5.77 lakh acres were distributed among 4.79 lakh beneficiaries till the end of 2002. This amounted to just 1.25 per cent of the net sown area. Of the beneficiaries, 42 per cent were SCs who were assigned 39

per cent of land, while STs constituted 14 per cent of the beneficiaries accounting for 20 per cent of the land. A major step in land distribution in the state was the assignment of government land to the landless poor, which accounted for 12.5 per cent of the new sown area. Andhra Pradesh, along with West Bengal and Jammu and Kashmir, is one of the few states to have substantially redistributed government held land. By the end of 2002, 43.21 lakh acres were distributed among 23.98 lakh beneficiaries, of whom 24 per cent were SCs and 28 per cent were STs.

II. Current issues relating to land

Land relations in Andhra Pradesh are extremely complicated and this complexity has contributed significantly to the problems facing actual cultivators in the state. Because of the fact that in many areas (especially Telengana) the names of the current holders and actual cultivators are not recorded in the land registers, such cultivators are not eligible for institutional finance and a range of other public benefits such as compensation in the event of natural calamities, and so on. In addition, some regions (especially in more irrigated areas) have a high proportion of tenancy, which is typically unrecorded, and tenant farmers face similar difficulties in accessing bank loans and other benefits. They are therefore all driven to the informal credit market, which supplies loans at very high rates of interest, which in turn adds greatly to their cost of cultivation. In tribal areas there are even more difficult issues of land entitlement, especially as it is evident that Act 1/1970 is not being properly implemented in the agency areas and tribal people are being denied their land rights in such areas.

In large parts of the state, the existing land records do not accurately portray the actual position with respect to land holding and cultivation. Subdivision and fragmentation of holdings over generations, consequent upon household division, are not reflected in the land records, which sometimes continue to list the names of deceased holders, etc. This problem is especially acute in Telengana. The

settlement of revenue records is meant to take place every ten years because of such processes of changing ownership and cultivation holdings. However, in Andhra Pradesh, the resurvey and resettlement of revenue records have not taken place for more than fifty years. This has meant increased disputes related to land and insecurity of holding, especially for small farmers.

Additionally, women cultivators are rarely if ever listed as the owners of land, even when they are the actual cultivators. This is despite the fact that the Land Revenue Act of 1999 [in particular Section 98(1), 105(1) and (2E)] make it the responsibility of the state government to enter the name or names of the actual cultivators in the Record of Rights.

While there are no records and therefore no official statistics on the extent of tenancy, reliable estimates suggest that tenancy is quite high, amounting to around one-third of the cultivated land and often a larger proportion of farmers. Table 1 provides some estimates based on a recent survey. In the field visits it was found that, in addition to completely landless cultivators, many small farmers who own very small plots also tend to lease in additional land. There was no district without some amount of tenancy, and in some areas it is quite significant. The incidence of tenancy tends to be higher in irrigated tracts and in regions where rainfall is more plentiful, in other words, where there is more assured water supply. Tenancy is particularly widespread in coastal Andhra.

Table 3.1: Land holding structure in select villages from across Andhra Pradesh

Name of the Region	Name of the Village	Total No. of House holds	Total Owned Area (Acres)	Total Leasing Households		Total Leased in Area		Average Size of Owned Holding (Acres)
				No.	Per cent of Total House holds	Area (Acres)	Per cent of Total Owned Area	
South Coastal Andhra	Mentipudi	90	119	37	41.11	60	50	1.32
	Kothapalli	208	116	78	37.5	80	69	0.55
	Seethampet	170	375	28	16.47	64	17.07	2.21
South Telangana	Arepalli	339	1016	18	5.31	54	5.31	2.99
	Tadiparti	216	724	15	6.94	68	9.39	3.35
North Telangana	Chinnapur	216	297	23	10.65	43	19.91	1.37
	Nagaram	170	379	14	8.24	24	6.33	2.22
North Coastal Andhra	Jonanki	151	271	43	28.48	59	21.77	1.8
	B. Koduru	171	407	6	3.5	28	6.89	2.29
Rayalaseema	Cheldiganipalli	101	228	1	0.03	1	Negl	2.25
Total		1838	3931	263	14.3	641	16.31	2.14

Source: R. S. Rao and M. Bharati (2003)

The increasing extent of tenancy over the past few decades has been associated with a shift away from sharecropping to fixed rent tenancy. Earlier, sharecropping tenancy dominated, with the crop being shared on a 50:50 basis. However, most tenancy contracts are now fixed rent contracts. The fixed rent systems are of two kinds: those which involve an advance of working capital from the landlord, and those which involve no such advance. The latter type of tenancy contracts tend to be more common.

Tenant farmers face a range of problems, dominantly stemming from the lack of official recognition of tenancy and the fact that their status as actual cultivators is nowhere recorded. This continues despite the fact that Sections 105(1) and (2E) of the Land Revenue Act 1999 stipulate that the names of tenants should be recorded in the revenue records. This lack of recognition effectively denies tenant farmers all access to institutional finance such as bank credit and crop insurance. In addition, they cannot benefit from any of the government schemes directed to farmers, or get any assistance or compensation

at times of natural calamity, since such benefits go to the registered owner of the land. Nor do they receive any of the free or subsidised inputs which are distributed to owner cultivators from the state government, such as seeds, subsidised fertilisers and pesticides and implements.

The field visits suggested that cash rent rates are typically quite high, ranging from Rs. 3,000 per acre in unirrigated and less fertile areas (such as in parts of Anantapur district) to as much as Rs. 7,000-9,000 per acre in irrigated areas of higher soil fertility (such as in Guntur). In the fertile south coastal Andhra region, rents can go up to as much as Rs. 15,000 per acre. These rates are in direct contravention of the AP (Andhra area) Tenancy Act of 1956 and its 1974 amendment (Act 39 of 1974) under which land rents are controlled. In actual practice tenants are currently paying more than 3 or 4 times the rents stipulated in this Act.

As noted above, land ceiling laws have been relatively ineffective in Andhra Pradesh. Only 5.1 lakhs of surplus land have been acquired in total, which suggests that the laws have been counteracted on the ground by *benami* transactions and distribution of large ownership holdings among family members. In addition, in the recent past there appears to have been substantial corporate acquisition of land, although exact data on this could not be found.

Despite this, operational holdings have become much less concentrated. The available data presented below suggest that there has been a decline in the absolute number and area covered by large and medium holdings since 1971. There is therefore an increase in smaller holdings compared to large holdings, and it is evident that many of these must be held under tenancy contracts. The substantial increase in marginal holdings, which accounted for more than half of farmers in the early 1990s, is likely to have contributed to the difficulties of ensuring that cultivation provides a reasonable livelihood.

Table 3.2: Distribution of operational holdings 1970-71 to 1995-96

Year	Marginal (below 1 ha)	Small (1-2 ha)	Semi-medium (2-4 ha)	Medium (4-10 ha)	Large (above 10 ha)
Per cent of holdings					
1970-71	46.0	19.6	17.4	12.7	4.3
1995-96	59.4	21.3	13.2	5.3	0.8
Per cent of area					
1970-71	8.0	11.3	19.2	35.2	26.3
1995-96	20.2	22.5	26.0	22.5	8.9

Source: Mahendradev and Mahajan (2004).

There is also substantial landlessness in rural Andhra Pradesh. The NSS data show that AP has the second highest extent of landlessness among rural households, after Punjab. Some of this landlessness is itself the result of the growing difficulties of cultivation, as indebted small and marginal farmers have been forced to sell or give up their land because of the inability to repay their debts through the proceeds of farming. It is also the case that landlessness is heavily concentrated among the Dalit and tribal populations.

Table 3.3: Per cent of landless households in rural areas

	AP	India
1987-88	45.9	35.4
1993-94	49.5	38.7
1999-2000	52.3	40.9

Source: NSS Surveys on Employment and Unemployment

There are increasing problems of soil degradation and fallow land. The proportion of waste and fallow land has increased significantly since the early 1990s. This has actually meant a decline in cultivated area. While adverse weather and rainfall conditions have certainly been associated with this, it is also true that cultivation practices have eroded soil qualities over time. The problem is

especially acute in certain areas of Rayalaseema and northern Telengana, where cropping pattern shifts and greater use of chemical inputs have led to declining soil fertility and even forced fallows. In other areas, the increase in current fallows also reflects the lack of viability of cultivation, as small farmers migrate in search of other incomes rather than cultivating their fields at a loss.

III. Recommendations

Regarding land records:

1. A fresh settlement of revenue records is imperative. This requires a major administrative drive to record the actual cultivators. While this has to be undertaken by the Revenue Department, it will require the assistance of local governments and agencies.

2. It is necessary to record the changed land classification consequent upon provision of assured irrigation, which affects the division between wet and dry land. Revenue registers should be adjusted accordingly. This is also likely to release more land for redistribution.

3. It is necessary to ensure that all the provisions of the Land Revenue Act of 1999 are complied with.

4. At the gram panchayat level, the post of Revenue Secretary should be created.

4. Pattadar passbooks must be provided to all cultivators. A special drive should ensure that women cultivators also receive passbooks.

5. Land rights of women as joint holders should be recognised under the Transfer of Property Act.

6. Land rights of tribal populations should be clearly recognised and tribal farmers should also be issued pattadar passbooks.

7. Act 1 of 1970 should be implemented, with constant monitoring and prevention of infiltration into tribal areas.

8. Land cases where tribal interests have been adversely affected should be reopened.

9. The state government should computerise land settlement particulars and ownership and enjoyment details, patta and survey-number wise, after rigorous cross-checking of these details. These computerised particulars should be available to farmers at the mandal level on payment of a small fee, employing computerised touch-screens as is done in Tamil Nadu and Karnataka. Since mutations are a continuing process, the state government should monitor all kinds of transfers and changes closely and update the records accordingly.

Regarding tenancy:

1. It is the responsibility of the state government to record tenants as cultivators and issue passbooks to them. The names of tenant farmers (including also women) must be recorded in the revenue records, through a systematic official drive over three months. In such registration, the onus should not be on the tenant to prove his/her tenancy, but on the landlord to disprove it.

2. Tenant farmers should receive tenant passbooks and all financial institutions (banks, co-operative societies, insurance companies, etc.) should honour these passbooks for extending credit and other facilities.

3. Tenant farmers as actual cultivators should be entitled to the various benefits provided by government to other farmers, including subsidised inputs, compensation for losses during calamities, etc. This will require careful separation of owners from tenants and clearly establishing who is actually cultivating any piece of land, which means continuous monitoring by some local body.

4. The existing rules with respect to rent ceilings should be enforced. Once again, this will require monitoring by local bodies

Medium term proposal:

1. The existing tenancy legislation is widely considered to be too rigid, preventing the owners from entering into any recorded contract and responsible for driving tenancy underground. The legislation should be modified so as to ensure open tenancy with adequate security to the tenant. Both fixed rent tenants and sharecroppers should be protected.

Regarding land distribution:

1. The state government should take an inventory of all its land, especially around urban centres, and identify illegal occupation, including any which have been subsequently regularised, over the past 20 years. For currently illegal occupation, the land should be resumed by the state government of the current holders should be made to pay the current land value of the land. In cases of regularisation, the justification for this should be reviewed, and in cases where this is not found to be justified, the same procedure of resumption by the state or payment of current market prices should be followed.

2. There is considerable scope for further land redistribution, particularly when waste and cultivable lands are taken into account.

3. Public lands which have been given away on the basis of specific promises over the past 20 years should be reviewed, and in cases where the promises on the basis of which the land was allotted have not been kept, the land may be resumed or the current market value of the land may be charged to the holders.

4. The Act preventing alienation of redistributed land has not been enforced. The state government must examine all such cases, resume such land wherever it is identified and restored to original assignees.

5. In cases of displacement of farmers due to irrigation schemes and other such projects, similar land of the same size should be provided to the displaced farmers in the same command area.

6. The state government should undertake a drive to identify waste and long-term fallow lands. This can be done by Gram Panchayats/Gram Sabhas.

7. Agricultural land held by religious institutions should be given on long lease to the landless poor.

6. In terms of the mechanism for land distribution, the Assignment Committee should not be in the hands of political leaders. However, Gram Panchayats should be associated and Gram Sabhas should decide on the eligibility and priority of beneficiaries, with actual responsibility for assignment resting with by the officials of the Department of Revenue, monitored by Collectors associating with people's committees.

7. The future assignment of land to beneficiaries should be in favour of women as far as possible. In general there should be clear criteria for assignment of

land, noting features of the beneficiaries such as single :parent, widowed, SC/ST, etc.

8. Complementary inputs for cultivation (such as initial land development, input minikits, credit, etc.) should be provided to all assignees.

9. There is nearly 1 lakh acres of land under cultivation by tribal farmers in so-called forest areas and occupied before 1980. This should be regularised.

10. The right of the rural poor to access and use Common Property Resources (ranging from fruit trees on common land to minor forest produce) should be ensured.

11. The AP Homestead Act (date) should be revised by the date of applicability and must be enforced to provide homestead land to all rural households.

12. The Panchayats (Extension to Scheduled Areas) Act has been held up because the Gram Sabha has not been defined in rural areas. The rules should be notified and the Act must be implemented.

Proposals for the medium-term

13. Co-operative joint farming societies should be promoted in case of very small and marginal holdings.

Chapter 4: Rural Credit

The present crisis in the agricultural sector in Andhra Pradesh brings into focus the lacunae in the rural credit system, which have added to the woes of the farmers. Most of the rural credit in the state is still supplied from non-institutional sources, and it is estimated that formal credit meets less than 30 per cent of the credit requirements of the farmers. It is very important that the credit requirements of agriculture be assessed and met by the formal sector, and that farmers are liberated from enforced dependence upon private moneylenders.

Subsequent to financial liberalisation in the 1990s, there has been a significant deceleration in the growth of bank credit, particularly from commercial banks to rural areas. Also notable is the relative fall in proportion of bank credit flowing to the priority sectors, especially agriculture. The impact of the slowdown in rural banking has fallen disproportionately on poor and small borrowers.

It may be noted here that large-scale survey data on the situation of rural debt are outdated, as the results of the All-India Debt and Investment Survey 2001-02 have not been published. Although, there are no large scale survey data available for the 1990s, village studies indicate that non-institutional or informal credit is the main source of credit for the large majority of rural households today. To illustrate, a recent survey of eight villages found that only 20 per cent of all agricultural loans were provided by institutional sources (Table 4.1 below). The study also found the share of institutional sources in total loans to be 20 per cent. The informal sector thus dominates the village credit market, and it is clear that interest rates charged in the informal sector remain high (24 to 36 per cent per annum).

Table 4.1: Source-wise Interest Charges on Agricultural Loans
in Select Villages of Andhra Pradesh

	Rate of Interest	Institutional Loans		Non-Institutional Loans		Total Loans	
		Number	Per cent	Number	Per cent	Number	Per cent
	<12%	4	1.75	0	0	4	0.04
	12%	112	49.12	14	1.51	126	10.94
	13 to 23%	73	32.02	3	0.32	71	6.16
	24%	31	13.59	370	40.04	401	34.81
	36%	8	3.5	479	51.84	487	42.27
	48%	0	0	5	0.54	5	0.04
	60%	0	0	37	4	37	3.21
	>60%	0	0	16	1.73	16	1.39
Total		228 (19.79)	100	924 (80.21)	100	1152 (100)	100

Sources: N.Shyam Sundar (2003) and R.S.Rao and M. Bharati (2003)

Note: Figures in parenthesis refer to the share in the total number of loans.

Formal agricultural credit is disbursed through a multi-agency network consisting of Commercial Banks (CBs), Regional Rural Banks (RRBs) and Cooperatives. Among formal institutional agencies, commercial banks play a dominant role, contributing about 74 per cent of total institutional credit to the rural sector. The state is served by 48 commercial banks with 4041 branches. Out of the total branches, only 1531 (38 per cent) are rural branches. Co-operative banks and RRBs account for about 15 per cent and 11 per cent of total rural institutional credit respectively.

Commercial banks

The share of agriculture in the total credit flow of commercial banks has been declining over the last few years and it came down from 70 per cent in 1998-99 to 50 per cent in 2002-03. Within agriculture, the share of crop loans has declined from 58 per cent to 43 per cent during the period 1998-99 to 2002-03, while the share of agriculture term loans disbursed has declined from 12 per cent

to 7 per cent. The share of agriculture in actual disbursement (ground level credit flow) has declined from 80 per cent in 1993-94 to 50 per cent in 2002-03. Apart from lending less than the stipulated target of 18 per cent, many commercial banks are shying away from agriculture and priority sector lending by resorting to the soft window option of investing in the RIDF window of NABARD.

The credit-deposit ratio for rural bank branches in Andhra Pradesh declined from 80 per cent in 1990 to 62 per cent in 2002. Even now, many commercial banks are not adhering to the stipulated 60 per cent credit-deposit (CD) ratio: in seven districts the CD ratio has been below 50 per cent during the year 2004 and in ten districts it has been below 60 per cent. Around 57 per cent of bank agricultural credit goes to the coastal region, 13 per cent to Rayalaseema and 29 per cent to Telengana. In addition to the regional disparity in credit disbursal, the banks, increasingly under the sway of a liberal financial regime, appear to be reluctant to lend to small farmers. The policy is oriented to the logic that it is better to lend to a small number of large borrowers than to a large number of small borrowers. Further, tenant farmers are entirely outside the ambit of the formal credit market, due to lack of documents that recognise their rights as cultivators.

Table 4.2: CD Ratio in different districts as on June 30, 2003

District	Public Sector Banks			
	Offices	Deposits	Credit	CD Ratio
Adilabad	73	1035.37	402.17	39
Ananthapur	117	1570.3	732.01	47
Chittoor	157	2876.91	1112.4	39
Cuddapah	89	1156.49	548.32	47
East Godavari	286	2732.3	2092.94	77
Guntur	254	2652.6	2289.6	86
Karimnagar	127	2163.19	790.63	37
Khammam	83	915.49	364.6	40
Krishna	288	2963.98	2030.92	69
Kurnool	136	1334.65	805.54	60
Mahaboobnagar	124	914.16	558.6	61
Medak	93	893.87	1543.89	173
Nalgonda	103	805.48	649.44	81
Nellore	127	1225.6	899.03	73
Nizamabad	127	1195.43	650.2	54
Prakasam	164	1344.61	969.62	72
Rangareddy	156	2863.64	1527.29	53
Srikakulam	79	750.01	446.26	60
Vishakapatnam	207	4114.18	2845.41	69
Vizianagaram	70	619.47	281.28	45
Warangal	136	1481.02	766	52
West Godavari	233	1920.23	1780.91	93
Grand Total	3229	37528.98	24087.06	65
Coastal Districts	1708	18323	13636	72
per cent	53	49	57	
Rayalaseema	499	6938	3198	48
per cent	15	18	13	
Telangana	1022	12268	7253	68
per cent	32	33	30	
Drought Prone Districts	1374	16461	9660	64
per cent	43	44	40	

Source: RBI Banking Statistics - Quarterly Handout - March, 2004

Term lending has fallen short by about 50 per cent of the target in the past three years, when the peasants in the state suffered acute water shortage for crops. This highlights the gross failure of the institutional credit mechanism. It is obvious that institutional credit failed the peasantry at the time when it was

needed most. The scale of finance has typically been very low, much lower than the prescribed limit for crop loans, as described in Table 4.3 which indicates that the average for the state as a whole was less than Rs. 10,000 per loan and in some districts like Mahbubnagar and Vizianagram it was less than Rs. 5,000.

Table 4.3: Average Disbursement of Crop Loans to Cultivators in A. P

District	Amount Disbursed (Rs.in Crores)	No. of Cultivators (1991 Census Data)	Average disbursement per cultivator in Rs.
W. Godavari	815	219955	37053.03
E. Godavari	681	249094	27339.08
Krishna	653	243322	26836.87
Guntur	729	384353	18966.94
Prakasham	528	337228	15657.06
Nellore	283	217978	12982.96
Kadapa	315	272545	11557.72
Kurnool	382	331821	11512.23
Khammam	246	261090	9422.04
Nizamabad	302	326904	9238.19
Anantapur	428	490385	8727.84
Warangal	268	413934	6474.46
Chittoor	342	528514	6470.97
Karimnagar	273	457958	5961.25
Adilabad	173	294493	5874.50
Ranga Reddy	148	256505	5769.87
Medak	225	419894	5358.50
Vizak	251	477449	5257.11
Nalgonda	213	416879	5109.40
Srikakulam	167	333823	5002.65
Vijayanagaram	173.83	368490	4717.36
Mahaboobnagar	251	586403	4280.33
Total	7846.83	7889017	9946.52

Source: Statistical Abstract of AP, Directorate of Economics and Statistics, 2003.

The interest rates in respect of agricultural advances have been higher than in the case of many other sectors. Banks have not designed efficient procedures for lowering the interest rates for this section of borrowers and there

have been few innovations designed to cope with the special demands of agriculture. Nor are interest rates uniform across banks.

The fundamental issue in agricultural credit is that of the heightened risk perception of banks, which is manifest in their asset allocation policies. However, a comparison of levels of non-performing advances (NPAs) reveals that the NPAs arising from agricultural advances are less than those of other sectors.

The rural operations of commercial banks have always been understaffed. The voluntary retirement scheme has brought down the staff strength even further, impacting rural branches adversely. Many of the staff manning rural branches are posted there reluctantly and are unlikely to provide quality service to their clientele. Their lack of familiarity with agriculture and rural issues adds to problems in lending. The cadres of commercial bank officers do not have specialists in agriculture and other allied activities in rural areas (such as Agriculture Development Officers and Rural Development Officers) as was the case in the past. The Commission received a number of complaints from farmers about the negative attitude of bank staff.

Rain-fed and drought-prone areas suffer from low credit disbursement by commercial banks, since the costs of lending in these areas are seen to be high. The cost of lending differs across regions, depending upon factors such as the extent of irrigation, population density, differences in transportation cost and the time involved in contacting a similar number of people in a sparsely populated region. Therefore, there is a need for providing specific fiscal incentives to banks operating in less well-endowed regions.

Regional Rural Banks

Regional Rural Banks (RRBs) were set up in 1975 by an Act of Parliament to cater exclusively to the credit needs of rural population, especially small and marginal farmers. RRBs are owned by the central government (50 per cent), the

state government concerned (15 per cent) and a sponsor commercial bank (35 per cent). The sponsor bank manages the RRBs. They are 16 RRBs with 1168 branches in the state of Andhra Pradesh.

An analysis of agency-wise credit flow in the state shows that the share of commercial banks has gone up and the share of Cooperatives has come down. But the share of RRBs is more or less stagnant at around 10 per cent of total credit disbursal.

There are many reasons for the marginal role of RRBs in total credit. Consequent upon the central governments' financial liberalisation measures in the early 1990s, the performance of the RRBs was evaluated on the basis of commercial profits instead of social benefits and RRBs were brought on par with other commercial banks in so far as the "weaker sections" and priority sector credit norms were concerned. The interest rates of the RRBs were freed, which led to a situation of the RRBs lending rates becoming the costliest among the formal players in the rural areas. In effect, credit from RRBs became costlier than from other agencies and the share of the "weaker sections" reduced drastically from 100 per cent to 10 per cent.

Cooperatives

The Andhra Pradesh Cooperative Bank (APCOB) is the apex body for credit co-operatives, with 24 branches. There are 22 District Cooperative Credit Banks at the district level with 583 branches and 4610 Primary Agriculture Cooperative Societies (PACs) at the village level covering 26,586 villages. Each PACS covers 5 to 6 villages. Properly functioning co-operatives are crucial for rural credit and should form the backbone of rural credit provision in the state. However, credit co-operatives in Andhra Pradesh, as elsewhere in the country, face problems such as political interference, lack of professionalism and lack of democratic functioning.

DCCBs have a number of problems. Deposits and recovery rates are low and have been declining. Due to poor recovery and high levels of NPA, recycling of funds is not possible. The viability of DCCBs has been a threat to the entire cooperative credit structure in the state. Only 8 DCCBs have been recognised as eligible for refinancing by NABARD. The recent credit disbursement performance of kharif 2004 indicates that co-operative banks have met only 60 per cent of the target for crops loans, which is even lower than what was achieved in the previous year. While they have provided more term loans, the rescheduling of crop loans to term loans has not taken place.

Various committees, including the Vyas Committee, the Capoor Committee, the Vikhe Patil Committee, the Rama Rao Committee, have looked into the functioning of co-operatives at the national level and in Andhra Pradesh. This Commission was not able to go into the issues with respect to credit co-operatives in any detail. However, the need to rejuvenate the cooperative structure is obvious and pressing, and the Commission therefore feels that the state government should undertake all possible measures for financial revitalisation and improved democratic functioning of the cooperatives. The synergies of commercial and cooperative strengths can be exploited, for example, if the DCCBs are to be ceded to one or other of the lead banks for some period until they are fully nursed back to health.

Recommendations

On access to bank credit

1. The basic aim of the formal banking system in the rural areas should be to ensure that all the credit requirements of farmers and other occupational groups are met, and that the coverage of the formal financial system is

extended to all rural households. For this, the emphasis on social banking rather than profit-based banking must be revived.

2. There must be a drive to ensure that all farmers (owner and tenants, including women farmers) receive kisan credit cards. The full scheme with respect to kisan credit cards must be implemented and there should be concurrent evaluation.

3. Before kisan credit cards are universally available to all cultivators, the transaction costs for borrowers should be reduced through establishing a single-window clearance. The need for a No Objection certificate from all banks in the vicinity should be done away with; instead, such banks within a particular service area should share among themselves the list of names of defaulters and borrowers well in advance of the crop season. The modalities of this process need to be worked out by the SLBC.

4. Prior to receiving pattas and kisan credit cards, tenant farmers and tribal farmers may access bank loans on the basis of certification of area cultivated by any one of the following: (a) Gram Panchayat (b) Self-Help Group (c) Village Organisation (d) Watershed Committee (e) Water Users' Association (f) Gram Sabhas in agency areas.

5. The composition of the State Level Banker's Committee (SLBC) should include farmers' representatives, NGOs and District Collectors from the three regions of the state. The District-Level Bankers' Committee (DCC) should similarly include representatives of farmers. The Collector at the District level should have a larger role by way of supervising the mechanisms relating to credit delivery including attitude of bank staff and the volume of credit that should reach the farmers. Block level Bankers' Committee (BLBC) should be revived and chaired by the Revenue Divisional Officer.

6. There is need for both state-level and national studies on the problems of rural credit in the era of financial liberalisation. We recommend that the state government

- commission a study on the state of rural indebtedness, and
- call for the RBI and NABARD to set up a High-Level Committee to review the working of the rural credit system.

7. At the national level, private banks should be brought under the discipline of social banking and adhere to the norms prescribed for nationalised banks.

8. The Agriculture Sub-Committee of the SLBC should ensure that the following are done regularly and within the required time:

- Assessing the credit needs, in terms of quantum and terms such as repayment schedules, for every year both crop-wise and season-wise, as well as checking the actual disbursal.
- Estimating the number of small and marginal farmers (men and women) to be included in the credit disbursal plan every year, and giving them priority.
- Estimating the credit needs of all the mandals with a special focus on drought-prone areas.

Similar activities should be undertaken by the District Consultative Committees and BLBCs.

9. The decline in credit disbursal must be reversed immediately. Therefore the following should be done at the very least:

- Banks should aim to return to a credit-deposit ratio of 80 per cent. Special attention should be paid to seven districts in which the CD ratio was below 50 per cent during 2004.

- The share of agriculture in total advances should be increased to a minimum of 25 per cent, which is the share of agriculture in the state's GDP.
- Indirect lending to agriculture should be in addition to this 25 per cent floor for agricultural lending. Specifically, lending for the following should be excluded from the category of agricultural lending: RIDF, agribusiness, agro-processing and urban-based activities.

10. With respect to the scale of finance:

- The RBI guideline with respect to loans without security must be strictly adhered to. Bank branches must be required to provide information about how many such applications have been received and how many loans have been given on that basis.
- Banks must observe the guidelines on scale of finance while sanctioning crop loans.

11. Other than crop loans (which must be at least 25 per cent of lending) there should be emphasis on lending for related activities such as dairy, livestock, fisheries and other on-farm enterprise.

12. Loans from institutional sources need to be available to farmers before the agricultural operations commence, so the government should direct all credit delivery institutions to begin the procedures well in time for the coming season.

13. Commercial banks must increase the number of rural branches, to reach one branch per 15,000 rural population, and provide adequate staff strength, including specialised officers such as Agricultural Officers.

14. The extension work of the bank should include both adequate and timely credit on the one hand and extension of agricultural technology on the other.

15. Banks need to inform potential and actual borrowers of all the various loan schemes available, the terms and conditions attached to loans, and particularly the terms of rescheduling etc. Such information should be displayed prominently in all bank branches in English and Telugu. Special attention should be taken to ensure that illiterate borrowers and potential borrowers are aware of the terms and conditions of loans.

16. The attitude of bank staff towards farmers needs to be re-oriented and monitored, with orientation to ensure that bank workers have a farmer-friendly attitude and avoid delays in sanctioning small loans.

17. Guidelines and application forms for loans need to be standardised and made easily available through websites, concerned government agencies, post offices, etc.

18. A strong grievance mechanism needs to be put in place at the Mandal level to ensure that the proposed guidelines are met by local bank branches. This could be assisted by the Gram Panchayats and under the overall supervision of the Mandal Revenue Officer.

19. Each branch manager must be held responsible for fulfilment of norms and punitive action must be taken against those who do not fulfil the norms, or according to complaints received by the grievance mechanism. Similarly, there should be incentives provided to bank staff who perform well in terms of providing adequate and timely credit to farmers. This must be done at the DCC level.

On interest rates and rescheduling

1. The state government should initiate a to set up a Distress Fund, with support from RBI and NABARD, that will provide support to banks in chronically drought prone areas, and permit some debt relief to cultivators. These funds may also be used to guarantee/underwrite loans taken by land reform beneficiaries (D form patta holders) and tenants.
2. All banks and co-operative societies lending to agriculture should provide a uniform rate of interest. This rate of interest should be 6 per cent annual rate at present, and even in future should not exceed the short-term deposit rate by more than 2 percentage points. Interest rates on bank loans must not be compounded every quarter.
3. Banks should not insist on 25 per cent margin money for crop loans.
4. There should be some incentives (in terms of reduced interest payment) for timely and prompt repayment.
5. Interest should not be charged for period of current rescheduling. Whenever an area is declared as drought-affected, interest should be waived, without changing other terms of rescheduling.
6. **The accumulated interest on a loan should not exceed the principal amount of the loan.** All the excess of accumulated interest over principal should be automatically written off by the banks. This will require appropriate amendment of the banking regulations, but is in conformity with the official government laws regarding private loans.
7. While banks have rescheduled crop loans according to the guidelines provided, in many cases new loans are not being given to those farmers whose loans have been rescheduled, even though this was also stipulated. Fresh loans must be provided to all such farmers.

8. Farmers who approach Helpline and are identified to be in genuine distress should be provided with access to loans up to Rs. 50,000.

9. Wide publicity should be given to the Andhra Pradesh (Andhra Area) Debtors' Protection Act, 1934 and it must be strictly implemented, especially with reference to interest rates and land alienation.

For regional rural banks

1. RRBs are rural financial institutions with professional management culture to meet small-value, large-volume rural credit needs. **There is a need to revamp the structure of RRBs so that they play a critical role in achieving the developmental targets in the rural sector and emerge stronger.**

2. RRBs should not be merged with their parent sponsoring organisations or commercial banks so that they may continue to meet the special needs of rural areas.

3. The RRBs in the state require capitalisation to revitalise their credit operations, so that all of them may reach CAR of 7 per cent.

4. As for commercial banks in rural areas, NPA norms of RRBs should be eased and allowance made for seasonal requirements.

5. The pre-1992 norms for CRR and SLR, under which RRBs were treated differently from other banks, should be re-imposed.

6. The ban on fresh recruitment should be lifted immediately and adequate staff must be ensured in the RRBs.

7. RRBs should not be shifted from rural locations, and those that have been shifted should be relocated to rural areas.

Special needs of drought-prone areas

There is a need to work out a separate branch model so that operating culture and business orientation in bank branches in these regions is explicitly designed to suit the local conditions. This requires changes in the policies of RBI and NABARD.

1. For banks in drought-prone areas, the following incentives may be considered:
 - The performance criteria for banks should be different and more flexible in drought-prone areas
 - The interest tax should be lowered for banks providing agricultural credit in drought prone districts due to the risky nature of investment due to persistent drought.
2. Flexible and longer repayment schedules are necessary for crop loans in drought-prone areas.
3. New and innovative instalment repayment collection systems need to be tried out.

Crop insurance

Since agriculture has become an even more risky enterprise, crop insurance is essential. But only a very small proportion of cultivators are today covered by the National Agricultural Insurance Scheme (NAIS).

1. The coverage of this scheme must be expanded to make it accessible to all farmers, not only borrowers of institutional finance, and to cover all crops, including horticultural crops.

2. The 50 per cent subsidy (provided by state and central governments) on the premium on crop insurance for small and marginal farmers should be maintained.

3. The premium rates paid by the cultivator should not exceed 3 per cent for any crop. Where the rate is higher, the balance should be met through a subsidy provided to the insurance company by the government.

4. Crop insurance should not be compulsory for any farmer, including those taking crop loans from banks.

5. The amount insured may be flexible, in that farmers may choose to insure any amount up to a specified limit per crop per season.

6. Insurance companies must be allowed to increase staff substantially so as to be able to cater to the requirements of rural customers.

7. The current principles for calculating compensation should be revised. The Department of Agriculture has already proposed the following:

- the threshold yield should be based on normal yield instead of the preceding three or five years.
- the minimum indemnity should be 80 per cent instead of 60 per cent.
- the level for calculation of insurance compensation should be the village.
- the settlement of claims should be quick, within 60 days of the claim.

Chapter 5: Water, irrigation and power

I. Issues in access to water

Inadequate water supply is one of the most significant problems facing most farmers in Andhra Pradesh. There are only a few districts where levels of irrigation are high (especially surface irrigation) and rainfall is also adequate. In most parts of the state, ensuring water for crop cultivation has become not only a constant concern but also a major source of increased expenditure. Historically, canal irrigation has been very unevenly distributed across the state. In addition, the decline of surface water sources (especially tanks) because of neglect and other factors has led to greater reliance on the exploitation of groundwater, which entails substantial costs on individual cultivators, in the form of digging borewells, etc.

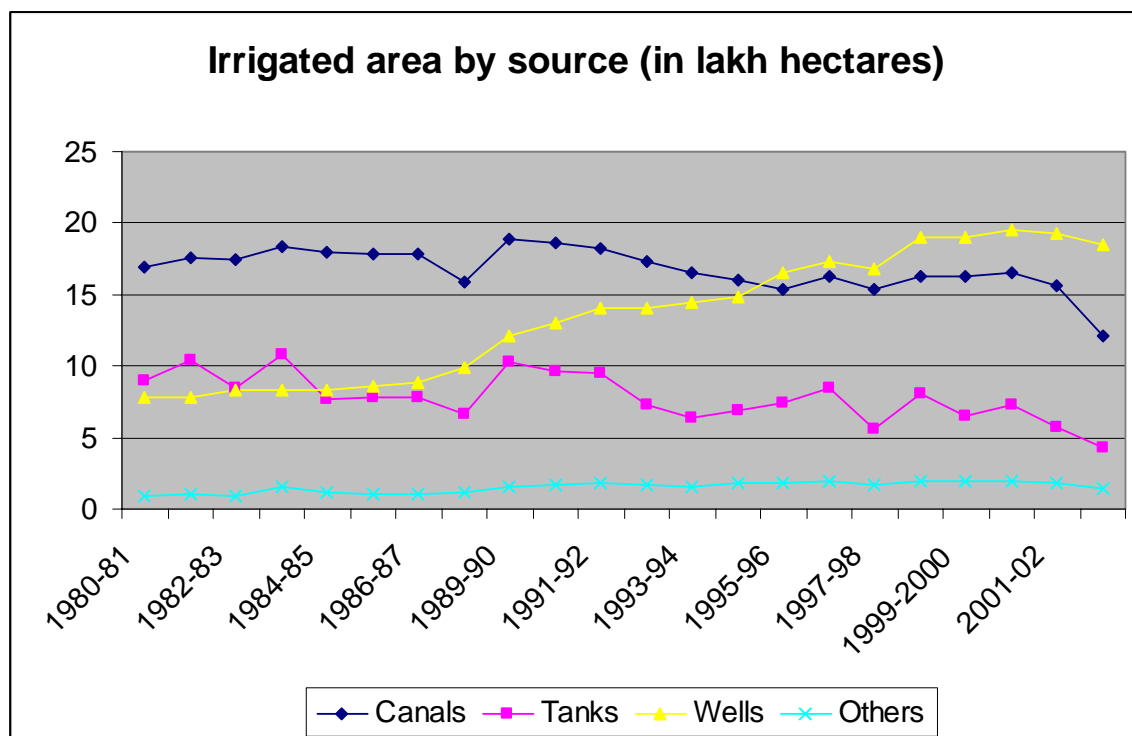
The problem has been aggravated by the spate of droughts in recent years, as rainfall has been substantially less than normal over most years in the past five-year period, and has also been untimely, with the southwest monsoon in particular arriving later and being concentrated in certain period, with longer inter-spell dry periods. The impact of a series of continuous droughts cannot be underestimated. It has affected surface and groundwater sources. Tanks have not filled and have silted up. Of course, there are other problems with tanks: in many areas, tanks have fallen into disuse because of lack of care, disruption of feeder channels, breakdown of village or community control, low investment and corruption among local officials.

Micro-watershed programmes have failed because of inadequate rainfall, along with the facts that the investment has been spread across too many areas and so has typically been inadequate for each watershed, and that there may have been some diversion of funds due to corruption. Groundwater levels have been falling due to the combination of poor rainfall and over-exploitation, with the

latter cause being more significant. While farmers opt for borewells because they reduce uncertainty, across the state the Commission came across farmers whose borewells had run dry, and who were indebted because of the high costs of digging additional borewells in the desperate search for groundwater. Indeed, the costs associated with borewells count among the most important causes of cultivators' indebtedness. The Commission has observed that there are large inequities between farmers who have access to canal water and others who are dependent upon private borewell irrigation.

The chart below shows how wells (especially borewells) have become the dominant source of irrigation in the state, displacing canal irrigation and tanks, both of which have declined in terms of absolute area covered. These reflect undesirable patterns of water use, which are also likely to lead to future problems in terms of water availability.

Chart 5.1: Irrigated area by source



Source: AP Economic Survey 2003

The decline in area under tank irrigation is likely to be even more than is recorded in the official figures.

Table 5.1: Ratio of Ground Water to Surface Irrigation Across Regions

Regions	Normal Rainfall (mm)	Proportion of ground water to surface water (in terms of area covered)	
		1974 – 75	1999 – 00
North Coastal Andhra	1111.0	0.1	0.1
South Coastal Andhra	981.0	0.2	0.3
Coastal Andhra	1024.0	0.1	0.3
Rayalaseema	689.0	0.7	2.4
South Telengana	817.0	0.4	2.8
North Telengana	1036.0	0.4	2.7
Telengana	939.0	0.4	2.8
State	942.0	0.3	0.9

Source: S. Subrahmanyam (2002).

In addition, there are very large differentials in access to assured irrigation across districts in the state. A remarkable feature of the state is that districts with higher normal rainfall are also those more likely to have higher levels of assured irrigation. The table below show the extent of irrigation and rainfall in the different districts. It is evident that several districts are substantially below the state average of 40 per cent irrigated area, which is also generally perceived to be the minimum extent required for the stabilisation of agriculture. Of these, some districts are also those with the lowest extent of normal rainfall. Anantapur stands out in this regard, as having the lowest extent of irrigation as well as the lowest annual rainfall. But other districts such as Kurnool, Cuddapah, Mahbubnagar and

Rangareddy also have low rainfall and grossly inadequate irrigation facilities. Districts like Adilabad have more rainfall but very low spread of irrigation. Further, districts where cultivators rely disproportionately on groundwater have provided less certain irrigation because of the lack of replenishment of groundwater and the declining water tables in many areas. At the same time, assured water in the command areas does not encourage water conservation, especially with a flat charge per acre for water use.

It is evident that the conjunctive use of surface water and ground water must be promoted in a systematic way which will conserve both, and allow for wider access to more cultivators. Also, it is important to rectify the existing imbalance between districts and regions as to availability of irrigation.

Table 5.2: Irrigated area by district

District	Per cent		
	Per cent area irrigated	area	Normal
		under	rainfall
		surface water irrigation	per year (mm)
Anantapur	14	3.6	521
Adilabad	14	4.7	1046
Mahbubnagar	20	2.3	754
Kurnool	20	10.1	630
Rangareddy	25	1	812
Medak	32	4.1	959
Vishakhapatnam	35	23.1	1085
Prakasam	35	16.9	752
Cuddapah	36	6	695
Khammam	40	22.2	1045
Nalgonda	40	16.9	742
Chittoor	41	6	908
Vizianagram	44	38.2	1161
Warangal	57	14.3	1049
Guntur	58	49	890
Srikakulam	59	52	1086
East Godavari	64	50	1160
Krishna	64	53.4	1029
Nizamabad	65	18.7	1089
Karimnagar	66	24.7	953
West Godavari	75	45.2	1076
Nellore	77	44.8	981
Total AP	40	20.4	925

Source: Groundwater Department, GoAP, 2002

Live rivers contribute only around 8 per cent of the surface water sources, with the remainder coming from canals and tanks. However, the availability of surface water has declined significantly in recent years, as evident from Chart 1. Therefore, access to surface water has become even more limited than earlier. There are several important problems with respect to surface water irrigation sources:

- the uneven spread of large irrigation schemes, such that most of the state does not have access to river or canal water;
- the historical neglect of particular areas, especially the districts of Anantapur, Kurnool, Cuddapah, Chittoor, Rangareddy and Mahbubnagar;
- the neglect of large/medium tanks and other traditional water sources, especially in Telengana which previously had an extensive and well connected system of tanks and ponds;
- in the canal irrigated areas, inadequate allocation for Operation and Maintenance (O&M) and management problems leading to low recovery of water charges;
- lack of incentives for saving water.

The most serious problems with respect to irrigation relate to the growing difficulties of accessing sufficient groundwater, the high costs for farmers associated with reliance on borewells, the tendency towards over-exploitation of groundwater which prevents adequate recharge and causes existing wells to go dry. The growing use of groundwater is inextricably linked with the cropping pattern, and reflects the shifts in cropping pattern towards more water-intensive crops even in areas without assured irrigation, which therefore requires accessing water through digging borewells. While farmers cannot be faulted for trying to shift towards more apparently profitable crops, and towards cash crops (especially when they have cash outlays to make such as purchased inputs and debt repayments) it is true that this system breeds a collective irrationality because of which all farmers are worse off.

It is incongruous that groundwater effectively has become privatised even though the externalities in its use are, if anything, even greater than for surface water. When one farmer digs a borewell on his/her own property, effectively a social resource is being extracted and the availability of groundwater for other farmers in the neighbouring area is thereby reduced. At the same time, farmers who are doing so are undertaking substantial expense towards digging borewells, etc. without adequate knowledge of the water resources available. In many areas the Commission visited, farmers complained that their borewells had gone dry, and several had incurred large debts for digging more borewells in the desperate search for water.

In this context, the implementation of the WALT Act has had mixed effects. On the one hand, it has had some positive effects in that it probably reduced over-exploitation of groundwater in conditions when the cumulative effect of inadequate rainfall and past overuse had made it absolutely to control and regulate such use. But it does not really control the extraction of groundwater since those who are in possession of functioning wells can continue to overexploit the groundwater. And the implementation of the Act has also affected the ability of many small farmers to access groundwater, thereby providing disproportionate benefits to those who already have functioning borewells. Therefore it is necessary to think of a different system which will ensure more equitable access. The most obvious solution is to go for the public control of groundwater resources with water charges to all farmers who have access, along similar lines as for canal water.

It is also worth noting that micro-watershed schemes, which have been encouraged with substantial resources over the past decade, do not appear to carry much credibility with the farmers. For example, in Anantapur, it was pointed out to the Commission that the district has had hundreds of watershed programmes being implemented, without any significant effect on the water table or on water availability. The basic reason for the apparent failure of many such

schemes is that the climatic conditions were unfavourable – that is, the low levels of rainfall simply did not rain enough to allow for significant water replenishment in many of the watershed areas. However, another problem is that many of these schemes were handed over to contractors and the local community had very little control over them or over the resources that had been provided, and therefore leakages were substantial. However, the evidence is mixed. There are some success stories where NGOs participated as implementing agencies. While the state government will continue to spend a substantial amount of money on these schemes under Centrally sponsored schemes, the past practice has been to spread the resources thinly to cover a larger number of watershed, instead of spending intensively on a fewer watersheds, which may be more effective. Such works can be taken up under the employment guarantee scheme as well.

The state government has provided free power for agricultural users, which has provided relief to farmers in a period of agrarian crisis. However, the Commission received a number of complaints regarding the power supply, including erratic supply, supply for too few hours at night, irregular voltage with high fluctuations causing transformers to burn. There were also numerous requests to regularise the new connections which have come up since the free power policy was announced. Agricultural workers also requested free power for their domestic consumption, up to 50 units per month. Clearly, many of these are valid requests. It should be noted, however, that if the state government does implement the policy of public takeover of borewells, then the free power supply would become redundant since the government would cover all the costs of providing water, and levy an appropriate water cess for all water users.

II. Recommendations

For surface water resources:

1. There must be an emphasis on equity in the spatial distribution of surface water resources as far as possible. Therefore, in order to bridge the existing inequities, the immediate priority in new irrigation schemes must be to provide resources for irrigation-deficient and low-rainfall areas which have been neglected in the past.

2. The conjunctive use of surface water and ground water must be stressed. For this, the state government must develop a water policy which treats all these resources together in an equitable way, and draw up schedules of water use.

3. Top priority must be given to the cleaning, repairing, maintenance and development of tanks and ponds. This must be done in mission mode on an urgent basis, possibly using labour resources that will be made available under the Employment Guarantee Scheme of the central government. The plan must be to restore existing tanks and develop new tanks without jeopardising supplies to the old tanks. Further, feeder channels to many tanks have been cut or destroyed; these must be restored. Wherever possible, water from large irrigation schemes should be made available for feeding existing tanks. There should be an inventory of traditional water bodies which must be continuously updated.

4. There is need for careful evaluation of large irrigation projects with assessment of **all** future costs, including correct estimation of the impact upon local populations, likely displacement, and related costs such as those of power generation for particular projects. In addition, large projects must be chosen only after balancing the relative needs of different regions and giving neglected regions first priority. It should be noted that major irrigation projects may be important for some dryland areas, but these projects have high costs and long

gestation periods. Wherever possible, options should be explored to have more small irrigation projects (instead of more expensive very large projects), which will involve lower costs and reduce displacement.

5. Water management and efficiency of water use are important concerns across the state, and even in areas with assured water supply in the command areas. The centrality of this must be emphasised, because even if all the potential under major , medium and minor irrigation is exploited, agriculture in the state will continue to have water problems even after 20 to 30 years unless water management and efficiency are not improved For this, the following should be undertaken:

- Some additional resources of the state government must be directed towards developing, disseminating and providing incentives for water conservation techniques.
- **The water cess collection should be based on volumetric measurement of the water used, rather than on the area under cultivation.** Further there should be escalating rates after a certain basic volume. This will help to conserve water use. Tamper-proof meters should be supplied for this purpose in the command areas.

6. In the canal irrigated areas, the carry over storages as decided by various tribunals should be maintained by the state government, and based on that the operational plan for release of water for irrigation must be known to farmers well before each crop season.

7. It is important to ensure the participation of farmers and their representatives in the water management systems that affect them. The Andhra Pradesh Farmers Management of Irrigation Systems Act, 1997 (APFMIS Act) made the formation of Water Users' Associations mandatory for the management of irrigation. This was designed to bring greater accountability in irrigation department as well as a sense of ownership of the management systems among

farmers. More than 10,000 Water Users' Associations have been formed. However, it is generally felt that the working of these associations is not satisfactory, so efforts must be made to improve their legitimacy and functioning, and to involve all the stakeholders including women farmers.

For groundwater:

For immediate action:

1. While in the medium term the state government should aim for public control over groundwater, in the interim, there must be active involvement of the agricultural extension services and the District Water Management Agencies in recharging groundwater with rainfed water and in techniques of water conservation.
2. The government should immediately begin the process of registration of all borewells in the state.
3. Extension services must also focus on reviving and developing crops and cultivation practices suitable for rainfed agriculture and adverse irrigation conditions.
4. With regard to micro-watershed programmes, the focus should be on ensuring adequate resources to cover completely the watershed taken up, even though this may imply fewer such projects. This is important to ensure success in at least some projects.
5. In allocating resources towards such schemes in future, it is important to ensure that contractors are avoided, and that the local farmers and community are able to exercise some control, either through panchayats or through the

watershed committees. Watershed works can also be taken up under the Employment Guarantee Scheme.

Medium term proposal:

1. It has already been noted that groundwater use is currently irrational because it had effectively been privatised. Therefore, in the medium term **the state government should aim for the public takeover of groundwater resources. All the existing borewells would have to be taken over, after paying appropriate compensation to the current owners. All new borewells would be dug by and be owned by the state government. The AP Irrigation Development Corporation (APIDC) should be revived and could made into the nodal agency for the management of groundwater. Thereafter, water would be provided from the borewells on payment of water cess on the basis of volumetric measurement through tamper-proof meters, at the same rates as those applicable for command area farmers.** The local management of the water would have to be managed by an appropriate local agency. This would regulate the use of groundwater, provide more democratic access, and reduce the costs incurred by farmer for digging of borewells.

It should be noted that WALTA 2002 already makes the provision for such control in its Clause 6. (a) and (b) which specify that the Authority set up by the state government shall perform the following functions: “promote water conservation and enhancement of free cover in the state, and regulate the exploitation of ground and surface water in the state”.

For power supply:

1. Efforts should be made to increase power supply for agricultural purposes for a longer period every day. There should be systematic efforts to reduce problems

of erratic supply and irregular voltage, to ensure continuous and stable supply for a minimum of nine hours, preferably in the daytime.

2. The state government may consider a scheme of regularising the existing rural connections up to a certain date and declaring all future connections to be invalid unless registered by the appropriate authority.

3. The state government should make efforts to improve the quality of the power equipment supplied to farmers through appropriate regulation. Extension services should assist farmers in the proper use of such equipment.

4. Transmission & Distribution losses and inefficiency can be reduced with better management practices in the power sector, including more democratic and accountable functioning of the generating and distributing agencies. It is usually the case that the residual use is attributed to agriculture since this sector does not have meters.

5. Free power up to 50 units per month should be provided to all rural domestic users in BPL households.

Chapter 6: Agricultural Research and Extension

I. Agricultural Research

In Andhra Pradesh, in addition to the State Agricultural University (Acharya N. G. Ranga Agricultural University ANGRAU), institutions of Indian Council of Agricultural Research (ICAR), International Crop Research Institute for Semi-Arid Tropics (ICRISAT) and various other institutions are involved in agricultural research. However, the main responsibility for generating agricultural technologies for the state rests with ANGRAU, which has a wide network of 66 Research Stations in the 7 agro-climatic zones of the state. ANGRAU played an important role in developing rice varieties in the past, and thereby contributed to the emergence of Andhra Pradesh as a major rice producer. As much as 95 per cent of the research is carried on in public sector, while some research is done in the private sector also, particularly by companies producing seeds, agro-chemicals, implements and machinery, etc.

The University's mandate is to strive constantly to generate technologies for improving the production of crops, livestock and in other sectors. As part of this, the University has to generate improved varieties and hybrids, location specific technologies, seeds (breeder and foundation), planting material, bio-agents agronomic practices, water management techniques, plant protection measures, etc. However, not many improved varieties have been released in the major crops which have greater impact in larger areas in the state. Adoption by farmers has been significant mainly in the case of rice varieties. In case of other varieties, the University's performance has been much less successful. The production and distribution of planting material and bio-agents is less than expected, and other technologies pertaining to water management and plant protection have not been adequately developed. There has also been inadequate focus on rainfed agriculture.

The University needs to engage in research that would assist in responding to the challenges of a globalised market economy, such as the problems posed by the WTO regime, and in dealing with agrarian crisis in the state. A WTO cell was constituted by the University in 2001, but thus far little work has been reported. In general, socio-economic research appears to be relatively neglected.

It is true that the funds allocated to the University are inadequate considering the size of the state, the number of scientists and administrative staff and the assigned tasks of teaching, research and extension. The funds provided to the University amount to less than 0.4 per cent of the GDP from agriculture in the state, or only Rs. 152 per acre cultivated in the state. About 50 per cent of this amount is allocated for research purposes, which is low in relation to the desired research programmes, and so research efficiency is hampered on account of the insufficient operational expenses. As a result, a large number of posts of scientific personnel have been kept vacant for several years. Basic infrastructure, such as water, power, equipment, lab facilities, implements and machinery, storage and processing facilities etc. is not available fully for carrying out the research in a productive and efficient manner in almost all the research centres.

II. Agricultural extension services

The collapse of public agricultural extension services in the state has been one of the most important contributory factors to the generalised agrarian crisis. The lack of sufficient field level staff and the apparent absence of systematic dissemination of important information regarding appropriate cropping patterns, seeds and other inputs, cultivation practices and so on, meant that input dealers effectively became the most important source of such information to farmers. But private input dealers have a basic conflict of interest when it comes to agricultural extension, because they will be concerned mainly with selling more of their stocks. There are many reports of input dealers providing their otherwise unsold and inferior quality inputs along with their suggestions to the farmers. This in turn has led to inefficiencies in input use, such that Andhra Pradesh has the highest consumption of pesticides per unit of output and the second highest consumption of fertilisers, among all the states in India. As has been noted earlier in Chapter 7, farmers are often not aware of the correct types and dosages required for particular agro-chemicals for different crops. There are numerous reports of inappropriate use, such as applying pesticides for crop diseases, using both fungicides and pesticides for application to crops, and mixing up two or three kinds of pesticides for application. As a result of the excessive and indiscriminate use of agro-chemicals, soil qualities deteriorate and pests develop resistance.

The technical knowledge, competence, and communication skills of the extension staff need to be developed. Information about correct input use and credit, marketing and insurance is not reaching the farmers through extension services. Further, training in the necessary technologies for water and watershed management, dryland agriculture and soil management is also inadequate. There are complaints that the extension personnel do not visit the farms to provide technical advice, and have little contact with farmers. Further, there appears to be a bias in the extension services against small farmers and women farmers.

The situation worsened in the previous decade, when vacancies of extension officers were left unfilled and input provision was mostly left to the unregulated private sector. In the mid-1990s, public expenditure on agricultural extension in Andhra Pradesh amounted to only 0.02 per cent of the GDP from agriculture in the state, compared to 0.15 per cent for the all-India average. One of the most important constraints in the extension system is therefore lack of finance. It is reported that only around 30 per cent of the new technologies generated are covered through extension services, and less than 20 per cent of farmers.

Andhra Pradesh has far fewer extension workers than states at comparable levels of agricultural development. In states like Maharashtra and West Bengal, Agricultural Extension Officers are provided for every 1-2 villages or 3-4 villages and in Karnataka they are provided so as to cover 800 to 1200 farm families. However, in Andhra Pradesh, an AEO has to cover 10-15 villages or more than 3700 farm families. This is clearly unmanageable. Often AEOs are not abreast of the latest developments in cultivation practices and therefore cannot inform farmers about them. Further, it has been brought to the notice of the Commission that agricultural staff is deployed for various other duties even during the peak season, such as procurement operations for paddy and maize, DWMA (Land Development activities), supervision of examinations, pulse polio campaigns, VELUGU, enumeration work, family planning work, supervision under BPL survey, marketing duty, DRDA gram sabhas etc. These obviously affect the extension work of the field staff. The Divisional Assistant Directors of Agriculture presently operate without adequate facilities such as telephone, cell phone, internet access, etc..

There is a formal linkage of agricultural extension in the Department with Agricultural University through bimonthly workshops and Zonal Research Extension Advisory Council meetings. In addition to the above, diagnostic teams with the Scientists of ANGRAU and

officers of the Department at District level are constituted crop-wise for major crops to identify problems encountered in crop production and to provide solutions on the spot. Similarly, crop escort teams are formed to give timely advise on inputs, crop production and crop protection aspects. These linkages need to be strengthened, with regular reviews of their functioning.

III. Recommendations:

For agricultural research:

- 1. Public sector research should be intensified, as it alone provides benefits to the farmers without any profit motive.** In order to strengthen research in the University, a lump sum grant of Rs. 30 crores may be provided to the University for improving the infrastructure and filling staff positions in the University and all the 66 research stations of the University. The Government may obtain a defined proposal in this regard from the University. In addition, the budgetary provision for agricultural research will have to be enhanced significantly.
- 2. The mandate of the University should be changed to “to identify and generate technologies, which would assure livelihood security to the people dependent on agriculture”.** Relevant and appropriate technologies have to be identified to suit the needs of farming situation and economic status of the peasantry in the State for the purpose of ensuring them livelihood security.
- 3. The state government must actively take up the challenges posed by the WTO regime and prepare local farmers to meet these challenges in future.** The WTO Cell in ANGRAU should be shifted to the Department of Agriculture, and it must immediately focus on identifying “sensitive products”, considering the market intelligence and other possibilities for particular crops, emphasising means of reducing costs and improving productivity, and devising means of protection of farmers who are exposed to competition from highly subsidised production abroad.

4. Steps are needed to strengthen social sciences in the University, especially through networking with social science departments and research institutions.

5. The syllabus should include training in management skills which would allow the University graduates to be usefully employed, for example in agribusinesses and agri-clinics.

6. A dependable mechanism has to be developed for getting feedback from farmers on the merits and demerits of technologies generated. Research Stations of the University could take up a village adoption programme to demonstrate all the latest technologies to the farmers.

7. Some important research gaps need to be filled. Dry land agriculture should be given priority in the research programme. To further this, some of the research centres of the University may be converted into dry land research centres. The following areas of research require priority:

- **Water and watershed management,**
- **Land use planning**
- **Organic farming techniques, including bio-fertilisers and Integrated Pest Management**
- **Diversification, including increased emphasis on region-specific sustainable crops and practices. This would include drought-resistant crops and varieties, horticulture crops, animal husbandry and pre- and post- handling of produce**
- **Biotechnological research and development of transgenic varieties.**

8. Hybrid varieties are not adequately focussed upon. The following specific measures may be considered for hybrid seed development:

- Parent lines in small parts may be directly supplied to the farmers for hybrid seed production at their level for self use.
- Priority may be given for parent line supply to the 'Seed Village Production Programme' to ensure University hybrid seed availability for local use by the farmers.

For agricultural extension:

The highest priority must be accorded to strengthening the public extension services. To this end, the following should be undertaken:

1. There must be a substantial increase in staff devoted to agricultural extension. The first requirement is to increase the number of AEOs. While the current number of available AEOs posts is 2811, the actual requirement may be calculated as follows:

- 1 AEO per 1000 farm families = 10603 AEOs
- 1 AEO per 1000 hectares = 10523 AEOs
- 1 AEO per 3 villages = 8862 AEOs

The cost for these 3 alternatives works out to approximately Rs. 53 to 63 crores per annum.

In addition, there are currently 254 Assistant Directors of Agriculture in each division, which covers 4 to 5 mandals. It is suggested that a uniform pattern of 4 mandals per Assistant Director of Agriculture division is adopted, which would mean 277 Assistant Directors of Agriculture division i.e. 23 more than at present, at an additional cost of Rs. 80 lakh per year.

2. Agricultural extension staff must concentrate only on agricultural extension work, and they should not be diverted to various other activities from time to time.

3. The training of extension workers must be a continuous process . The three in-service training centres currently have the capacity to train only 90 participants per year, their capacity should be increased. Refresher courses should be organised to ensure that each AEO gets such training at least once every three years. The capacity of the district Farmers Training Centres also needs to be increased. The State Agricultural Management Extension Training Institute (SAMETI) as well as other Government of India training institutes, such as National Institute of Agricultural Extension Management (MANAGE), the National Institute for Agricultural Research and Management and the National Institute for Rural Development, should be utilised to the maximum extent. The linkages of flow of information between the departmental staff and the Agricultural University also should be increased.

4. To make the field staff more effective and mobile it is necessary to provide them with vehicles for making frequent field visits. It is suggested that the following must be provided.

- Housing to field officers in villages, along with strict enforcement of local residence
- Vehicles, including mopeds and vans, and mobile phones in order to improve the functioning of extension staff and making it easier to respond quickly to local demands.

5. Community involvement in the process of agricultural extension is crucial for its success. The Rythu Mitra Groups can be mobilised more effectively for identifying local problems and disseminating information amongst farmers. Some of them were already doing good work, and this should be extended. Also, where NGOs are active in developing and spreading useful technologies and cultivation practices, they should also be integrated into the process of extension.

Chapter 7: The provision of inputs

The high costs of cultivation and unstable crop prices have been among the important factors that have led to growing debts and distress among farmers. Agriculture in Andhra Pradesh is highly monetised, with a substantial proportion of inputs being purchased and therefore a greater reliance on sale of produce as well. The cost of inputs, that is seeds, pesticides and fertilisers, have made up a substantial proportion of cost of cultivation of crops. This is more pronounced among commercial crops. Apart from the cost dimension of inputs, the quality - in terms of sub-standard and spurious seeds and pesticides - has also figured as a proximate factor for the crop failures, given the drought conditions. This was also enumerated as the crucial risk factor linked to the distress of farmers.

Since the private sector is the principal supplier of seed and pesticides, the important issues relate to the regulation by the state of the dominant private sector and the possibility of the state providing alternatives to the farmers to ensure good quality inputs at reasonable prices, which could reduce the cost of cultivation. These issues of input provision and regulation are discussed separately with respect to seeds, fertilisers and pesticides.

I. Seeds

The Department of Agriculture prepares and monitors seed production and formulates a supply plan to meet the seed requirements season-wise based on the normal and targeted cropped area. To supplement this plan, wherever necessary, contingency plans are prepared and seed supply is ensured, either from within or outside the state. As much as 90 to 95 per cent of the state seed requirements of cotton, sunflower and maize are met from the seed produced in Andhra Pradesh either by the private seed companies or government organisations. Apart from these, seeds of paddy, bajra, groundnut are supplied to needy farmers to the extent of 20 to 40 per cent of total requirements, either on subsidy or under general distribution. Andhra Pradesh (along with Maharashtra) is the most important supplier of seeds in

the country, producing 9 lakh quintals of certified seed varieties and hybrids, 2 lakh quintals of labelled varieties and more than 10 lakh quintals of private research hybrids. Further, some farmers' cooperatives produce and market paddy seed of notified varieties in the districts of Karimnagar, Warangal, East and West Godavari.

As the hybrid seed requirement has increased, the private sector has taken over the entire seed production and supply in the state. A number of seed producing companies, including multinationals, have entered the seed market in the state. Companies like Monsanto India Ltd., Pro Agro, Nuziveedu Seeds Ltd., Advanta India Ltd., Emergent Genetics Ltd., are now engaged in evolving new private hybrids of paddy, cotton, chillies and other vegetable crops. Monsanto has introduced transgenic cotton hybrid (Bt Cotton) in the state, and has been followed by Rasi Seeds and Nuziveedu Seeds. Thus, the private sector has emerged as the dominant player in the seed industry in Andhra Pradesh.

The field visits of the Commission revealed that farmers encounter a range of problems in seed purchase, which include the following: the untimely supply of the seeds; inadequate supply of seeds; supply of spurious seeds; supply of non-certified seeds; poor germination or low crop outputs; high cost of seed supplied by private sector, especially with regard to commercial crops; input suppliers including seed dealers acting as moneylenders and promoting inappropriate use such as excessive fertiliser or high cost seed.

In order to regulate seed quality, sale and distribution, the government promulgated the Seed Act, 1966, supplemented with the Seed Rules, 1968 and Seed (Control) Order 1983 under section 3 of the E.C. Act, 1955. However, in the changed scenario, especially when the private research hybrids have been introduced in large numbers, these legislations are not comprehensive enough to regulate the quality of the seeds. The government of India has initiated action to bring a new legislation on seeds, the Seed Act, 2002.

According to the provisions of the Seeds Act, 1966 (specifically Sec. 5, 6, and 7, the definitions of 'kind' under sub-section (8) and 'variety' under section (16) of sec. 2 of the Act), there does not appear to be any scope, legally speaking, to market a non-notified seed variety in paddy, cotton, maize and chillies. However, a number of non-notified private hybrids/varieties of these crops are being marketed over the last several years under the category of self-certified seeds subject to the permission of the Commissioner, Agriculture under the provisions of the Seeds (Control) Order, 1983, even though the provisions of that order essentially deal with the regulation of the trade in seeds and not quality or certification of seeds. The granting of such permission appears to be entirely based on the data and self certification being submitted by the applicant companies, without any further pre-testing by the department. In case it is held that sale of non-notified varieties or private hybrids is not prohibited by the provisions of the Seeds Act as they now stand, there is an urgent need to regulate this sector through legislation.

Another area which requires urgent attention is the lack of adequate penal provisions in the Seeds Act. This issue, however, again is closely linked with the above interpretation i.e. whether the unregulated sale of hybrid varieties is permissible or not in terms of the existing provisions of the Seeds Act. If a view is taken that the Act permits the production and sale of private hybrids without undergoing the monitoring prescribed in respect of notified varieties, even the existing penal provisions in the Act are not attracted for offences arising out of poor quality in private hybrids produced and marketed. So the legislation has to cover this area also.

There is a need to provide for deterrent punishment and also a liberal regime of award of damages in cases of failure of hybrid seeds. There is a need for specific provisions for awarding damages accompanied by a summary procedure for assessing and awarding such damages. The attempt to put in place some sort of an alternate redressal mechanism in the form of the MOU of seed companies with the Agriculture Department of the state government has not inspired much confidence among farmers. This is partly

on account of lack of statutory cover for the process and the consequent indifference shown by the companies, and partly on account of lack of full clarity and, rather, a conservative approach in the guidelines and procedure framed in the MOU. The data on the performance of MOU stands as a testimony to the fact the state government has not been empowered adequately through the MOU route.

Therefore the proposed legislation should attempt to cover all kinds of seeds; notified or non-notified that are marketed on a commercial basis and should provide for exemplary punishment and award of damages in case of non-compliance with the quality and performance guaranteed by the companies in respect of their seed. The approach should be in favour of the concept of strict liability, notwithstanding the attempts on the part of the companies to dilute their liability by putting forth the influence of variable factors like weather and other conditions that affect the crops. The legal provisions governing the minimum quality or assurance should be framed after a thorough consultation with scientists and experts, on the basis of a consensus. In other words, the minimum quality or assurance that is given in respect of a seed which is commercially marketed, and the civil and criminal consequences for any failure in fulfilling the said quality and assurance, should be very clear and the procedure for realising civil or criminal consequences for any failure in this regard should be made as simple as possible and time bound.

The commission has noted with approval that the Government has taken serious note of the problems faced by the farmers especially with reference to seeds, and has taken the initiative to enact a separate legislation to meet the requirements of the state independent of the existing Seeds Act 1966. The proposed new seed act of the state government has a number of pro-farmer provisions.

**Table 1: Important Provisions of the Draft State Seeds Bill 2004
vis-à-vis the Seeds Act 1966**

Provisions	The seeds Act -1996	The State Seeds bill-2004
Authority for implementation of the Act	Central Seed Committee to advise the Central Government and the State Governments on matters arising out of the administration of this Act and to carry out the other functions assigned under the Act	A. P State Seeds Board responsible for the effective implementation of the Act and advise the State Government on the matters relating to Act
Composition	<p>Chairman nominated by Central Govt. 8 persons nominated by Central Govt. to represent such interests as that Govt. thinks fit of whom not less than 2 from Seed Growers.</p> <p>One person nominated by each State.</p>	<p>Chairperson – Secy. to Govt. Agril. Govt. of Andhra Pradesh</p> <p>Vice – Chairman – Commr. of Agril. Member Secy. – Chief Exe. in the cadre of Addl. DA Ex- officio members; Director of Research, ANGRAU. Commissioner of Horticulture Commissioner of Marketing Head of the Dept. of Bio-technology, ANGRAU. Director, A.P State Seed Certification Agency</p> <p>7 Farmers representing the Agro-Climatic Zones. nominated by Government</p> <p>2 form Seed Industry nominated by Government.</p> <p>1 Specialists /Expert in Seed Development nominated by Government.</p> <p>1 Representative from ICAR to be nominated by Government of India</p>
Functions	<p>Central Seed Committee is to advise the Central Government and the State Governments on the matters arising out of the administration of this Act and to carry out the functions assigned to it by or under this Act.</p> <p>Power to notify kinds or varieties of seeds Power to specify minimum limits of germination and purity etc., Regulation of sale of seeds of notified kinds of varieties</p>	<p>In addition to the functions of National Seeds Board under Seed Bill- 2002, the State Board is also responsible for; (a) Regulation of production and sale of transgenic and genetically modified varieties by way of compulsory DNA finger printing test or genetic purity test. (b) Ensuring Payment of compensation to the farmers.</p>
		Sec. 19 provides for the constitution of compensation Committee for each

		Agro-climatic zone separately.
Registration of Seeds of all kinds or varieties		<p>Registration of all kinds and varieties of seeds is compulsory</p> <p>Registration based on information furnished by Seed producers on the basis of multi-locational trials to establish agronomic performance.</p> <p>All notified kind and varieties under the Seed Act 1966 deemed to be registered.</p> <p>Non-notified kind and varieties which are in the market be given provisional Registration for three years and subsequent registration after confirmation of agronomic performance.</p> <p>Registration is valid for five years in case of annul and biennial crops and 10 years for long duration perennials.</p>
Accreditation for assessment of agronomic performance		The State Seed Board may accredit ICAR Centres, ANGRAU and such other organisations to conduct trials to assess agronomic performance
Seed Certification	Grant of Certificate by Certification Agency for any notified kind or variety	In addition to State Certification Agency (APSSCA), the certification will be done by accredited institutions by the Board. Working under ICAR, State Agril. University and such other research Organisations
	Certification is optional	Certification is optional Provision of self certification permitted
Offences and Penalties	<p>The gravity of the offences are not classified.</p> <p>No provisions for compounding</p> <p>Legal proceedings</p> <p>First offence with fine of Rs. 500</p> <p>For second offence with fine of Rs. 1000 or imprisonment of 6 months or both</p>	<p>Minor infringements</p> <p>Major infringements</p> <p>Minor infringements to be compounded as prescribed</p> <p>Legal proceedings</p> <p>For offence a fine Rs. 50000 which may extend to Rs. 1 lakhs or with imprisonment for a term which may extend to 6 months or both would be levied</p>
Compensation		If registered kind or variety fails to provide expected agronomic performance under such given conditions, the State Government or farmer may claim compensation
Transgenic varieties		Transgenic seed of kind and variety shall be registered with the clearance under the Environment (Protection) Act-1986 and confirm disclosed genome by DNA finger printing test

Pricing		The Board will appoint a Committee for fixation of price of seeds which will be valid for 3 years
Standardisation of Packing Seeds		The Board shall appoint a Committee to fix the standards of packing and Government may notify standards.

The state government has proposed a seed village programme based on selecting at least one potential village in a division to produce quality seeds of paddy, green gram, red gram, castor, and groundnut through multiplication from foundation seeds. However, the programme is confined to very few villages, and the budgetary allocations and the coverage are too low to create any serious impact and relief to the farmer. The tradition of farmers' own seed banks needs to be revived since it is possible for the farmer to grade good seed from her/his own field in respect of non hybrid seeds like paddy, pulses etc. Suitable extension in this regard is highly desirable.

The introduction of transgenic seeds such as Bt cotton in large areas under cotton cultivation in the state is reported to have mixed results. Farmers are not adequately informed either about the nature of the seeds, or the requirements for their cultivation, or the likely outcomes. Further, the produce from Bt and non-Bt seeds tends to be indiscriminately mixed, which can create a problem in some markets. The state government needs to take a more proactive role in analysing the experience and disseminating the results widely among farmers so that they are informed by an independent and objective source about all the costs and implications of using such seeds. This is likely to be a continuing issue as more transgenic seeds are introduced by seeds companies.

II. Fertilisers

While fertilisers play an important role in improving agricultural productivity, with the advent of the green revolution, the application of chemical fertilisers has increased manifold. Indiscriminate use of fertilisers can have a deleterious impact on the soil health and productivity. Given the

growing problem of land degradation, it is necessary to safeguard this important resource in the interest of sustainable crop production.

Having got used to the application of inorganic fertilisers over a period of time and in the absence of adequate quantities of farm yard manure and other biomass based fertiliser, farmers have become highly dependent on chemical fertilisers. With the reduction in the fertiliser subsidy, the cost of fertilisers has increased many times over the last decade, adding to the farmers' woes. On an average, the fertiliser price has been increasing by 5 to 15 per cent every year for different kinds of fertilisers. Further, the depletion of micro-nutrients in the soils has meant that crop yields cannot be maintained without the application of more and more fertilisers. The absence of scientific soil health analysis cards and the application of fertilisers without relevance to soil needs has resulted in higher costs of cultivation without any marginal increment to the crop yield. Instead, it has only resulted in the deterioration of soil conditions, thereby affecting land productivity.

The problem with respect to fertilisers were not as acute as for pesticides, as noticed during our field visits. However the high cost of cultivation is a function of high doses of fertiliser application as well. There are some complaints of substandard fertilisers especially, micronutrients. The quality of fertilisers is controlled by the Fertiliser Control Order, 1985. The Commissioner and Director of Agriculture is the controller of fertilisers as notified by the Government of India, and functionaries in the state down the line carry out the regulatory responsibilities. While the Department of Agriculture has been exercising adequate control over the fertiliser industry and trade, there are still a large number of cases which are pending because action has not been initiated. There are 5 fertiliser testing labs in the state for analysing the samples collected by the agriculture officers and special squads.

While there appear to be not many major complaints with regard to complex fertilisers, there are sizeable complaints regarding the straight fertilisers such as super phosphate and micronutrients. The capacity of the

labs to test micro fertilisers appears to be inadequate. Even otherwise, the existing soil testing labs are reportedly not functioning for want of sufficient budget from the Marketing Department and absence of required manpower from the Agriculture Department

III. Pesticides

The application of pesticides has become more essential to tackle the growing pest menace in the race to increase production using hybrid seeds and chemical fertilisers. Consequently, farmers have started using more and more chemical pesticides. However, they are not applying these pesticides judiciously and scientifically, due to inadequate or poor extension, inaccurate or misleading information provided by input dealers and others, or lack of awareness. Minor pests are becoming major pests over time, and pests are developing resistance to pesticides. As a result, pesticides with higher potency are entering the market every year.

The problems is especially acute in this state. Thus, farmers from Andhra Pradesh alone use as much as 35 per cent of the total pesticides consumed in the country, accounting for 40 per cent of the total annual expenditure of Rs. 4000 crores on pesticides per annum by all farmers in India. Indiscriminate use of chemical pesticides is leading to health problems of farmers and their families, air and water pollution, killing of beneficial insects, presence of pesticide residues in food products, rejection of export products worth Rs. 1000 crores per annum in international markets, and increased cost of production of crops. Chemical pesticides are essentially poisons which should be used sparingly at best in cultivation, and that efforts should be made to shift from an excessive dependence on chemical pesticides to more natural alternatives with less deleterious side-effects.

In the field visits, farmers reported a number of problems with respect to chemical pesticide use. These include the exorbitant cost of the pesticides; sudden increases in the cost of the pesticides within the Maximum Retail Price (MRP) range and sometimes beyond the MRP; artificial shortages

created for the high quality pesticides; dealers insisting that farmers must purchase some unwanted pesticides along with good quality pesticides; sale of pesticides by unauthorised/ unlicensed dealers; sale of spurious pesticides; and poor record of punishment of the cases booked.

Since the pesticides industry is in the private domain, the state must obviously focus on its regulatory role, to ensure the supply of quality pesticides to farmers. But it is also necessary for government intervention to go beyond that towards encouraging more sustainable forms of pest control, which implies developing and encouraging alternative mechanisms of pest management to reduce dependence upon chemical products, and contingency measures for pest control when it takes the form of an epidemic.

The central government has made legal provisions to regulate the private sector through the Insecticides Act, 1968, subsequent amendments made to this Act and the Insecticide Rules 1971, which were amended in 2000. The evolution of the Insecticide Act 1968 has an interesting historical background, since it emanated from a process set in motion by some cases of food poisoning due to the organo-phosphorous insecticide called 'Parathion' in Kerala and Tamil Nadu. This legislation therefore emerged from a situation which is totally unconnected to the current context. It was basically intended to protect human beings and cattle from either inadvertent or intentional misadventures by producers and retailers. The Insecticides (Price, Stock Display and Submission of Reports) Order, 1986 does not concern itself with quality or standards of the insecticides offered for sale but confines itself only to the display of prices or rates, quantities of stocks held, issue of cash/credit memorandum, maintenance of records, submission of returns etc. Therefore, for violation relating to quality standards in insecticides, the Insecticides Act 1968 is relevant. It is comprehensive in dealing with standards and misbranding etc. and a whole host of other procedures including revocation of licenses, and provides the Insecticides Inspector with considerable powers of search and even to stop distribution, sale or use of insecticides if so done in contravention of the Act. Unfortunately, however, the wording relating to

punishments Under Section 29 in this Act is so light as to make the punishments.

The regulatory authority of this legislation had been vested in the hands of the Central Insecticide Board, of which the Director-General of Health Services is the *ex officio* chairman. Interestingly, senior officials of the Ministry of Agriculture have been left out of the regulatory board, although at the state government level, the Department of Agriculture has been made the overseeing authority.

The responsibility for enforcement of the legislation is divided between the central and state governments. The Government of India is responsible for policy decisions, for granting of registration for manufacture as well as for the import and export of pesticides, while enforcement in the field is the responsibility of the state government. The administrative department at state and district levels has been carrying out various activities in order to check the malpractices in the trade.

There are a number of problems with the system which became apparent in the field visits. The number of samples taken in the present set up is very small compared to the volume of pests sold in the markets, and this is related to the inadequate capacity of the existing pesticide testing labs. There have been complaints that some of the dealers have been charging the farmers at different prices within the MRP ceiling. There are also some reports of selling the pesticides beyond MRP. A number of farmers have represented that adequate compensation should be given to the farmers whenever they have suffered crop losses on account of spurious pesticides.

There are visible gaps in extension especially in the matters relating to proper application of pesticides, despite the efforts of the Agriculture Department in reaching farmers through its field extension agencies. The recommendations of the companies as well as the department, regarding the dosage of pesticide, periodicity of application, timing of application and actual procedure for application are often not followed by farmers and farm workers.

This results in wastage of resources, development of resistance in the pests to chemicals and unnecessary increased cost of cultivation.

Various inadequacies in the implementation of the Act, such as the absence of inadequate regulatory mechanisms in the Act, delays in obtaining the results from the pesticide testing labs, the absence of follow up in the criminal cases and the liberal attitude of the courts in imposing penalties even in respect of proven cases, have encouraged the pesticide trade and industry to become complacent and exploitative.

Integrated Pest Management (IPM) is an alternative mechanism formulated by the government to manage pest and sustain agriculture production. As pointed out above, indiscriminate and excessive use of pesticides has resulted in several adverse effects like pest resistance to pesticides, pest resurgence, pesticide residues and associated health hazards, destruction of natural bio-control fauna, ecological imbalance and environmental pollution and also greater human health hazards, besides significantly increasing the cost of cultivation. Integrated Pest Management (IPM) has been adopted for sustaining agricultural production, maintaining quality of agricultural produce and for protecting environment. IPM means a pest management system that in the context of the associated environment and the population dynamics of the pest species, utilises all suitable techniques and methods in a compatible manner and maintains the “bad” pest population below the economic threshold level. Capacity building programmes have been organised for the farmers to educate them regarding IPM and other natural methods of pest management, and about how to prepare the basic materials. But the Commission’s interactions with farmers and the budget allocations made to build the capacity of the farmer both reveal that IPM suffers from inadequate coverage of farmers

While there are many cases of success in IPM, such practices have not been adapted universally, despite some very impressive success stories such as those of Punukula and neighbouring villages in Khammam district. The extension of these practices is not obviously adequate, keeping in view the

varied farming systems and wide range of types of pests and diseases occurring. Farmers across Andhra Pradesh have adequately demonstrated in their own villages that it is possible to manage the pests by utilising locally available plant materials such as neem extract and other natural pesticides, that this leads to dramatic reduction in pesticide costs and can be associated with increased and healthy output, especially in pest-prone crops such as cotton. Such experiences and the techniques employed need to be widely disseminated across the state.

IV. Recommendations:

1. The Commission strongly feels that the state government should be the prime supplier of all types of inputs required by the farmer. This calls for revitalising the earlier institutions of production and delivery of seeds and effective regulation of fertilisers and pesticides.

2. The government, if necessary, should use the provisions of Essential Commodities Act for requisitioning the inputs and sell them through departmental outlets both in the pesticides and fertilisers.

3. Field officers need to be trained in the effective implementation of the statutes relating to agricultural inputs.

4. Input dealers should have some relevant educational qualifications.

Relating to seeds:

1. The A.P. Seed Corporation should be revived, along with all its regional production units. This involves the following:

- **All government production farms and nurseries shall be revived to produce quality seeds. The required infrastructure, manpower and budget need to be supported by the state government.**

- **All the type of seeds required by farmers should be produced or procured and sold through the Mandal level depots under the overall responsibility of Mandal Agriculture Officer. However, exclusive clerical staff should be made available to manage depots.**
- **There is a need to look into the functioning of the Seed Corporation and prevent controversies with respect to corruption and misuse. Only officers of proven integrity should be posted as the head of the organisation.**

2. Farmers have complained about the quality and late distribution of publicly supplied seeds such as for groundnut. This issue needs to be addressed to adequate and timely delivery of subsidised seeds. In addition, public provision of seeds and seedlings should be initiated for certain horticultural crops, such as papaya and mango.

3. While the proactive initiatives taken by the government would definitely have a positive impact on seed supply and quality, it is still necessary to put in place the appropriate infrastructure for testing seed quality to ensure that the provisions of the Seed Act are met. The DNA finger printing laboratory exclusively to establish varietal characteristics, for which the funds have been provided, may be established at the earliest..

4. The composition of the authority for implementation of the proposed Seeds Act, in addition to the Director, Research, ANGRAU, should include the Director of Extension., ANGRAU.

5. The coverage under the seed village programme must be enhanced substantially to enable the programme to have a serious impact and provide relief to the farmers.

6. The tradition of farmers' own seed banks needs to be revived, with appropriate incentives as well as systematic extension work. The structure of

incentives may involve special and subsidised access to inputs. A state level committee should be constituted for this purpose involving the Department of Agriculture, ANGRAU, and private and public seed agencies, to assess the production and storage of seeds of specific varieties; the availability of breeder/foundation seed; and financial assistance for storage, carrying costs etc.

7. The state agricultural university should be represented in the Genetic Engineering Approval Committee of the central government, which approves transgenic seed varieties, to prevent inappropriate varieties from being released.

8. The experience with respect to Bt cotton and other transgenic seeds must be studied carefully and scientifically by ANGRAU using independent and objective scientists, and the results of the study as well as other available information regarding the costs involved and the experience with such seeds should be widely disseminated among farmers.

Relating to fertilisers:

1. In view of the negative impact of chemical fertilisers, an aggressive strategy for a paradigm shift in fertilisers policy is required. The state government should consciously promote and facilitate the production and usage of bio-fertilisers, vermi composting, green manuring and other eco-friendly fertility enhancing activities. This needs to be done in mission mode. This will require

- **special budgetary allocation, so that the incentives that are built into chemical fertilisers may also be diverted towards promoting organic fertilisers at state level,**
- **extensive dissemination and training through the extension services,**
- **a package of incentives for farmers may also be incorporated in the fertiliser policy.**

2. There is a need to step up the vigilance and quality assurance mechanism. It is understood that an exclusive Director looks after the quality and vigilance of various inputs like seeds, pesticides and fertilisers in Tamil Nadu. A similar mechanism or modified version of that may be considered in Andhra Pradesh.

3. In view of the increasing importance of application of micronutrients, it is necessary to set up laboratories to analyse the micro-nutrient status of the soils at district level exclusively, while the Divisional Level/AMC level labs may continue with soil analyses for NPK. The state government has already proposed 17 new labs in the premises of soil testing laboratories. The Commission strongly recommends the early establishment of these labs.

4. A comprehensive laboratory facility for testing the soils may be established at all agricultural division-level headquarters for basic soil analysis. At mandal level, the Agriculture Officer may act as the collection centre.

5. The present procedure of collection of soil samples, their analysis, reporting mechanism and adoption of the recommendations by the farmers need to be looked into by engaging a special study team to suggest methods for the proper utilisation of soil testing facilities and specify any need for modification of the procedures. This will also require budgetary support.

Relating to pesticides:

1. Special emphasis on IPM and natural pest management: In view of the serious negative impacts on account of chemical pesticides and insecticides, the government should change its policy towards promoting the best management practices of natural pest management. Special incentives may be built into such practices so as to discourage the farmers from using chemical pesticides wherever possible and bring them back to pesticide-free agronomic practices. This must be implemented in mission mode.

2. There is a need to amend the Insecticide Act, 1968 and suggest severe punishments to the persons responsible for the sale of spurious or unauthorised pesticides. In the interim, the state government should bring in a comprehensive order under the Essential Commodities Act, 1955 that extensively covers all aspects of manufacture, supply and distribution of insecticides such as their quality, prices and all other associated aspects relevant to the protection and welfare of the farmers.

3. There is a need to increase the number of pesticide testing labs at least at the rate of one testing lab for each district in the state along with adequate technically qualified manpower and budgetary support for sufficient latest infrastructure and maintenance costs.

4. While emphasising a shift to more natural pest management among farmers, the government must still play a role in the distribution of pesticides along with other inputs. To ensure prices and quality, some amount of pesticides may be purchased by Agro-Industries Corporation or by MARKFED and distributed at fixed prices through government agencies such as market committees or notified shops including agri-business service centres which government intends to establish through self employment programmes.

Chapter 8: Crop prices and markets

I. Low and volatile output prices

The volatility of crop prices has been a major source of income instability and distress for farmers in Andhra Pradesh. A substantial part of the recent price volatility can be related to external trade liberalisation in agricultural products. As mentioned in Chapter 2, from the first half of the 1990s onwards, the central government liberalised the imports and exports of agricultural goods, which has led farmers to become much more exposed to international price fluctuations. This has meant that prices often bear no relation to state-level or national output trends, so that even periods of poor harvest can be associated with low prices. Sharp fluctuations in crop prices over the years also provide misleading signals to farmers, who tend to have high price response in terms of deciding the acreage under different crops.

The price volatility faced by farmers has been even sharper because the public procurement agencies have not been procuring sufficiently to ensure that Minimum Support Prices are maintained. This problem is even more acute for other cash crops such as cotton and groundnut than for rice. A further problem is that since the cost of cultivation is relatively high in Andhra Pradesh, the national MSP does not cover the costs for a substantial proportion of crops in the state. In fact, the Department of Agriculture, Government of Andhra Pradesh, on the basis of its own calculations of cost of cultivation and ANGRAU estimates, has been recommending higher MSP for most crops, which are typically not accepted by the CACP of the central government. Table 8.1 gives some idea of how large this discrepancy is for kharif 2004.

Table 8.1: MSP for different crops as suggested by Government of Andhra Pradesh and MSP announced by the Government of India

Crop	Suggested MSP (Rs. Per quintal)	Declared MSP (Rs. Per quintal)
Paddy – Common	645	560
Paddy – Fine	680	590
Jowar	800	515
Bajra	706	515
Maize	538	525
Ragi	754	515
Red gram	1784	1390
Green gram	1700	1410
Black gram	1859	1410
Groundnut shell	2268	1500
Sunflower seed	2035	1340
Cotton – medium staple	2700	1760
Cotton – long staple	2487	1960

Source: Department of Agriculture, Government of Andhra Pradesh

II. Marketing:

The marketing of agricultural produce has become one of the critical areas where the farmers are exploited. A comprehensive Act of 1966 covers the marketing arrangements in the state. The marketing committees are autonomous entities representing growers, traders and local authorities. The government has a supervisory role to ensure that the market regulations are implemented properly. The objectives of the Agriculture Department and Markets Act, 1966 were: the creation of market areas and markets to ensure fair transactions; the rationalisation of market charges and prohibition of collection of excess charges;

the regulation of market prices; the licensing of market functionaries; and the dissemination and display of market information.

There are 299 Agriculture Market Committees constituted in the state to enforce the provisions of the Markets Act. The Chairman and members of these Market Committees are appointed by the government, and not elected. These Market Committees have notified 870 market yards. Out of these, only 481 markets have land, and only 381 also have infrastructure and other facilities. Currently there are 202 functional and 179 non-functional market yards in the state. Other markets yards are yet to be developed. The sale and purchase of agricultural commodities outside the market yard is prohibited and the sale is to be carried out through open auction or sealed tender system. About Rs.200 crores is collected annually as market fees through the check posts and market committee transactions.

There are a number of schemes under the Marketing Department, such as the Rythu Bandhu Padhakam, the Rythu Mithra Padhakam, District Agricultural Advisory and Transfer of Technology centres, technical support in the form of 56 soil testing laboratories established in the market yards and Rythu Bazars. While the programmes and schemes introduced have lofty ideals, the actual position is quite different from what is expected, as reported by the farmers and their representatives during the field visits.

A large number of problems in marketing were reported. To begin with, the market yards simply do not function in most of the coastal areas except for a few commodities such as chillies in Guntur district, turmeric in Duggirala, etc. Paddy is typically procured either by middlemen or by millers from the actual place of production, especially in coastal districts. Because farmers usually do not have adequate storage facilities of their own, and existing storage facilities are difficult access because of lack of information or resources, farmers are forced to sell their produce to the traders at cheaper prices. The large fall in the market prices

during the harvest season is the most common grievance that the farmers have represented. It is widely perceived that traders, miller and officials of Marketing Department join hands to bring down market prices during the peak harvest season.

The Rythu Bandu Padhakam scheme is not helping the farmers as expected. In 2003-2004 only 22,500 farmers availed of the loan facility, with loans totalling only Rs. 54 lakhs. The scheme is not popular among small farmers and there are allegations that the benefits go to middlemen rather than to farmers. Similarly, the Rythu Mithra scheme, under which quality seeds, pesticides and fertilisers are supposed to be sold to farmers, has been relatively ineffective, with only Rs. 6.21 crores being utilised as against Rs.54 crores allotted for this scheme during 2003-04.

There were numerous complaints about the functioning of the market yards. It appears that Commission agents are openly collecting double the approved commission from the farmers. Typically, farmers are not paid for their produce on the day of the transaction, and have to wait for 15 to 30 days to receive payment. In case any farmer wants the payment on the same day, an amount varying between 3 to 5 per cent of the price is deducted from the payment. The marketing yards still do not have electronic weighing machines in sufficient numbers, and even when these machines are used, farmers are not issued computer printouts indicating the weight of produce. There are complaints of malpractices like collection of extra quantities by the workers, in the name of local tradition and custom. The farmers tend to be at the receiving end and have to compromise at every point of selling their produce.

Administrative problems make matters worse. The absence of elections to the market committees has led to party-based nominations whenever the market committees are constituted. This keeps genuine farmers out of the management of marketing committees, in favour of those who happen to have the support of

political parties. Partly in consequence, the funds collected by marketing committees are not being used for creating additional infrastructure in the markets; instead, they are being used for non-market related activities. There is a perception that the staff working in the market yards owe their loyalty to traders rather than to farmers. All in all, there appears to be a clear nexus between the traders, officials and market management bodies, all working against the interests of farmers.

Inadequate infrastructure is also the source of several problems. When the farmers bring the produce to the market yards, they expect to follow certain quality parameters, which require tools such as moisture meters, seals, calibers, tarpaulins, which are often lacking. There are complaints of inadequate drying yards in case the produce is found to have a high moisture content. There are no qualified graders to determine the quality of produce brought to the market yards. In some yards, the price across the different market yards in the state as well as in the country is being displayed, but in the majority of market yards there is no such provision. The godown capacity of some market yards appears to be inadequate. For certain new commodities like sunflower, safflower, etc. there are no market yards. All this suggests that despite the substantial resources at the command of the Marketing Department and the Marketing Committees, the farmers' interests are not adequately served.

Recommendations

On prices and procurement

1. The state government should demand from the central government the introduction of a system of variable tariffs and if necessary Quantitative Restrictions on certain agricultural commodities, in order to ensure stable import prices that protect domestic cultivators and their livelihood.

2. A state-level procurement coordination committee under the chairmanship of Chief Secretary may be constituted in which the agencies of GOI and State government and departments should be members. This Committee should meet before the commencement of procurement season. The capacity of the agencies for procuring agricultural commodities needs to be assessed well in advance of the harvest, and appropriate arrangements should be made to enhance the capacities of the procurement agencies.

3. The state government should request the FCI and other central procurement agencies to take up the procurement of jowar, bajra, maize, ragi and grams of various kinds as well as related crops, so that these may also become cash crops.

4. The state government must in any case institute facilities for the public procurement of nutritious cereals (such as jowar, bajra, ragi) and grams at high incentive prices to encourage their cultivation. Such procurement would have to be locally distributed at low prices to create an incentive for purchasing these food grains in the public distribution system.

6. A market price stabilisation fund should be set up, either from the market surpluses or through an exclusively created fund for this purpose.

On marketing arrangements:

1. The provision of adequate and non-exploitative marketing arrangements must be the basic goal of the Marketing Department.

2. The move to create parallel private markets is fraught with many possible dangers and therefore the Commission strongly opposes any such moves. However, the existing market yards need to be increased, strengthened and their functioning has to be improved.

3. Each *mandal* should have a market and, depending on the need, purchasing centers may be created for a group of 5-6 villages.

4. Market committees must be managed by the farmers themselves. The present practice of nominating the Chairmen and other members to the market committees should be stopped and elections should be conducted to the market committees. Suitable guidelines and procedures may be worked out to ensure that the management of these bodies is kept in the hands of farmers.

5. The following proposals are made for infrastructure in market yards:

- The funds collected as market fee from the farmers should be utilised exclusively to improve the requirements in the market yards.
- The procedures being adopted in the market yards require to be studied in depth by a specialised body constituted exclusively for this purpose. The body may go into various aspects of functioning of market committees and come up with suitable report for overhauling the marketing committees' structure and functions.
- There is ample scope for modernising of existing markets by utilising the information technology and other developments in the field of electronics and communications.
- All the market committees should be equipped with adequate electronic scales and duly fitted with printers, and printed receipts must be given to the farmers.
- Physical facilities in the form of clean toilets, drinking water, shelters , rest sheds and canteens have to be created keeping in view the number of farmers attending the market yard especially during the peak seasons.
- Additional facilities and other infrastructure including cold storages have to be assessed market committee-wise and a plan of action should be prepared for developing the required infrastructure keeping in view with actual requirements.

6. The following proposals are suggested for market procedures:

- The payment procedures and procurement procedures need to be transparent and publicised widely to dispel the rumours and suspicions in the farmers.
- The unauthorised collection of commissions must be curbed immediately.
- The petty malpractices which are leading to harassment of the farmers in the market yards should be eliminated by educating the farmers and other stakeholders operating in the market yards.
- The practice of deferred payments and delayed payments must be stopped, and payment across the counter should be arranged on the same day of transaction.
- As the commodities are graded and prices are being fixed according to the grades, there is a need for trained graders in each market yard with laboratory facility.
- The procedures and rules covering the Rythu Bandhu scheme have to be revisited to make them farmer- friendly while ensuring that the scheme is not misused by the others.

Chapter 9: Farmers in drought-prone areas

I. The special problems of farmers in drought-prone regions

Although drought is thought of as a natural phenomenon, it is often as much due to human intervention as it is caused by climatic factors. Along with natural factors like water deficiency due to low and erratic rainfall which are the prime cause, there are human interventions which aggravate the impact of low rainfall. These include widespread deforestation, the neglect of surface storage of water, the adoption of inappropriate high-water using cropping patterns, excessive exploitation of ground water, and sand-mining from river beds particularly in low rainfall areas.

According to the Irrigation Commission of India (1972) all districts with a normal annual rainfall of 750 mm or less, which experience 25 percent deficiency of rainfall in at least 20 per cent of the years observed, are considered as drought-prone districts. From the districts thus identified, those districts with assured net irrigation intensity of more than 30 percent are excluded from the drought-prone areas. Subsequent modifications by the central government have led to 11 districts in Andhra Pradesh being classified as drought-prone and one as desert-prone as per Table 1.

The agro-climatically classified drought-prone area in Andhra Pradesh extends from 30 to 40 percent of the geographical area. But when a drought sets in, rainfall scarcity conditions spread much beyond the desert or drought-prone areas. Thus, the area declared as suffering from drought frequently extends much beyond the drought prone districts. The declaration of drought takes into consideration the failure of rain and related manifestations resulting in scarcity, regardless of whether it is a region identified as 'drought prone' or not. Monsoon failure results in crop failure, shortage of drinking water as well as undue hardship to the rural and urban community.

Table 9.1: Drought-prone districts of Andhra Pradesh, 2003

District	Per cent Area Drought-Prone	Normal Annual Rainfall (mm)	Agro-Climatic Zone	Per cent Area Irrigated in Net Sown Area
Anantapur	100	494	Arid	15
Mahbubnagar	89	568	Semi-Arid	19
Kurnool	79	604	Semi-Arid	20
Cuddapah	76	646	Semi-Arid	42
Nalgonda	81	701	Semi-Arid	35
Ranga Reddy	37	721	Semi-Arid	23
Chittoor	68	835	Dry-Sub-humid	40
Prakasam	67	781	Dry-Sub-humid	41
Srikakulam	-	983	Slope (6 to 30 per cent)	50
Medak	-	813	Moist, Sub-Humid	23
Adilabad	-	1101	Moist, Sub-Humid	8
Khammam	-	1020	Moist, Sub-Humid	42

Source: D. Narasimha Reddy (2004)

The procedure for declaration of drought under the Famine Code 1950 involved, in addition to failure of rainfall, taking into consideration symptoms like the contraction of rural credit, growing petty crime, migration of people, movement of flocks of livestock in search of pasture, rise in prices of foodstuffs, abnormal unemployment and distress sale of valuable assets by the farming community. However, in the post-independence period there has been a change in emphasis from distress to loss of crop production.

The procedure for declaration of drought officially relies on the following criteria, although crop failure is usually treated as paramount: significant and prolonged deficiency of rainfall; steep reduction in the area sown and also heavy damage to standing crops; fall in the estimated yields of crops; fall in the supply

of grain and fodder, with rise in prices; fall in agricultural and non-agricultural wages; rise in unemployment; and migration in search of employment.

The current procedure for declaration of drought is *ad hoc*, requiring the concerned District Collector to initiate assessment of drought conditions. This sets in motion a bureaucratic process, through the State Relief Commissioner, leading to the declaration of 'drought' affected areas. On this basis, relief is sought from the central government, which in turn dispatches expert teams to assess the 'loss' of crop production and the extent of scarcity conditions, and accordingly recommends some financial assistance.

This has created a dual approach to drought. On one hand, the technical exercise of identifying drought prone areas involves drought-proofing or drought mitigation programmes, which assume some degree of semi-permanence. On the other hand, the *ad hoc* policy of declaring drought affected areas leads to periodic relief measures, which are typically put in place without any link with the drought mitigation programmes. Both of these need to be integrated to be more effective.

Besides soil conservation, green cover and afforestation, one of the major components of drought-proofing in semi-arid areas is moisture conservation through rain water harvesting and groundwater conservation so as to prevent over exploitation of limited resources. However, as seen in Chapter 5, in spite of the Drought Prone Areas Development Programme (DPAP), instead of improvement in the water balance and conjunctive use of tank based surface water and ground water, there has been growing disjunction in the water resources. Neglect of tanks which harvest rain water has been associated with growing reliance on well irrigation. And the incidence of droughts has increased. This suggests that it is necessary to move *ad hocism* to a comprehensive policy with statutorily supported institutional framework. This must be combined with short-term institutional statutory responsibility for drought relief.

It must be recognised that farming systems have changed in drought prone areas, with a tendency for farmers, including small and marginal farmers, to shift from traditional cereal crops to high-input, high-value commercial crops. For these changing aspirations, there has been no corresponding improvement in institutional support and even a reduction in such support, as outlined earlier in this Report. With the changing cropping pattern, farmers in dry regions are exposed to high risk even when the season is normal. With the frequent occurrence of droughts, their risks are compounded. Therefore the social cost of drought, which is very heavy and growing, has shifted substantially to the small and marginal farming community because their cropping pattern has become more water-dependent, and unlike larger farmers they are less able to bear substantial risk.

Farmers in drought-prone areas of Andhra Pradesh face special problems related to the following: poor resource endowments including poor soils, degraded forest and low/untimely rainfall; frequent and often consecutive crop failures due to drought; lack of assured irrigation; lack of alternate livelihood opportunities such as dairying, poultry, etc.; lack of adequate wage employment; generally underdeveloped public facilities, implying lack of access to health facilities even at primary and secondary levels.

It is true that there is hardly any break-through in research on dry land crops and their capacity to conserve moisture or increase productivity. But other technical knowledge which would mitigate adverse conditions in such areas does exist, and with regard to these, it is more a failure of the extension system and lack of infrastructure support which has deprived farmers of protection. Knowledge in several important areas is available, such as that relating to long-term mitigation measures like moisture conservation and drought-proofing through watershed management, the conjunctive use of harvested surface water along with ground water, appropriate cropping patterns that would minimise

water needs and the requisite knowledge for drought-preparedness planning. Technological improvements make it possible to network information on drought forecasting, linking with phenomena like El Nino, monitoring the onset and progress of rainfall and facilitating information dissemination. All these make it more possible to engage in effective drought management through a systematic policy and accountable institutional machinery.

II. Recommendations

1. A special sub-committee of the Agriculture Mission should assume central responsibility encompassing all levels of administration for dealing with the problems of farmers of the drought-prone regions.

2. Development of any new surface and canal irrigation systems should prioritise the drought-prone regions. The attempt should be to ensure that these regions reach a minimum level of assured irrigation for 40 per cent of the cultivated area.

- In inter-basin transfer of river water, priority must be given low rainfall low irrigation areas.
- Tank restoration must be undertaken on a mission mode in low rainfall low irrigation areas.
- There must be incentives to conserve water, and drip and sprinkler systems should be provided at 90 per cent subsidy to farmers cultivating less than 30 acres of dry land, with first priority to small and marginal farmers.
- The conjunctive use of water should be stressed through local planning agencies.

3. The SLBC should come up with a specific credit policy for drought-prone areas, which should incorporate the uncertainties of production and consider possibilities such as waiver of interest and easier terms and longer periods of

repayment. should be a policy focus, and special attempts should be made to ensure that credit provision norms are met and exceeded as far as possible in the drought-prone areas. The policy should include credit provision for diversified livelihood occupations that would improve the capacity of farmers to cope with natural calamities.

4. A special package of incentives is required for rainfed crops, in particular nutritious cereals such as jowar, bajra and ragi, as well as pulses. This would include provision of subsidised inputs, procurement and marketing, since farmers cannot be expected to go back to subsistence farming. Given the low shelf-life of most rainfed crops, it may be necessary to think of local distribution using the existing public programmes. The basic thrust must be to create incentives for farmers to produce these crops by ensuring a high MSP and to encourage consumers to buy the produce through low prices in the Public Distribution System. This will require the active intervention of the state government agencies in procurement and distribution, using credit which is available for the purpose with the RBI.

6. Research and extension services are especially important for dryland farming, which has been neglected in this respect until now. There must be major public emphasis on research relevant for dryland crops, such as increasing the shelf-life and marketability of rainfed cereals, encouraging the development of dryland cotton and other seeds, etc. Extension services must be used to disseminate these results as widely as possible.

7. A land use policy must be formulated and implemented for the drought-prone areas. This may include:

- A time-bound plan to bring a substantial part (say half) of the cultivated area under multiple rain-fed tree crops such as mango, sapota, tamarind, guava, custard apple (seetaphal), etc., with adequate incentives and marketing support.

- Dairy and livestock development, with affordable fodder, adequate veterinary facilities, marketing support etc.
- Development of other (possibly new) crops and products that would also seek new markets, such as apiculture for honey production.
- Afforestation.

8. Employment programmes are especially important in the drought-prone areas. The Employment Guarantee Scheme can be used for intensive afforestation and development of grasslands.

9. The promotion of agro-processing industries should be a policy focus in these areas especially, by providing infrastructure, technological and marketing support, storage facilities and credit for such initiatives.

10. There should be large-scale training of local youth in various skills, so as to encourage a shift out of agriculture for a substantial part of the population.

11. Administrative support systems are required for those forced to migrate out of drought-prone areas and their families. These should include seasonal hostels for children whose parents have migrated, enrolment in the ICDS and other nutrition programmes, enrolment in schools including mid-day meals, entitlement to the Public Distribution System for food, entitlement to the public health system, crèches, etc.

Chapter 10: Rural livelihood and non-agricultural employment

I. The stagnation of rural non-agricultural employment

One of the reasons why the farming crisis has been so acute in Andhra Pradesh is that non-farming employment has virtually stagnated and there have been hardly any non-agricultural livelihood opportunities that would allow members of farming households some kind of buffer against losses in cultivation. Total rural employment growth is estimated to have grown by only 0.29 per cent per annum in the state (which is less than half the already low national rate) at a time when the rural population was expanding at more than 5 times that rate. The share of non-farm agricultural employment in rural Andhra Pradesh declined from 23 per cent in 1993-94 to 21 per cent in 1999-2000, whereas for the rest of the country it increased from 18 per cent to 23 per cent over the same period. Agricultural employment stagnated in terms of usual status and actually declined in terms of daily status.

Part of this was the result of depressed agricultural conditions which reduced demand for non-agricultural products and services. But it also was related to national and state government policies – in particular, the decline in public expenditure directed towards the rural areas especially after 1992-93, which not only denied the rural population the positive multiplier effects of public expenditure but actually had negative multiplier employment and income effects. So services growth was also very inadequate in terms of rural employment generation. Rural industries were not given any incentives and either could not cope with competition from large producers and imports, or simply did not emerge at all. In addition, on-farm activities such as dairy and livestock rearing faced new challenges and often falling output prices, with no protection in terms of institutions or government policies. Traditional handloom and weaving and similar activities faced problems of markets and excessive exploitation by middlemen, as the co-operatives were allowed to wither.

This means that along with farmers, the section of the rural community that has been most adversely affected by the current crisis is that of rural labourers. The high extent of landlessness in the state has meant that agricultural labourers are dominant among all rural workers, and constitute around half of male workers and more than half of women workers. Even small and marginal farmers or their household members typically seek wage employment in addition to their meagre returns from cultivation which are usually inadequate to feed their families. In such a context, the collapse of rural employment generation has hit workers very hard, causing huge drops in income, forcing seasonal and permanent migrations under extremely adverse conditions and with huge costs to the family.

In all the districts the Commission visited, we found evidence of very low wages being paid, only 10-15 days of work available per worker per month, or around 30-40 days per season of agricultural work. In many places, wage rates had effectively been reduced by the expedient of asking for “half-day” work (of 6 hours) rather than full day, and the full wages (which were still much below the minimum wages) were paid only for 12 hours very arduous work such as ploughing. For most activities, only half day’s work was available at half the rate. The gender gap in wages was very large, with women usually receiving only half to two-thirds the wages paid to men for similar work. Even during the harvest season, wage rates were as low as Rs. 25 to Rs. 50 for women and Rs. 30 to Rs. 60 for men. In the off-season, we were informed that women workers receive only Rs. 10-15 per half day of casual work and men workers Rs. 20-25. These rates prevailed not only in poor districts like Anantapur and Mahbubnagar but also in some villages of richer districts such as Warangal and Guntur, even where wage rates in more developed villages are higher.¹ Nowhere did the

¹ Details of the relevant villages, mandals, etc. are provided in the records of the field visits by the Commission.

Commission observe that the official minimum wage was being paid to any workers in any private rural activity.

The low wages and high work participation of women were also associated with children working alongside their mothers; in fact even the official data cite Andhra Pradesh as having among the highest incidences of child labour in the country. It should be noted that 90 per cent of the rural labour in the state is either illiterate or educated only up to primary level, so that the potential for skilled employment is very limited. Instead, such labour typically becomes the migrant workforce to be found in construction sites across India, in very difficult conditions and in hazardous work. In one village of Mahbubnagar, the Commission was informed that every household had at least one member who had migrated out for work, and several households had all moved out together, even though the kharif harvest season was about to begin. In other districts such as Anantapur, migration to cities such as Bangalore by both men and women has been associated with very adverse working conditions in the urban informal sector and services, often leading to the spread of disease. The issue of finding productive work for the rural labour force is therefore a crucial one. It is also necessary in order to allow for a regeneration of the rural economy.

The Commission was constantly informed by farmers that they would prefer to have additional sources of income such as cattle, small ruminants and poultry. The stabilising effects of such income in the face of the volatility of returns from cultivation were widely recognised by farmers and agricultural labourers. However, with respect to dairying, a number of problems were identified, even in areas well-known for dairying such as Chittoor: low milk prices, difficulties in transport, high prices and low availability of feed. The dependence upon private traders and private dairies after the local co-operatives became ineffective were cited as a major problem by many farmers. It is clear that to make dairying a viable on-farm activity, especially for small and medium farmers, there must be some public intervention in the form of marketing assistance and

assured fodder supply. For other livestock and poultry production as well, there are major problems in marketing which prevent small cultivators from embarking upon or benefiting from such activities.

Other activities such as traditional weaving, which is second largest rural employer after agriculture in the state, have experienced severe crisis since the mid-1980s, with recurrent cases of starvation deaths and suicides. Small producers have been badly affected by the decline of the state-run co-operative (APCO) and the ensuing high dependence upon trader-middlemen who also provide consumption loans and inputs such as yarn, as well as looms on a lease basis. The policies of the central government over the past decade, of allowing indiscriminate exports in period of high domestic prices and imports during periods of low domestic prices of raw cotton, also adversely affected both cotton farmers and weavers. In Mangalgiri in Guntur district, where the hand-woven products are now very well-received in the national market, the Commission found that men and women weavers did not earn more than Rs. 25-30 per day despite a full day's work, and there were descriptions of suicides and hunger deaths among the weavers' families.²

II. Recommendations

1. The prospects for dairy activities must be strengthened and developed. For market development, the state government may consider restoring the lead role of the AP Dairy Development Corporation and strengthening it. Other large co-operative agencies with a proven track record (such as NDDB) may also be associated in developing the market for milk in the state, using local producers. It is important to ensure that those involved in dairying receive a remunerative price. In addition infrastructure for dairying such as chilling plants, collection centres, transport facilities and veterinary services, should be developed along milk routes. The state government may request the central government to

² Details provided in the report of the field visits of the Commission.

provide adequate protection from imports of dairy produce, which is allowed under the WTO rules.

2. Livestock rearing requires grazing land and/or fodder, so it is necessary to ensure access to common property resources for poor households as well as supply of fodder at affordable prices.

3. Currently credit provision for non-agricultural production activities is extremely limited and inadequate, forcing small producers to go to private moneylenders. There should some incentives for increasing lending to small producers engaged in rural non-agricultural activities.

4. There must be emphasis on post-harvest operations. Agro-processing activities have to be developed. The AP Agro-Industries Development Corporation must be revived, and the scope of its activities should be enlarged to include storage and processing. In addition to providing infrastructure for agro-processing, the state government may consider a package of incentives for private investment in this area..

5. For weavers, policies are required to reduce the volatility in yarn prices and ease the effect of higher yarn prices.

- APCO needs to be revived on an urgent basis and run on democratic lines.
- The supply of hank yarn of the desired count, at reasonable prices and in adequate quantities should be ensured.
- The Janta cloth scheme should be restored.
- In order to ensure a market for handloom, the stores purchase policy of the state government should ensure adequate purchase from APCO and the co-operatives. The stocks currently being held should be lifted.
- The state government should approach the central government for the restoration of the full list of 22 items earlier part of the Handloom Reservation Act.

- Part of the Technology Upgradation Funds Scheme should be earmarked specifically for weavers.

6. Self Help Groups should be integrated with the various facilities that already exist in the state government system, and provided all the other incentives, such as access to infrastructure and markets that are being planned for rural non-farm activities.

7. The Employment Guarantee Scheme (EGS) must be universal, provide employment for 100 days for every rural adult who desires it, and provide a living wage. It should be implemented as soon as possible and enlarged to cover every district of the state within five years. There should be a minimum of 40 per cent of such jobs available to women.

8. There must be a special focus on using the EGS and Food for Work for rural income expansion and improving the sustainability of agriculture. There are a range of activities which could be developed under the EGS. It is important that these activities should be made available on common lands, on the private lands of small and marginal farmers, as well as on lands held by medium farmers in drought-prone areas:

- Tank development, i.e., cleaning, desilting , repair of old tanks and ponds and construction of new tanks
- Activities necessary for soil regeneration
- Afforestation drives, including horticulture
- Plant-based bio-pesticides and natural pest management
- Development of bio-fertilisers
- Micro-watershed programmes
- Sanitation services
- Preparing school meals
- Health mobilisation activities.

9. A Government Order of the Government of Andhra Pradesh (No. 98 of 1986) specifies that preferential recruitment to posts equivalent to L.D.C. (now Junior Assistant), typists and the cadres below, in the irrigation, power or other infrastructure projects should be given to the eligible displaced persons or their dependents (children or spouse). Applications for appointment from the eligible candidates are to be made to the District Collector concerned, within a period of one year from the date of actual displacement of the family. However, because this G.O. was not widely known, very few eligible displaced persons have actually applied for such employment within the specified period of one year. The state government should publicise the G.O. widely and provide a one-time exemption to enable members of displaced agricultural families to apply for such employment.

Chapter 11: Social issues, nutrition and expenditure on health and education

The previous chapters have pointed to a number of factors that have reduced the viability of cultivation and pushed farmers into a debt trap. However, rural distress and the material problems of farmers also have social counterparts, in that many farmers have become indebted because of the increased expenditure on health and education. There is also the effect of increased expenditure on marriages, including meeting dowry demands. The decline in the quality of public provision has pushed even poor farmers to private health care and education. This has added to farmers' problems because, given the precarious economic situation especially of small and marginal farmers, even small debts contracted to pay the health expenses for a member of the family can push a farmer into a downward spiral of greater indebtedness. In a context in which the health-seeking behaviour as well as the educational aspirations of farmers have changed, and the public systems cannot cater to this new situation, there are skyrocketing health and education expenditures driving the farmers into deeper debt traps. Therefore the creation of proper public systems in both these areas is a crucial requirement.

I. Health

Andhra Pradesh's performance with respect to health indicators such as life expectancy and infant mortality is worse than in the other southern states, and the extent of malnutrition is also higher. These affect the rural poor the most, since manual work is important for the livelihood of the poor, and so poor health is a major livelihood risk. Poor nutrition also creates greater chances of morbidity and susceptibility to disease. When this happens, even poor farmers choose to go to private health clinics, because public health clinics are not easily available, are poorly staffed and have inadequate facilities because of poor budget

allocations. The excessive focus on family planning in the health system has diverted official attention from other necessary interventions for public health.

To a significant extent, this situation is the result of state government policies. The state government's expenditure on health was around 0.9 per cent of GDP but declined to 0.74 per cent in recent years. Only 0.11 per cent of GDP is spent on primary health. The share of primary health in the total budget of Andhra Pradesh has been only 0.8 per cent in recent years. Even within this, there has been a bias in favour of hospitals located in the urban areas. Expenditure on rural health services, excluding family welfare programmes, constituted less than 20 per cent of the total government health expenditure during 1994-95 to 2001-2002. Even the health manpower policy has been heavily biased in favour of the urban services. Only 22 per cent of the doctors in the state were in place in rural areas to serve 73 per cent of the total population in 1999-2000. The health policy of the state government was not organically linked to the determinants of health such as water, food (nutrition) and sanitation. The vertical disease control programmes were not integrated with the primary health care and referral system.

Lack of adequate public resources has created stagnation in the number and degeneration in the quality of care at the public hospitals. Despite overcrowding, there is still widespread unmet demand for medical care among the poor. Thus public hospitals at present are self-targeted, i.e., used mostly by the poor. The growth of private sector has also weakened the position of public hospitals in resource mobilisation because the state patronage is shifted to the corporate hospitals, which are increasingly used by the policy makers.

The strategy of increasing user charges in public health clinics and hospitals is unlikely to be a successful means of improving conditions and should not be attempted. Since a great majority of the patients in the government hospitals are desperately poor and not in a position to bear even the minimal

indirect expenditure on travel, medicines etc., the feasibility of user charges is very doubtful and may lead to exclusion of poor patients even from the public health system..

The rural primary health care system suffers from a range of problems such as a large number of doctor vacancies, inadequate supply of drugs and pharmaceuticals, doctor absenteeism, doctors not residing in their place of work, apathy and indifference of doctors and medical staff, lack of adequate referral facilities and poor follow up of the patients covered under the referral card system, the reluctance of the doctors to take up risky patients for treatment, and the fact that family planning programmes have taken precedence over health care.

With the large-scale expansion of private health care in 1980s and 1990s, the rich and middle classes no longer go to the government hospitals, which are used mostly by the poor. As a consequence, the public hospitals face unfair competition in mobilising resources, since politicians and bureaucrats are more interested in extending facilities to the private, mainly corporate, hospitals through various financial and other incentives. This explains the predominance of the private sector in health care and its rapid growth. In the 1990s, the private sector accounted for 78 per cent of in-patient health care in rural areas, and even more in the developed districts. Further, the absence of any control on the quality as well as pricing has made medical care a very attractive source of investment for the private capital.

Because of growing criticism against the misuse of incentives by corporate hospitals, tax exemptions on imported medical equipment were withdrawn recently. However, the corporate hospitals still siphon off huge amounts of public resources through inflated bills for the treatment of employees in the government and public sector undertakings, medical insurance claims from public sector insurance companies and through income tax concessions by registering

themselves as trusts and research centres. The past experience shows that the poor did not benefit from the huge amounts of public resources doled out to the private hospitals.

Any attempts at partnership with the private sector are bound to be detrimental to the public sector. The private sector in medical care forms a very strong bureaucratic and political lobby and is likely to manipulate the state and further weaken the public health care system by draining out the resources. The immediate attention of the government should be on enforcing the provision of free care to the poor by the private hospitals, which have benefited from financial incentives, land grants etc. Otherwise, the public policy towards the private sector should be confined to the regulation of quality and the pricing of medical care.

II. Nutrition

Nutrition remains a significant problem in the state. As can be seen from Table 11.1, even in 1999-2000, levels of per capita calorie intake among most of the rural population were far below what are described as the usual subsistence norms. Malnutrition is high in the state among children. Also, there have been reports of hunger deaths in some parts of the state.

Table 11.1: Estimates of calorie intake in rural Andhra Pradesh, 1999-2000

Monthly per capita expenditure in Rs.	Average per capita expenditure in Rs.	Calorie intake per head (Kcal)	Per cent of all persons	Cumulative per cent of all persons
Less than 225	186	1232	4.8	4.8
225-255	241	1488	4.4	9.2
255-300	279	1662	10.3	19.5
300-340	321	1780	11.7	31.2
340-380	359	1871	12.5	43.7
380-420	400	1990	12.2	55.9
420-470	445	2096	10.8	66.7
470-525	495	2212	9.5	76.2
525-615	565	2381	9.7	85.9
615-775	684	2458	7.0	92.9
775-950	852	2754	3.4	93.3
950 and above	1299	2954	3.7	100
All	454	2020	100	100

Source: Utsa Patnaik (2004) based on NSS 55th Round, 1999-2000

There are many programmes in the state to reduce hunger and malnutrition. The poor rate institutions that provide food security very highly – these include the PDS, Antyodaya, ICDS and the Food for Work programme. The implementation of food security programme through a network of PDS outlets has certainly promoted the physical and economic access of the poor and the vulnerable sections to food grains. The relevance of the PDS for food security will depend on its playing an integrative role for household level food security, wage employment and nutrition programmes including the ICDS and Mid-Day Meals scheme.

However, there do remain errors of inclusion and exclusion; in particular there are some cases of very poor households not getting cards. The interactions during field visits of the Commission in several districts indicated that the coverage of PDS could be expanded to include edible oils, pulses, and other important food items in tune with the changing consumption basket of the poor, without any additional cost to the exchequer. That is, the additional commodities can be supplied at prices lower than the market, thus protecting the poor and

vulnerable from the exploitation of traders in the market. Also, the Commission has already recommended that jowar, bajra ragi and similar grains and also dry land pulses should also be supplied in the PDS at subsidised prices.

It may be noted that nutrition status depends not only on calorie intake but also proper drinking water facilities and sanitation. Many villages in the state do not have these facilities.

III. Social issues including education

Among other causes of rural indebtedness, it is important to mention the expenditure on marriages (including on dowry) and on education. The first is a reflection of social pressures which still remain strong, and around which social mobilisation is required to reduce such spending. However, private expenditure on education reflects the combination of changing aspirations of the rural population as well as the inadequacy of the public education system and the lack of access of the rural poor to the better public educational institutions. Literacy rates in Andhra Pradesh are still low and show high disparities across regions, social groups and gender. Public expenditure on education has declined from the mid-1980s. Despite some recent improvement, public expenditure on education is still much below the advocated norm of 6 per cent of GSDP. There are numerous complaints regarding the quality of public education at all levels.

IV. Recommendations

On health:

1. Public expenditure on health (which is currently less than 1 per cent of the GDSP) sector must be substantially increased..

2. A major weakness in the public health care system is the poor performance of the primary health centres and health sub-centres. Adequate incentives should be provided to motivate the staff to stay in rural areas, and community participation should be encouraged.

3. The strengthening of the public sector hospitals is also essential. Apart from additional resources, there is need for professional management and accountability to the local community.

4. Private sector involvement in health care provision should be strictly regulated.

5. There is a need to promote comprehensive health insurance schemes for farmers and other rural dwellers.

6. The state government should take all measures to ensure access to safe drinking water for all the rural population, especially in tribal pockets and fluoride affected areas. .

For nutrition:

1. At present the BPL allocation of rice per person is too low and the total entitlement is fixed at 20 kg per family. The Commission was informed during the field visits that poor people are forced to purchase a substantial amount of their food grain from the private system. **The allocation of food grain should be on a per capita basis and the per capita entitlement needs to be doubled to meet the basic food requirements of the family.**

2. The Fair Price Shops must remain open for the all days in the month and card holders must be allowed to access their entitlements in instalments as they prefer. In order to make this viable, the following are required:

- It is necessary to ensure that fair price shop dealers receive a line of credit similar to that provided by the RBI to the Civil Supplies Corporation, since the dealers currently take on costly private debt to lift the food supplies and therefore try to sell the supplies quickly.
- The shop dealers' margin may be enhanced to make the Fair Price Shops viable.
- The range of commodities that are sold under the PDS may be increased to include items such as Janta cloth.

3. There must be a major drive to provide nutritious cereals such as jowar, bajra, and ragi at especially subsidised and very low prices to all card holders. The prices must be sufficiently low to attract consumers; in case it is not, it should be further lowered through a subsidy from the state government.

4. The state government should request the Government of India to provide coverage under the Antyodaya and Annapurna schemes to all BPL card holders in drought-prone areas.

5. All poor households should be provided with BPL cards.

6. The various food-based welfare schemes should be integrated with the PDS.

7. The ICDS should be made universally accessible within a specified time-frame. The existing anganwadis should be converted into creches which include children in the 0-3 age group and provide all the six services provided under the ICDS. The timings of these crèches should be daylong.

On education and social issues:

1. More resources have to be allocated to education, particularly to primary education, from the budget. Government should enhance budget allocations for

upgrading primary schools into upper primary schools and setting up residential schools for girls in all the districts.

2. The quality of education in terms of curriculum, better infrastructure and teaching has to be improved.

3. Our field surveys show that farming households want scholarships or credit for the higher education of their children. Therefore, government should increase scholarships and hostel seats to provide greater access to children from rural areas. Also, residential schools for children (especially girls) from the rural areas should be increased.

4. There are inter-regional and social disparities in education. More expenditure for education should be made in backwards districts. Similarly, focus also should be made on Scheduled Castes and Scheduled Tribes as their education levels are lower than other castes.

5. Since expenditures on marriages have been on the rise, mass marriages should be encouraged to reduce private spending on ceremonies.

Chapter 12: Implementation issues and the Agriculture Technology Mission

In this report the Commission has suggested a wide range of interventions that are possible by the state government, immediately and over the medium-term. The new role envisaged for the state government will require a substantial increase in public expenditure. **It is clear that the effectiveness of these recommendations will therefore depend essentially upon the political will to translate them into government policy and on the ground-level implementation.** Public expenditure on agriculture and allied activities should reach 5 per cent of GSDP in the next budget. However, it must be accepted that simply providing more resources and physical infrastructure for the implementation of many of these recommendations will not be sufficient, and that there can be serious concerns with respect to the functioning of public institutions, the accountability and responsiveness of officials and other government staff and the efficiency and quality of public delivery systems. Since we have suggested a substantial increase in the public presence in all areas relevant to farmers, from credit, access to water and other inputs to prices, marketing and non-farm activities, it is necessary to consider seriously the means by which this public presence can be made effective and democratic. The purpose of all these proposed public interventions is not only to empower the state but to empower farmers and the rural community in general, including rural workers.

Some of the recommendations made in this Report fall outside the ambit of the state government. The Government of Andhra Pradesh must take a leading role in ensuring that these issues are addressed by the appropriate authorities, such the Government of India, the Reserve Bank of India and NABARD. Further, the challenges posed by the WTO discipline have not been adequately addressed by the Government of India, but these challenges are likely to be even more pressing in the near future, particularly from early 2005. Therefore the state government needs to mobilise the WTO cell (which should be

placed in the Department of Agriculture) to become the focal point for all relevant research in this area and propose the necessary policy interventions.

The Commission recognises that the success of the policies that have been proposed depend critically upon the quality, accountability and responsiveness of public delivery systems. It is unrealistic to depend only upon the assumed seriousness and integrity of government officials and staff. Rather, systems must be put in place that enforce a substantial degree of accountability and ensure a much greater degree of public participation and voice in the implementation of these policies. These proposals are based upon the expectation that the panchayati raj institutions in the state will be substantially revived, given greater powers and made to function in a democratic and participatory manner. We realise that this cannot be achieved overnight, especially when these institutions have been weakened over several years through various measures and by the proliferation of parallel structures. **We also acknowledge that prevailing unequal power relations are likely to make local panchayats the instruments of local elites and may not always reflect the interests of the less powerful majority. However, we do believe that the process of democratic decentralisation of administrative, functional and financial powers to locally elected bodies sets in motion a process which progressively empowers poor and marginal groups.**

The revival of panchayats in the state will not be an easy task, for a number of reasons. Ideally some untied resources for planning should be devolved to lower rungs of elected bodies. Even tied funds which require area-specific expenditure should be handed down to ensure more relevant and accountable spending. Unless the panchayats are given functional authority and sufficient resources with which to execute their responsibilities, the effort will remain symbolic. But it is not easy to get line departments to cede or share their powers to lower rungs, and even in other states it has been found that each level of devolution tends to prefer to concentrate power at its own level rather than

devolving it downwards. Elected representatives at higher levels may also create constraints to greater power being devolved to the panchayati raj institutions. In Andhra Pradesh, the authority of these locally elected bodies has been eroded not only by the control of line departments but also by the establishment or creation of various parallel bodies which are dealing with related issues. Our recommendations require the local officers of various line departments, including not only the Department of Agriculture, but also Marketing, Irrigation, Rural Development and others, to work under the panchayati raj institutions at different levels. Therefore it will be necessary to clearly state the role, responsibility and power of each level of the panchayati raj institutions, all the way down to the gram sabhas, and to make very clear the exact relationship to other rural authorities including the staff of line departments. Those local groups which are accessing government resources (such as water users' associations and watershed committees) should also be brought under the overall monitoring of the panchayats.

The implementation of several of the recommendations of the Commission would be facilitated in many ways by the active involvement of panchayats in their implementation. In the area of land relations, the panchayats are expected to play key roles in the identification of surplus lands, the granting of land rights to those cultivators who do not have them at present, the registration of tenants, etc. With respect to irrigation and water, our proposal for the eventual public control of groundwater relies upon the involvement of some local bodies (possibly water users associations monitored by the panchayats) in the implementation of decisions regarding water extraction, distribution and pricing. In the area of credit, panchayats can be useful in monitoring the activities of formal credit institutions and ensuring that they fulfil their mandate and perform in a pro-farmer manner. Panchayats can actively assist in the spread and efficacy of extension services and in moving to more sustainable cultivation practices. Input provision is to be regulated in the private sector and more extensively provided by the public sector, but both these types of suppliers require active

monitoring by the farming community, and panchayats can be one channel for collating individuals experiences and feedback on functioning, and thereby reducing undesirable practices. The same is the case for market yards. As far as wage employment programmes are concerned, panchayats can play a crucial role in devising locally necessary and useful activities in which such labour can be deployed. In matters of social sector public service delivery, especially in health and education, the supervision and control of local bodies is recognised to be the most efficient and democratic way of ensuring quality, ensuring accountability and reducing leakages.

Agriculture Technology Mission

Basic goal:

To create and revive public institutions in the rural areas and implement policies which will immediately reduce agrarian distress, and over time provide protection to farmers, encourage the most productive and sustainable forms of land and water use, provide stable livelihood and employment to the rural population and improve the incomes of the rural population over time.

Approach:

1. The ATM must act as the umbrella organisation for the planning, direction and implementation of the all policies relevant to agriculture and allied sectors and the welfare of farmers and farm workers. It should be a permanent body co-ordinating the activities of various departments
2. The focus should be on empowering the farming community, with the active involvement of locally elected bodies such as panchayats and participatory institutions such as gram sabhas.

3. The ATM must have a holistic approach to the problems of agriculture in the state, addressing the particular problems in each area within a broader context and in such a manner as to encourage co-operation and synergy between the activities of various state/central government departments/agencies and local level institutions.

4. Many of the proposals the Commission has made require a mission mode in order to be successful. Therefore the ATM itself must organise and impart a sense of urgency to the tasks at hand and ensure that they are undertaken on a priority basis.

Terms of reference:

The Mission should formulate policies and take action on the following:

- Meeting the challenges of the WTO regime especially from early 2005 onwards.
- organising policy research on critical issues in agriculture and recommending policies to meet the changing needs in this sector
- suggesting the measures required for educating the farmers through farmers' organisations

Areas of focus:

1. Formulate and oversee the implementation of a water policy for the state, including water management and the equitable allocation of water resources.
2. Ensure that the formal banking system in the rural areas covers all the credit requirements of farmers and others, and that the coverage of the formal financial system is extended to all rural households.

3. Set up a Distress Fund that will provide support to banks in chronically drought prone areas, and permit some debt relief to cultivators in extreme distress.
4. Focus on increasing agricultural productivity with sustained growth and lower costs of production.
5. Develop a land use strategy with particular reference to drought-prone areas.
6. Promote and provide incentives for sustainable agriculture
7. Identify input needs and monitor the provision of inputs to farmers
8. Promote relevant public research in agriculture, particularly dryland agriculture, for the development of drought and disease resistant seeds of cereals and pulses.
9. Analyse the relationship between input costs and market prices, and suggest appropriate and timely interventions by the state/central government agencies, in order to ensure remunerative prices to the farmers
10. Monitor the adverse effects of droughts and pests on agriculture and bring in the required initiatives by the appropriate agencies to mitigate distress on account of these calamities.
11. Oversee the settlement of land records, registration of all tenancies, and issue of passbooks to all cultivators including tenants.
12. Improve infrastructure for crop markets and the post-harvest management of the produce
13. Identify proper opportunities to promote rural employment, including non-farm employment, encourage diversification within and out of agriculture; develop value addition activities such as agro-processing in rural areas in a way that benefits farmers.

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**Statement showing the Field Visits made by the Commission on Farmer's Welfare
No. of Farmers and Farmer representations participated and interacted**

Sl.No.	Date	Name of the District visited	Name of the village	Total No. of farmers		Total No. of farmers representatives (A.N)	
				Attended	Interacted	Attended	Interacted
1	21.9.2004	Ananthapur	Gorugunta	200	25	150	35
			Oddupally	300	30		
2	7.10.04 & 8.10.04	Warangal	Singarajpalli	400	7	125	19
			Chennaram	253	5		
3	9.10.04	Mahboobnagar	Reddypalem	210	12	127	13
			Raikal	150	4		
			Burugupalli	200	6		
4	30.10.04	Guntur	Kuntepudi	435	15	123	15
5	31.10.04	Chittoor (Tirupathi)	Nadavaloor,	250	11	145	21
			Ravillavaripalli	100	9		
6	28.10.04	Public Hearing at Hyderabad		60	33		
7	23.11.04	Srikakulam	Puthikivalasa	325	4	132	15
			Peddabagga	175	3		
Total				3058	164	802	118

List of Submissions

District Congress Sarpanchula Sangam, Warangal.
Office: NRR Bhavan, Hanamkonda
Resi: Panthini, Mdl: Wardhannapet,
Dist: Warangal

MPEO'S Association (Regd. 230/04)
(Department of Agriculture)
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B.Sudhakar Goud, President, Sarpanch, Panthini, Warangal Dist.

P.Madava Rao, Andhra Pradesh State Coordinator, Rejuvenat India Movement, Warangal Dist

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Sarpanch, Annasagar village, Bhootpur mandal

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Sri G.Chenna Reddy, Dist. President, Bharatiya Kisan Sangh, Mahaboobnagar Dist.

J.Damodar Rao, Ex-MLA, Lingoiguda, Saroornagar, Hyderabad

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