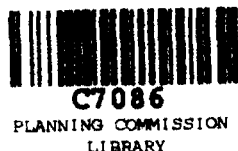


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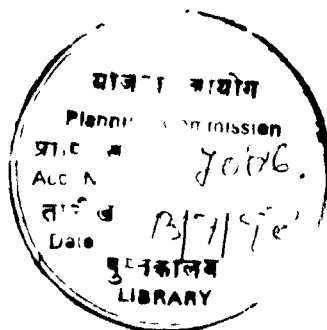
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**PROCEEDINGS OF THE SIXTH ANNUAL MEETING OF
AGRO-CLIMATIC REGIONAL PLANNING PROJECT
May 13 & 14, 1994**



ARPU SPECIAL ISSUE NO. 6

Edited by : G S Guha & Niti Mathur

JUNE 1994

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PART - I

BRIEF OF THE MEET AND THE INAUGURAL ADDRESSES

One

BACKGROUND NOTE FOR THE SIXTH ANNUAL ACRP MEET

The Agro-Climatic Regional Planning Project was initiated by the Planning Commission in 1988 with the prime object of introducing the concept of area based planning for agriculture and allied sectors with the explicit recognition of local resource endowments, constraints and needs. Several phases of this project have been completed through Zonal Planning Teams set up by the Planning Commission with the involvement of State Agricultural Universities, concerned State Governments, Central Ministries and NGOs which have completed the following major tasks:

- i. Preparation of zonal profiles and strategies for 15 broad Agro-Climatic Zones;
- ii. Formulation of indicative State plans disaggregated by Agro-climatic sub regions incorporating profiles, priorities and programmes covering land and water resource development, crop husbandry and development of allied agriculture sectors etc.
- iii. Extension of ACRP to district/sub district planning through the provision of technical inputs to the decentralised planning process on the subject of Agro-climatic Planning.

This work has been completed in 35 districts covering major agro-climatic and institutional situations. In addition to a broad based District Information System, relating to land use and irrigation, Crop Output Projections had been developed covering most of the Districts in the country.

The entire project was reviewed at the All India Meeting held on 7th February, 1992, under the chairmanship of Deputy Chairman, Planning Commission which decided to operationalise the project recommendations relating to agriculture and allied sectors.

The Departmental Sanctioning Committee (DSC) in its meeting held on 10th May, 1993, approved of the project and reiterated that the ACRP project may be continued during the 8th Plan period within an overall budgetary outlay of Rs. 19.75 crore. It further decided that the project initially should be limited to four or five areas on watershed basis/or cluster of villages with a view to gain experience on a nation wide basis, with the explicit understanding of their replicability in terms of strategies and programme components under identical agro-climatic, socio-economic and institutional situations.

The DSC also favoured institutionalisation of the approach at appropriate levels in order to ensure continuity and replicability of the experience gained so far and its convergence with the district/state plan for interfacing the same at the national level.

Based on the above decisions, the experimental projects have been initiated to demonstrate the relevance and replicability of ACRP strategy in five locations - Purulia (West Bengal), Puri (Orissa), Mehsana (Gujarat), Shimoga (Karnataka) and Tiruchirapalli (Tamil Nadu) during the year 1993-94, and these are being implemented through DRDAs/Zilla Parishads/District Collectors, in close collaboration with the State Governments so as to ensure their success and replicability.

The Scientific Advisory Committee and Executive Sub-Committee have been reconstituted to include members from the Ministries of Finance, Rural Development, Water Resources, Environment & Forests and Agriculture for better coordination.

The State Governments have also set up project teams for implementation of these pilot projects. Though the project models are different for various locations, however, emphasis has been on dovetailing of the existing programmes and schemes for better utilisation of available resources to overcome the identified problems through collective efforts, ensuring close coordination within the line departments and also with the beneficiaries at the ground level.

The work relating to benchmark survey, concurrent evaluation and monitoring has also been entrusted by the State Governments to different organisations within the overall budgetary outlay and NGOs/professional organisations are also being closely associated with. Proper documentation of the experience under the project is being ensured for the replicability under identical conditions.

Institutionalisation

The ACRP Project had carried out a detailed exercise in preparing District/sub-District strategies/plans using the similar approach which had been adopted at Zone and State levels. This exercise as indicated earlier has been carried out for thirty-five districts of the country covering varied agro-climatic, socio-economic and institutional situations. The district level exercise as it stands now has not been integrated with the existing planning process and development mechanisms. Thus, there is a felt-need in the current phase of the exercise to integrate this ACRP approach with the existing planning process, primarily at the district level the thereby at the state level. This phase of the exercise termed as "institutionalisation" can be achieved through a number of alternative methods including training, case studies, documentation etc. In order to operationalize this approach it was considered necessary to involve officials at different levels; state, district and sub-district and also non-officials and professionals engaged in similar tasks. The important consideration is that the basic thrust of ACRP in terms of integrated area based strategy for land and water development with explicit consideration of sustainability and replicability should be maintained in such exercises. It was decided to take up institutionalisation exercise in about fifteen districts representing various agro-climatic zones spread over major states including those where the experimental projects in cluster of villages are being taken up. The institutionalisation exercise has been initiated in states of Bihar, Tamil Nadu, Karnataka, Punjab and Orissa. Institutionalisation approach is expected to cover some more states in 1994-95.

Plans for 1994-95

During the year 1994-95, the ACRP will cover following major tasks:

1. Coordination with States for work relating to pilot projects, institutionalisation of special studies apart from interfacing ACRP findings in agriculture and allied sector with the other divisions in the Planning Commission like PPD & Employment Division.
2. Field level studies on macro and micro levels relating to agriculture and allied sectors, at Zonal, State sub-regional and district levels are the basic functions of Zonal Planning Teams which also provide technical inputs in operationalisation of pilot projects and institutionalisation of ACRP approach. Grant-in-aid would also continue to be provided for the activities of ZPTs during 1994-95.
3. ACRP experimental projects initiated during 1993-94 would be continued and budgetary support shall be provided within the overall financial outlay of Rs. 5 crore earmarked for the Project.

The major components under institutionalisation of ACRP for which technical and financial support will be provided are:

1. Familiarization of and training on ACRP approach and its applications.
2. Case study approach (planning of district/sub-district level) involving government functionaries and NGOs, leading to the preparation of decentralised plans and programmes.
3. Identification of progressive farmers who shall work as "Change Agents" through visits to areas where advanced/new technologies have been adopted for the purpose of dissemination/adaptation in other areas.

- 4. Computer applications**
- 5. Special Studies, relating to the core areas of ACRP.**
- 6. On-field demonstration trials of improved agro-techniques as also advanced technologies.**

The institutionalisation exercise would also be initiated in the remaining major states during the year 1994-95 which will continue during the remaining period of the 8th Plan.

The information and support system would be strengthened at the District and State levels.



Two

PRESIDENTIAL ADDRESS

Dr. Jayant Patil

Member (Agriculture), Planning Commission

Honorable Chief Minister, Mr. Virbhadr Singh, Mr. Anand, Chief Secretary, Himachal Pradesh, Dr. R J Mody, Director, Sardar Patel Institute of Economic & Social Research, my colleague Mr. K Rajan, Dr. Bhalla, Dr. Papola and Shri D N Basu. I am indeed grateful to Shri Virbhadr Singh and his staff for extending the facilities and support required in organizing this Sixth Annual Meeting. It is indeed a unique opportunity to address this august gathering of Agricultural Experts, Planners and Senior Administrators from different States. This is the Sixth Annual Meeting of this project but perhaps, more distinctive than others. We have been personally associated with this project from its inception and have seen the character of the project not merely grow in size but also get rooted firmly in ground realities with the local participation. With the initiation of the policy on economic liberalization on one hand and our deliberate accent on decentralized planning on the other, this project has achieved distinctive significance. Here is an opportunity and challenge for us to dovetail the two basic principles namely resource use efficiency and sustainability adopted in the ACRP based planning for agriculture and allied sectors, to the macro-economic reforms process on the one hand and strengthening of decentralized planning and development on the other hand. This annual meeting has brought together all the relevant disciplines in addressing this challenge.

Essentially ACRP approach to planning stems from the need for adopting area based planning based on local resource endowments and priorities rather than schematic or macro level sectoral plans. This basic approach continues to be our main theme even today but the two major considerations or aspects we have not so explicitly built into this project in the past, but need to be done so in our future work plan are:

- a) Comparative natural resource advantage of a particular agro-climatic region can be translated into realized gains to farmers and local people only when it combines the planning criteria based on resource factors with the socio-economic and institutional parameters and more importantly ensures participation of local communities and functionaries. In other words, the best of plans, in order to be effective should be tested on ground.
- b) In order to ensure replicability and continuity of this approach, it is essential that the whole exercise should be institutionalized. Institutionalization is a rather broad term. What we have in mind is that the approach that we have adopted and the planning experiments that we have carried out should be internalized in the existing planning and development systems at various levels in the State and District administration. With regard to the first aspect, as you are aware, we took a decision in our last Annual Meeting of operationalising ACRP core strategies in selected districts through experimental projects in a small area. I understand that the projects in the districts of Puri, Mehsana, Tiruchirapalli, Shimoga and Purulia have been finalized and in some cases work has also started. I will be delighted to hear about these projects as they are being discussed in subsequent technical sessions. What, however, strikes me most is that even in this limited number of five experimental projects, we have focused on several core strategies. For example, reclamation of problem soils, either saline or alkaline or water logged, is a major national problem but integrated efforts in solving this problem have been rather limited. I find from a brief description of the project that the reclamation of problem soils has been adopted as the core strategy in three out of five projects, namely, Trichi, Shimoga and Puri. The project in Mehsana has correctly emphasized on the often left out activity of augmentation of fodder supply to

enhance the productivity of animal stock and to provide alternative employment opportunities. The integrated watershed project with addition of new activities and promotion of horticulture in Shimoga also deserves special attention. What is, however, more important is not the strategy by itself but how it is being done with limited financial and institutional resources and involvement of local communities and farmers. We do not want a grand project with unlimited resources which cannot be replicated but a smaller project with a better chance of success.

In addition to these five experimental projects we have received encouraging response from various State Governments and Agricultural Universities in undertaking training programmes and institutionalization exercises. This will be a new venture for us and we are keen to hear from State Secretaries and Vice Chancellors on this subject so that we can firm up and probably expand this important phase of work as we go along. What I would like to impress upon is that training per se is not an end in itself. Absorption of this planning approach and its internalisation within the existing planning and development machinery is more important. Training would continue to be an important tool for achieving this objective but it may be equally important to undertake an in-house planning assignment, and an exchange programme of farmers and Government functionaries for this purpose. It is a matter of happiness to learn that some of our Universities have undertaken to extend this exercise to typical but difficult districts like Bastar, Barmer and Koraput. We will definitely lend all our support in these ventures.

Some of the issues and concerns which are being raised in different forums in the context of economic liberalization process, are of direct relevance to agriculture sector and also have a direct bearing on the future re-orientation of ACRP Project. There is nothing conflicting between the ACRP approach and economic liberalization rather they may be reinforcing. At the same time, it is important to recognize that the macro economic environment in which farmers have to take their decisions on land use and cropping pattern will be different. In this sense, the role of State intervention and technologies will be perhaps somewhat different than what it used to be. Our Agriculture Universities can play an important role in this aspect by focusing on appropriate technology and its extension which will enable the farmers to take best advantage of their intrinsic resource endowments in a competing environment. Similarly, role of the State and Financial Institutions in providing various delivery system also needs to be restructured and strengthened. All this will call for a decentralized approach with resource use efficiency and sustainability as the central principles. I am sure that in the technical sessions, you will deliberate on these vital subjects and give a feedback of your rich experiments to enable us to reorient our policy framework.

Let us all work together - scientists, technologists, planners and District level administrators, with the involvement of the local communities, during the remaining years of the Eighth Plan and make sure that this approach and planning experiment becomes an integral part of the Ninth Plan in all its aspects.



Three

INAUGURAL ADDRESS

Shri Virbhadra Singh,
Chief Minister, Himachal Pradesh

I am happy to be in the midst of the galaxy of experts meeting today on a very vital subject of agricultural planning, more particularly planning for land and water resources development which combines the objectives of decentralisation and sustainability. It is indeed appropriate that Planning Commission has taken a lead in the matter. I welcome Dr. Jayant Patil, Member (Agriculture) who himself is an Agricultural Scientist and a practising farmer, senior officers from various States, Vice-Chancellors of the Agricultural Universities and other professionals to this Sixth Annual Meeting of the Agro-Climatic Regional Planning Project, which is being held in our State. I am particularly glad that this august meeting is being held in Himachal Pradesh which is characterised by unique soil and climatic conditions and offers massive diversification opportunities.

I understand the project was initiated by the Planning Commission at the instance of the then Prime Minister, late Shri Rajiv Gandhi in 1988 for giving area specific reorientation to the programmes in agriculture and allied sectors. Essentially, it was intended to introduce a system of planning and agricultural development based on agro-climatic factors in the light of available technology to achieve scientific and optimum use of land and water resources and to maximise income of the farming community through accelerated development in the agriculture sector. Planning Teams each headed by the Vice Chancellor of the State Agricultural University, with representatives from the State and Central Governments and other experts were constituted by the Planning Commission with the explicit recognition of local resource endowments, constraints and needs. Several phases of the project have been completed by these teams including zonal planning and formulation of strategies for fifteen agro-climatic zones, preparation of indicative state plans, disaggregated by agro-climatic sub-regions, incorporating profiles, priorities and programmes covering land and water resource management, crop husbandry and development of agriculture, allied sectors and finally extension of ACRP to district and sub-district planning by providing technical input to the decentralised planning process. I am happy to note that our State was also associated with this exercise and has formulated State plan disaggregated by the agro-climatic sub-regions, as also for Shimla district in particular.

Looking at the programme of the meeting, it appears that the agenda of the meeting covers the issues of agro-climatic relevance at micro level viz; cluster of villages and watersheds with a view to gaining ground level experience and interfacing the planning process with the district and State Plans. On the other hand, the meeting is also to deliberate on issues of national importance. The NDC Committee under the chairmanship of Dr. Jayant Patil has already given its report on Micro Level Planning. This type of exercise of incorporating technical input to the district planning process is very crucial at this stage.

The address by Dr. Jayant Patil has given me a good insight into the basic issues and thrust areas of Agro-climatic Regional Planning exercise. The Planning Commission's initiative in getting the ACRP approach tested on the ground level in five locations, will go a long way in furthering the whole effort. These projects, I learn, are being implemented by Zilla Parishads/DRDAs and the emphasis is on dovetailing the existing programmes and schemes for better utilisation of available resources. I am sure the benefits of this exercise would be extended to our State also during the current year. The State can take up this work, quite effectively in collaboration with the Agriculture University, Palampur, the Y.S. Parmar University of Horticulture & Forestry and the Agro-Economic Research Centre in conjunction with line departments, particularly Agriculture/Horticulture and Planning.

The present Annual Meeting is crucial since it is focussing attention not only on the exchange of views/suggestions in order to review work experiences and chart the future courses of action, it is also considering some issue of national interest. Important dimensions like international trade situation, perspectives and infrastructure preparedness are the dominant features of the current economic policy which are being explicitly considered in the theme of the Annual Meeting, "Agricultural Policy Planning and Economic Liberalisation; Context and Significance of ACRP". Special attention needs to be given to the fragile economy of hilly areas like ours which may require additional support for micro and macro level studies and institutional framework. I, on behalf of my State, can assure that we shall actively participate in this exercise of the Planning Commission.

I will be failing in my duty if I do not compliment the Deputy Chairman, Shri Pranab Mukherjee and Dr. Jayant Patil, Member (Agriculture) under whose dynamic leadership such a relevant and important exercise has been initiated.

I am sure that the two days of deliberations would be fruitful in providing a new outline to reorient our planning exercise in the field of agriculture and allied sectors. The major emphasis has to be to ensure that farmers at large are economically benefitted and the ecosystem is not disturbed.

With these few words, I feel privileged in inaugurating this meeting.

Jai Hind.



Four

SUMMARY OF THE FIRST DAY SESSION

The 6th Annual Meeting of Agro-climatic Regional Planning Project (ACRP) was held at HIPA, Shimla on May 13 and 14, 1994, organized by the Planning Commission.

On May 13, the Inaugural Session was graced by the presence of Shri Virbhadra Singh, Hon'ble Chief Minister, Himachal Pradesh. The Hon'ble Agriculture Minister, Shri Man Chand Rana was also present. Dr. Jayant Patil, Member, Planning Commission who was to preside over the Session, could participate only in the latter part of the programme due to delayed arrival of the train. In his absence the Presidential Address was delivered by Prof. Hashim. Among the distinguished persons present were the Chief Secretary of Himachal Pradesh, Shri R K Anand, Shri K Rajan, Adviser, Planning Commission, Prof. S R Hashim, Dr. T S Papola, Shri D N Basu, besides Vice Chancellors, Secretaries of different states, experts and other officials and non officials of different states. The meeting was attended by about 80 delegates.

In his inaugural address, Hon'ble Chief Minister stated that the ACRP was started by late Shri Rajiv Gandhi, the then Prime Minister, in 1988 and since then several phases of the project have been completed by the Zonal Planning Teams headed by a Vice Chancellor for 15 Agro-Climatic Zones and have extended ACRP to district and sub-district planning, including some districts in Himachal Pradesh. The Chief Minister said that Himachal Pradesh had immense potential for horticulture development and ACRP would immensely benefit the state. He congratulated the Planning Commission for integrating ACRP approach with the existing planning mechanisms at appropriate levels to ensure continuity and replicability of the experience gained so far for its convergence with the district/state plans for interfacing the same at national level. The CM desired that in the next phase of ACRP, HP would be an active partner. He desired the meeting all success.

In the Presidential Address the importance of integration of resource factors with the socio-economic and institutional parameters together with people's participation was highlighted upon. The address also pointed to the fact that implementation of strategies may be carried out within the orbit of limited financial resources with local involvement- this alone would give the project a better chance of being replicated. Dr. Patil expressed his keenness in welcoming other State governments/ Universities in undertaking new institutionalisation exercises, particularly in difficult districts. He also stressed the importance of Agricultural Universities in focussing upon the appropriate technology and its extension, so that the farmers benefit from the resource endowments in a competing environment, ushered in by economic liberalisation.

The discussion on the first day was divided into two technical sessions. The first technical session was chaired by Prof. S R Hashim. Key papers were presented by distinguished persons like Shri D N Basu, Shri G S Guha, Prof. G S Bhatta, Dr. V M Rao, Dr. D K Dasgupta. The topic for discussion was "Agricultural Policy Planning and Economic Liberalisation - Role of ACRP". The main points that came out of the distinguished papers were:

Liberalisation of the economy is expected to lead to higher rate of growth of agriculture sector by removing distortions in price and other distortions in the system and thereby contributing to higher alternative efficiency of resources. This process, however, is not likely to benefit all regions and schemes equally, in particular there is a possibility of backward regions and small and marginal farmers being left out of the initial process of accrual of gains from liberalisation process. In order to counter this possible negative impact it is important to adopt regionally differentiated agricultural strategies which is the central principle of the ACRP.

Since ACRP is essentially based on the twin principles of resource use efficiency and sustainability covering the entire gamut of land and water based activities there should be no conflict with the price and market determined system of resource allocations implicit in the policy of economic liberalisation.

While the present accent on decentralised planning particularly with the strengthening of Panchayat Raj system after the enactment of 73rd Constitutional Amendment will initiate the process of reduced role of State Government in various spheres, state intervention will continue to be necessary for introducing and effecting measures pertaining to environmental preservation and conservation of resources as this will be beyond the purview of decentralised system of Government both technologically and financially.

The second technical session was chaired by Dr. Jayant Patil, Member, Planning Commission. The topic for discussion was "Experimental Projects for Operationalisation of ACRP Strategies". Presentations were made by district teams of Trichy, Shimoga, Puri, Purulia and Mehsana. Collectors of Mehsana and Trichy narrated the status of the experimental projects in their areas. Project Director of Shimoga presented the case for the district. The experimental projects of Puri and Purulia were presented by the State Agricultural Universities.

It was emphasised in all the five presentations that the strategies being operationalised in different experimental projects represent the concerns and solutions not limited to experimental project areas but are of wider relevance on the regional or at the national levels. Thus, the significance of replicability of such successful experimentations will be crucial in demonstrating the effectiveness of ACRP approach. Innovation in this project and convergence of financial and institutional resources will be the other two important principles of demonstrating the effectiveness of ACRP approach.

In summary the session concluded after emphasising the need for replicability of the approach as a whole rather than being confined to a few specific elements of the experimental projects. As a matter of fact, this aspect will be the guiding principle of the Institutionalisation phase of ACRP project which is being planned for the remaining years of the 8th Plan. The central principle of institutionalisation would be internalisation of ACRP approach with the existing or emerging planning and development machinery and its vertical intergration with the State Plans.



Five**SUMMARY OF THE SECOND DAY SESSION**

The second day concentrated on the institutionalization aspect and also on the future work plan for ACRP. The former was presented by Tamil Nadu, Karnataka, West Bengal and Orissa. In case of Tamil Nadu, a comprehensive multi-tier model of institutionalization was recommended starting from the acceptance of the approach at the highest political level down to grassroots level training and exposure of the farmers. In case of West Bengal, the approach is being institutionalized through the Zilla Parishad system which provides the main linkages between the Panchayat Samitis and State Government for translating the local priorities and plans into State Plans. In this sense the ACRP approach in case of West Bengal is well integrated into the Panchayat Raj system. The H.P. Government representative also presented a plan of institutionalization with focus on development of horticulture. At the end of the deliberations there was consensus that institutionalization of ACRP approach would involve both its acceptance at the policy level by the State Governments and the bottom-up approach in terms of the formulation and prioritization of policies and programmes. Regarding the future work plan it was agreed that apart from the two current work components namely operationalisation of the experimental projects in five districts and strengthening of the institutionalization process, ACRP could provide an effective mechanism of information support and dissemination not limited to public sector plan but also covering investment activity by cooperative sector banks and the private sector. A couple of pilot projects on this idea of setting up repositories of potential activity and market intelligence in different levels of agro-climatic situations would be initiated. Training at different levels would also form an important component of the project. A more comprehensive project and planning information system with the help of NIC network is also proposed to be set up in different parts of the country.

Dr. Jayant Patil, Member, Planning Commission concluded the day's proceedings by stating that the Planning Commission would take immediate action in consultation with the State Governments, in integrating ACRP approach with the official State Annual and Five Year Plans. Though such integration had already taken place in a few States it would be necessary to extend it now to all the States. Member, Planning Commission also expressed his conviction that ACRP is the most well thought out approach in enhancing agricultural production in a sustainable manner. He also emphasized the need for dissemination of the ACRP project experiences either through experimental projects or other activities not only to the technologists and to planners through the means of a special journal on Agro-Climatic Regional Planning but also through a process of documenting these experiences in regional languages, thus making them available to the lead farmers. He concluded that while the accent of ACRP is on resource base planning, the peoples' participation should be the focus of any such innovative planning experiment.



Six

PROGRAMME OF THE SIXTH ANNUAL MEET OF ACRP

The Sixth Annual Meeting of the Agro-climatic Regional Planning Project was held on May 13 & 14, 1994, at HIPA, Shimla (H.P.).

On the first day the Inaugural Session was held at 10.30 A.M. Shri RK Anand, Chief Secretary of Himachal Pradesh welcomed the delegates. Following the introductory remarks by Shri. K Rajan, Adviser (Agriculture), the Presidential Address was given by Prof. SR Hashim, in lieu of Dr. Jayant Patil, Member (Agriculture). Shri. Vir Bhadra Singh, Chief Minister, H.P. gave the Inaugural Address. The session came to the end with a vote of thanks by Dr. RJ Mody, Director, S.P.I.E.S.R, Ahmedabad.

Technical Session One pertaining to Agricultural Policy Planning & Economic Liberalisation commenced at 11.45 a.m, and was chaired by Prof. SR Hashim. Dr. DN Basu and Shri GS Guha made a presentation on the status of work and the future plan of ACRP. This was followed by presentations of the key papers by Prof. GS Bhalla, Dr. VM Rao, Dr. DK Das Gupta, Dr. SS Khanna and Dr. S Arya. Observations by the panel of discussants followed next, and the session concluded with the remarks of Shri K Rajan.

Technical Session Two concerned the Experimental Projects for Operationalisation of ACRP Strategies- Key Work Areas and Implementation / Monitoring System. Dr. Jayant Patil was the session chairman. Presentations were made by the district teams of Trichy, Shimoga, Puri, Mehsana and Purulia. Following a discussion by all the participants the session broke up for dinner.

On the next day, May 14, The Third Technical Session had presentations of work of ACRP other than the experimental projects. Presentations were made by selected State Agricultural Universities / Vice Chancellors. The participating states were AP, Orissa, Maharashtra and HP. The chairman for this session was Dr. KS Chauhan.

Technical Session Four pertained to the Institutionalisation of ACRP approach. The session commenced at 10.30 a.m and had Dr. TS Papola at the chair. Presentations were made by the representatives of various states, viz., Dr. M Jyoti (Karnataka), Dr. Dwivedi (HP), Shri F Akram (Samastipur, Bihar), Dr. B Bhuyan (OUAT, Orissa), Shri. RC Panda (Tamil Nadu), Shri NK Das (West Bengal) and representative of the Gujarat government. These were followed by a discussion.

Technical Session Five dealing with the Future Workplan began at 12.15 p.m to ascertain the future course of action of the ACRP approach. The session was chaired by Shri K Rajan and the panel of discussants included Dr. DN Basu, Shri RC Panda, Dr. SS Khanna, Prof. SP Kashyap, Shri N Govindan and Dr. DG Faldu. The session ended with Dr. Basu's concluding remarks and a vote of thanks by Shri OP Grover.



PART - II

PROCEEDINGS OF THE TECHNICAL SESSIONS

Seven

TECHNICAL SESSION ONE

AGRICULTURAL POLICY PLANNING & ECONOMIC LIBERALISATION - ROLE OF ACRP

7.a Approach Paper

Emphasis on regional resource based planning approach can mistakably be viewed in the light of a conflict between local or global (national) optimum. ACRP approach though avoids the dangers of hierarchical imposition of targets and programmes, and demonstrates possibilities of pushing output generation frontiers through scientific resource management and resource retrieval, ultimately has to have relevance in a national setting. Possible ways of integrating ACRP approach with national concerns have to be worked out. For instance macro implications of ACRP approach could be spelled or national concerns could be mapped over micro spaces with due appreciation of grassroot institutional structures and resources criticalities. The two approaches are not mutually exclusive and indeed could complement each other depending upon the planning problems.

An important class of issues relate to the possible role of ACRP approach in the wake of the ongoing process of economic liberalization and globalization, including signing of the Dunkel Draft (DD). The matter requires debate and deliberations at the highest level. However, some implications may be noted:

- (a) It appears that the ongoing process of economic restructuring would seriously undermine the willingness and even capacity of national planners to take decisions that do not compromise national interests and also to protect the poor and ameliorate their conditions. This is particularly true in view of TRIMS and TRIPS provisions of DD which gives almost total operational freedom to Trans National Corporations (TNC). With their monopoly power over science and technology, TNCs have the capacity to subjugate the Third World into economic dependence. Given this, institutional arrangements shall have to be made to protect the poor.
- (b) Evolving a decentralized planning system under the new economic regime may be much more important than is commonly realized. The emerging policy frame requires that focus of decision making, particularly for space specific resources, is shifted from national planners and state level line departments to those who are more familiar with the grass-roots aspirations. Decision making process in a decentralized framework would require strong support from carriers of scientific and technical knowledge and those having expertise in financial management. ACRP can play a leading role in this process.
- (c) It seems that immediate advantages of global opportunities would be limited to the already prosperous areas and farmers who are integrated with the market economy. A crucial issue would be how to strengthen the resource base and establish access of areas bypassed to global opportunities without subjecting them to dependent and exploitative arrangements. This calls for resource augmentation (physical, social and economic infrastructure) and institutional restructuring for the hitherto neglected areas.
- (d) Fears have also been expressed that inducements for crops diversification, that might be required for scientific land and water management with due recognition of sustainability, would push farm

subsidies much beyond the ceiling of ten per cent. For instance, it is alleged that as Indian agriculture diversifies itself, particularly in dry and rainfed areas, and as farmers switch from low yielding, monocrop systems to high-yielding and multi-crop systems, the subsidy given to Indian farmers, as measured by the Dankei Draft could be higher than that prescribed by it. The implications of such a development would call for careful monitoring.

- (e) The poor and populated countries like India find it very difficult to curb need based, or as a matter of survival, abuse of the environmental resources. These economic regimes now also face the danger of greed based exploitation of natural resources. It is argued that TRIMS denote citizens and governments of all rights to protect themselves from the environmentally, socially and economically unjust investments by the TNC.

Globalization of agriculture would also mean the capacity to respond to varying market requirements. Such responses would be shaped by the speedy transmission of information and technological capability of the farming systems to respond to the market signals. ACRP can play a vital role in meeting both these requirements.

7.b Rapporteur's Report

Chairman : Prof. SR Hashim • Rapporteur: Dr. TK Ghosh

After the conclusion of the Inaugural Session at 11.45 hours on May 13, 1994, Technical Session One commenced. The topic of the session was : "Agricultural Policy Planning & Economic Liberalisation - Role of ACRP". Prof. S R Hashim was the Chairman of the session.

At the beginning, Dr. DN Basu made a short presentation on "Introduction to ACRP", assisted by Shri GS Guha, with slides. Focussing on the three basic principles of (i) Resource-Use Efficiency, (ii) Regionally Differentiated Strategies and (iii) Sustainability, Dr. Basu elaborated upon the stages of the operationalisation of ACRP done so far, and termed the present logical stage of extension of ACRP to the District Level as a significant milestone. He stated that the District was the most convenient and appropriate level as it was not feasible to not conformed to the administrative system existing in the country. He said that at the district level, implementation of some core strategies was now being done through Experimental Projects in five districts, with a view to find out the replicability possibilities.

Dr. Basu, while pointing to the future programme of work, underlined the importance of developing a computer-based Project Management Information System "PMIS", which would be an information - cum-communication system with satellite linkup so that the District could be networked even to the Planning Commission at New Delhi. He further said that the next stage of ACRP would be to institutionalise the ACRP approach by (i) internalising it with the existing and emerging planning and development systems at various levels, (ii) keeping it flexible and responsive to the statutory decentralisation consequent to the 73rd Amendment of the Constitution, and (iii) reconciling the local optimum goals with the global (atleast at the national level) optimum requirements. Dr. Basu concluded by saying that the possible instruments for institutionalisation could be : (i) training and (ii) involving a core committee at the District level (so as not to repeat the past mistakes of the past which lead to the thinking that ACRP is a mere "University's plan" and not people's own). Dr. Basu invited the participants to come out with ideas regarding how best to institutionalise the ACRP at the district level.

Some key papers specific to the topic of the Session were thereafter presented. The first such presentation was by Prof. G S Bhalla. Prof. Bhalla started with elucidating his understanding of the New Economic Policy, which, he said, was a marked deviation from the early policies pursued by the

Government. In a nutshell, he said, the New Economic Policy was a new trade policy with monetary and fiscal reforms so as to integrate the domestic economy with the global economy. According to Prof. Bhalla, Indian agriculture had been neglected for long. He supported the move for freeing agriculture from its seclusion and making it tradeable, which would be beneficial to the country. Prof. Bhalla stated that in the past, whatever was done could be grouped into three broad classifications: (i) land reforms, (ii) infrastructure development including setting up of Food Corporation of India, facilities for Irrigation Credit etc. for removing the supply side constraints, and (iii) social welfare services. He outlined the planning scenario since Independence by dividing the time-frame thus: (i) till mid-sixties, the emphasis was on growth in area and (ii) from the sixties to the nineties, the emphasis shifted to growth in yield.

He described the ACRP under Alagh's supervision as the third stage, when for the first time, resources were built into the planning model. New questions were being asked whether technologies led to impoverishment of resources or resources led to improvement of technology. Turning to ACRP and the New Economic Policy, Dr. Bhalla said that problems might arise if ACRP did not respond to the New Economic Policy. Exports would rise under the New Economic Policy, and world prices would tend to determine how we should use our own resources. Similarly, bio-technological improvements would have their thrust on Indian agriculture. Under the New Economic Policy, comparative advantage would be an important consideration with the farmer. Dr. Bhalla concluded by urging that consideration shall be provided to the fact whether ACRP could integrate all these new dimensions with its own philosophy.

The next presentation was by Dr. V M Rao. He picked up the point raised by Dr. Bhalla and said that ACRP and liberalisation under the New Economic Policy were not incapable of being integrated. He thought that ACRP had to address itself to better interaction among different levels. He felt that interaction between State Plans and National Plan was not at the desired level. Similarly, there should be a lot more interaction between State level Plans and lower level plans. Dr. Rao pointed out that some districts within a Zone had negative growth. He wondered if ACRP could focus on those negative growth districts. Dr. Rao supported Dr. D N Basu by saying that ACRP was basically a technique for making development viable. He concluded by saying that we were to rely more on district level experiences and on participatory planning.

The next presentation by Dr. DK Das Gupta raised the important question of preservation of bio-diversity and import of new technology to agriculture in the context of the New Economic Policy. He strongly advocated substantial government investment in agriculture which was neglected in the past. He also emphasised that public policies were needed to discourage activities aimed at short-term economic gains at the cost of environmental degradation. Turning to ACRP in the context of the New Economic Policy, Dr. Das Gupta said that it was now necessary to operationalise the support of ACRP technology to domestic and external agricultural concerns in view of the GATT prevalent framework environment.

At this stage, the Chairman invited comments from the panel of experts on this part of the session.

Dr. TS Papola commented that certain issues had not been developed sufficiently. In the first place, assuming that sweeping economic reforms had been brought about by the Government, nothing is visible in the agricultural field except some de-controls here and there. Major reforms were absent in agriculture. The reason, he said, might be that agriculture being a sensitive sector, the Government had to move carefully and cautiously. Dr. Papola made a further point that assuming liberalisation under the New Economic Policy would lead to faster growth in agriculture, analysis should be done which would consider the nature of such growth and its structural ramifications. He said, agricultural growth through price response was just an assumption. Studies suggested that if aggregate agricultural production was considered, price response in agriculture was very weak. Dr. Papola said that in a

market-friendly situation, the tradeables would fare better than non-tradeables; and tradeables were mainly non-food crops. Under these circumstances, what structure of Indian agriculture would emerge? Could we afford even a ten percent food shortage under the changed scenario? The other point made by Dr. Papola was that market could bring growth, but not equity. In the Indian context, equity was an important consideration. Absolute reliance on the market was, therefore, dangerous. The other connected matter was protection of the environment, which, left to the price mechanism, would deteriorate sooner than expected. For sustainability, therefore, some interventions were necessary, Dr. Papola stated in his conclusion.

Prof. SP Kashyap commented that the concept of ACRP had been evolved as a logical process over time, and it had no threat from globalisation or liberalisation under the New Economic Policy. However, regarding sustainability, he said that the advent of trans-nationals under the GATT could cause more damage to land and water assets with which ACRP was so meticulously concerned. Prof. Kashyap concluded by saying that though price signals were important, they mattered in the long run only, and so ACRP need not deviate from its phased programmes in the context of the New Economic Policy.

Shri RC Panda started by discussing the phases of growth, which were first yield-led, then technology-led, and under the New Economic Policy would be export-led. He observed that over the country the land holding pattern was distorted because of the lack of progress in land reforms, and inspite an apparent food security there was deficiency in the nutritional level of the population because of inadequate purchasing power. Thus the fragile food security should not be allowed to be jeopardised under the New Economic Policy. He wondered how under the new dispensation, 75 percent of the farmers who were small and marginal could be brought in the export-net. Agricultural export was commendable, but not a panacea for all the economic ills. Under the Indian situation, what would most conceivably happen would be cornering of the export-led growth by the middlemen. Regarding selection of the district as the unit for ACRP, Shri Panda stated that even in districts having positive growth rate, there were pockets having negative growth. ACRP should, therefore, concentrate on low-yield areas, for which the Block would be a more suitable unit of operation. This was more so in view of the 73rd Amendment of the Constitution by which Block-level Panchayats would yield more decision making power.

Shri K Rajan said that one should not put the cart before the horse. He said the New Economic Policy would take its own course but the main question was how ACRP should respond. Planning helped in productivity enhancements but Indian agriculture was always in the private sector, and still it did not respond much to the market forces. Regarding interventions, he doubted if ACRP was competent. ACRP, according to Shri Rajan, was an old concept applied to agriculture for the attainment of scientific and sustainable growth. The New Economic Policy was likely to bring in a series of changes. ACRP should also respond to the changes without sounding much alarm.

Dr. RJ Mody said that under the New Economic Policy, agriculture sector changes should be brought about within the ACRP approach. Agents for such changes should be NGOs in addition to the government. Dr. Mody said that planning and policy would have an important role to play, and through incentives the desired changes could be partly brought about. Regarding export-led growth, he said Indian agriculture was less elastic and so the commensurated agricultural growth was not likely to occur necessarily with the increased agricultural export. One good result of the New Economic Policy on agriculture, he said would be through the price mechanism. Better prices would benefit farmers, and the Government could do away with the load of subsidies gradually in a painless manner.

The Chairman thereafter invited the remaining speakers to make their presentations. Dr. SS Khanna presented his paper entitled "Agricultural Policy Planning and Economic Liberalisation in Eastern U.P. with special reference to ACRP". His main contention was that we could re-shape our agricultural

development through ACRP particularly after the 73rd Amendment which had ushered in the Panchayati Raj in a meaningful manner.

Shri S`Arya presented his paper, "Agricultural Exports and Economic Liberalisation". He underlined the great opportunities opened up to Indian agriculture under the New Economic Policy, particularly in cotton, oilseeds, rice, tobacco, sesame and niger seed, castor oil, HPS (hand-picked shelled) groundnut, sugar & molasses, jute, guar gum, wheat and fresh fruits vegetables. He concluded by saying that we would have to identify the areas where India had comparative advantage and could compete in the world market.

Dr. HG Hanumappa made a few comments. He said ACRP exercises were lacking in some specific activities like seeds. He cited the example of a taluka he knew which earned rupees two crores worth foreign exchange by seed export alone. Regarding the channels for implementation of ACRP he said we had not yet explored the possibility of involving the non-government agencies.

Chairman Prof. SR Hashim summed up the proceedings of the first technical session and made a few observations. He said, in essence, ACRP meant (a) making of a resource inventory in detail, (b) preparation of a set of suggestions as to what should be done with those resources, (c) management of land and water resources, (d) environmental planning and (e) construction of a powerful data-base. Seen in this context, Prof. Hashim said he did not find any conflict between ACRP and economic liberalisation. He said it was not the Planning Commission, or the State Planning Boards, or the Government functionaries but it was the Panchayat System which was going to put ACRP on the ground. In addition, some interest groups like milk-growers' cooperatives are also to be roped in. We have to identify and harness other similar agencies. Regarding environment he said its protection was best taken care of at the regional and sub-regional micro-levels. Some interventions could be imposed by the Panchayats, but when environment was endangered, effective intervention could be made by the Government only. Prof. Hashim concluded by observing that the New Economic Policy would result in a faster growth of the economy including agriculture, but it would also create distortions between the different regions. Since ACRP is specifically concerned with regionally differentiated strategies for growth, it is all the more reasonable to assume that ACRP should be considered as necessary under the New Economic Policy, and it was not conflicting with the New Economic Policy.



Eight

TECHNICAL SESSION TWO

EXPERIMENTAL PROJECTS FOR OPERATIONALISATION OF ACRP STRATEGIES

8.a Rapporteur's Report

Chairman: Dr Jayant Patil • Rapporteur: Dr. TVS Rao

1. Chairman's Opening Remarks

The Chairman in his opening remarks felt that the experimental projects launched by the Planning Commission in five districts are a step in the right direction. Not only is it important to field test the innovative techniques in agricultural development evolved in the Research Institutes, but to acquire field level knowledge of the agricultural situation at the grass roots level is also essential. Recounting his visits to these project areas in the last two years, he said that he got an opportunity to interact with the farmers personally. Such interaction is useful in bringing out the socio economic problems and aspirations of the farmers. Unless these are known, we cannot plan effectively for agricultural development. Such interaction would also give us an opportunity to learn innovative and relatively unknown techniques followed by farmers, which are relevant and suitable to their local situations. The experimental projects should be viewed upon as not only as a means to implement the ACRP technology, but also as an opportunity to know the relevance of the programmes and the impressions of the farmers about them.

2. Project Presentations

The Project of Tiruchirapalli district in Tamilnadu was presented by Shri Rajendran, District Collector, with the help of slides. He also circulated a detailed report. He highlighted his interaction with the farmers, who were involved in the project right from the beginning. He described how they readily came forward to identify their problems, especially the weaker sections amongst the farmers and how cooperative they were. It was at the instance of the farmers that correction of problem soils was taken up under the project.

Prof. Dasgupta in his presentation outlined the progress achieved in the Purulia district of West Bengal. Kasipur block of the district, selected for the project is a socially and economically under-developed area. The major components of the development strategy for the block included new crops, livestock farming, elimination of grazing and introduction of stall feeding for animals, goat farming, fish culture, forestry in waste lands, digging of irrigation wells, excavation of tanks, soil conservation works and agro-based minor industries. He explained how Kasipur block is representative of not only the conditions of Purulia district, but also the neighbouring districts, hence making the project replicable.

After recounting the various statistics of coverage and benefits extended to the farmer, Prof. Das Gupta explained the modalities of project implementation. He said that the Zilla Parishad is the implementation authority and the project is executed through the Gram Panchayats with full people's participation.

Shri Gupta, the District Collector of Mehsana presented the project of his district. He said that in his district also there was full people's participation. He described the characteristics of the selected block and the components of the strategy, which is aimed at mitigating the problems of desertification. The project covers five micro watersheds. Salinity, soil erosion, absolute scarcity of water and its unsuitability for drinking or irrigation drastically reduces the role of agriculture in the economy of the region.

Shri Gupta said that the project in his district is being executed through the DRDA, which is the nodal agency for coordination. He also explained the role of the various agencies involved in it, particularly the 1300 plus milk cooperatives which play a crucial role in the village societies in Gujarat. These societies would be involved in the project work. Other non - governmental agencies already working in the area would also be involved in monitoring and evaluation of the project. He pleaded for special programmes that could enable the villagers to collect water for household consumption, which would solve much of their health and economic problems.

Dr. Jyoti, Additional Director of Agriculture representing the Government of Karnataka, presented the project in Shimoga district. He informed that the project covered sixty villages in the district. The major constraint in the region was problem soils. They are taking up minor irrigation and water management as part of this project. Cash crops are being introduced ahead of the rabi crop. Ten out of the sixty-six tanks are being taken up for renovation. Horticultural programme is also being taken up. He said the progress so far has not been satisfactory, but hoped it would improve shortly. The Project Director of district land development board and watershed programmes who also participated along with him, said activities not covered earlier under the watershed programme are now being taken up under this project. He cited how NGOs are being involved in the project execution as well as for monitoring and evaluation.

Dr. Bhuyan of OUAT presented the Puri district project. He circulated a detailed report on the project and highlighted upon the important features. He said the Puri Sadar block selected for the project, represented the entire east coast with respect to the critical constraints of waterlogging, occurrence of sand dunes and salinity. He said that the people's participation in the area is tremendous. They are pressurising the authorities to complete the project early. He described the new technique of farm pond-based mixed farming system being introduced through the project. He informed the house that his department had already commenced the benchmark survey of the project area under the overall coordination of the District Collector of Puri.

3. Discussion

Several participants thereafter participated in a discussion on the projects. They included:

Shri DN Basu

Shri K Rajan

Shri RC Panda, Secretary of Agriculture, Tamilnadu

Shri Rawal, Representative of BAIF

Shri Marwah, Representative of NABARD

Shri Martin Taylor, Representative of an NGO from Tamilnadu

The following points emerged from this discussion:

- a. The main purpose of the Pilot projects is to demonstrate the feasibility, economic viability and the replicability of the various components of the new strategy on a large scale. The crucial tests of replicability are: (i) whether the component is needed in extensive areas

with similar agro-climatic conditions, and (ii) whether the project will continue even after the withdrawal of all government assistance, or even in the absence of involvement of specific personalities. In other words, will the programme be acceptable to the people even in the absence of government assistance? The expositions of the representatives from the different project areas have confirmed that the projects satisfy both the criteria of replicability. The Secretary, Government of Tamilnadu announced that his government has decided *suo moto* to take up another project, similar to that in Tiruchirapalli district, in another district, Ramanathapuram. This is an instance of replication. Mr. Rajan said that if these projects become successful, State Governments may think of funding such programmes elsewhere in their states by mobilising the required resources and by convergence of existing schemes. He stressed that this is a novel approach taken up by the Planning Commission and the approach is more important than the components of the project.

- b. What is the perception and involvement of Non-Governmental Organisations in the projects? The representative of the NGO from Tamil Nadu described how he is involved in the project at various stages and offered even to undertake monitoring and evaluation of the project. The representative of BAIF (Poona) also affirmed that there is considerable scope for participation of NGOs in the ACRP projects.
- c. The representative of NABARD felt that as long as Government was bearing considerable proportion of the project costs, it could not be considered truly replicable. He said that his organisation should be involved at all stages of planning and implementation of the projects. NABARD and the financial institutions can also serve as vehicles for spreading awareness among the people.

4. Chairman's Concluding Remarks

Winding up the session, the Chairman said that it would take considerable time for the farmers to mobilise their own capital to invest in agricultural development. Till then the Government has to continue investing in agriculture. He expressed his happiness at the way the Tamilnadu Government has come forward to extend the ACRP concept and methods in the State and particularly the taking up of another project in Ramanathapuram district.



Nine

TECHNICAL SESSION THREE

WORK OF ACRP OTHER THAN EXPERIMENTAL PROJECTS

9. a Rapporteur's Report

Chairman: Dr. KS Chauhan • Rapporteur: Dr. HG Hanumappa

The third technical session was concerned with exercises related to Agro-Climatic Regional Planning other than the experimental projects. There were seven presentations in this session. Of them three were on State level and four on District level exercises. There was an additional presentation on horticulture sector in this session.

The Chairman opened the session and requested the paper writers to present the State level exercises which were to be followed by district exercises. The State level exercises pertained to Andhra Pradesh and Orissa presented by Dr. TVS Rao, Maharashtra (Konkan) exercise presented by Mr. DG Thakre and Himachal Pradesh exercise presented by Dr. AL Nadda. There were divergent views on the question of coordination between the work of ACRP team and State level planning bodies. While Andhra Pradesh exercise revealed that the State level planning bodies helped ACRP team in the formulation of strategies and action plans when it came to implementation, somehow the State administration backed out. Maharashtra experience also was not quite encouraging. The discussion in the session revealed that Maharashtra Government had accepted in principle the Sindhudurg report prepared by the ACRP team, but was not ready to implement the same. Himachal Pradesh's experience was also not very divergent from the above. But during the discussions that followed on this, it was emphasised that the integration of ACRP work with State Plan lay with the State Government and for formalising the linkages between ACRP and State Plan authorities, it was necessary to get the approval of the legislature through budgetary mechanisms. This suggestion was by and large accepted by all the participants.

In the second part of the session brief presentations of four district exercises were made. These included exercises on Bastar district (Madhya Pradesh), Bahraich (Uttar Pradesh), Barmer (Rajasthan), and West Kameng (Arunachal Pradesh). These presentations by and large intended to furnish the nature of main activities and the resource base of these districts. An interesting point was made by Dr. Jayant Patil, Member, Agriculture, Planning Commission, regarding some of the regions under discussions. He opined that most of the rice fields in Bastar district also served as small fish ponds and these could be encouraged.

Likewise, Tasar silk cultivation can be taken up in the same area whereas in a region like Rajasthan where deserts dominate and small ruminants have to survive, the thrust should be on fodder development. Further, he said that for a state like Arunachal Pradesh, where climatic conditions are congenial for horticulture and spices development, the Planning Commission should consider these as priority areas for immediate development. After Dr. Jayant Patil's comments, there was a special presentation on the horticultural scenario by Dr. Uppal. He emphasised the need for diversification and expressed concern regarding the poor growth of an important fruit crop like mango. He recommended that ACRP can attempt to look into the following issues for promoting horticultural growth in the country. According to Dr. Uppal, there are four ACRP zones which account for 60 per cent of horticultural output in the country and the issues to be studied here would include socio-economic, farmer-specific problems, infrastructural problems and organisational problems.

For want of time, there was no discussion on the paper presented by Mr. Uppal. However, the session concluded with a Vote of Thanks to the Chair.

Ten

TECHNICAL SESSION FOUR

INSTITUTIONALISATION OF ACRP APPROACH

10. a Approach Paper

Objective

The objective of the institutionalisation phase of ACRP is to internalise approach in the planning and development of land and water based activities within the existing or emerging planning and development systems at various levels in the states.

What it involves

This stage of Agro-Climatic regional Planning involves the following :

1. Recognition of the fact that the ACRP approach signifies, in most cases a different input and a way of preparing plans for agriculture and allied sectors at District and State levels. The major emphasis is on area based integrated approach taking into consideration the resource endowments and priorities rather than schematic or sectoral plans.
2. Institutionalisation exercise has to be responsive to varying planning and development models in different states, for example, if we take two different extreme models - a more bureaucratic model of district planning with Collector as the coordinating point and a more participatory and decentralised model with direct involvement of Panchayat Samities - both the models would require modifications to incorporate ACRP approach but the module of integration will be quite different in these two cases.
3. While the focus of institutionalisation will be at the district level there is a clear need for integration or assimilation of district plans thus prepared into the state plan priorities and programmes. For example, in terms of crop output projections or prioritisation of minor irrigation or soil conservation programmes in different districts, within the state total resources, ACRP oriented priorities prepared at district level need to be directly reflected.

What it should avoid

1. This present phase should avoid the modality of the earlier phase of ACRP exercise which worked out the plans primarily outside the systems as scientific/technology input. In this phase, there is only one plan prepared within the system, though with a reorientation.
2. Do not prepare Departmental strategies or schemes first and then aggregate into district plan, rather prepare subzone/districtwise strategy first and then prepare schemes.

Possible Instruments of Institutionalisation

Institutionalisation may be attained through the following channels :

1. Training/orientation at different levels involving all related Government Departments and also other functionaries like Financial Institutions and NGOs.

2. Development of expertise among NGOs and Government Departments through actual assignment of district/sub-zonal plan preparation to acquaint them with this kind of work.
3. Exchange programmes of functionaries acquainted with ACRP exercise within and outside the state innovative planning and development experiments.
4. Strengthening and updating the Information System - both sectoral and district wise and more importantly; setting up of a Steering Committee cum Monitoring System covering all the institutions for full implementation of the ACRP approach from the beginning of the Ninth Plan.

10. b Rapporteur's Report

Chairman: Dr. TS Papola • Rapporteur: Shri GS Guha

The fourth session of the meet was chaired by Dr. TS Papola, Adviser (LEM) Planning Commission. Key presentations were made by Dr. RP Roysharma (Rajendra Agricultural University, Pusa, Bihar), Shri RC Panda (Secretary Agriculture, Tamil Nadu), Mr. Jyoti, Additional Director Agriculture (TN) and Dr. HG Hanumappa (Head, ADRT Unit, Institute for Social & Economic Change, Bangalore), Shri AK Dwivedi (Director, Horticulture, Himachal Pradesh), Dr. B Bhuyan (Prof. & Head of the Dept., OUAT, Bhubaneswar) and Shri NK Das (Dy. Secretary of Agriculture, West Bengal). The presentations were followed by a discussion. Prof. SR Hashim, Shri K Rajan, Shri DN Basu (Advisers, Planning Commission), Dr. VM Rao, Dr. SS Khanna, Shri HP Khound Dr. IJ Singh (Experts) and Shri Marwaha (NABARD) led the discussions.

The Chairman set the tone for discussions by spelling out the essence of institutionalisation and requested that the presentations as well as discussions be confined only to suggesting different models of institutionalisation along with pre-requisites and modalities.

Dr. Papola briefly recapitulated some of the salient features of ACRP discussed on the previous day, which had led to the current stress on institutionalization. He said that the basic premise of ACRP is that the process of change envisaged should be gradual and cautious, within the existing organisational and institutional set up. He noted that in the light of the previous days discussion it appeared that ACRP was sufficiently flexible to adjust to the possibility of faster growth of agriculture under the new liberalised regime. ACRP accounted for intervention in a limited way to ensure that the sustainability criterion was not sacrificed to a ruthless market mechanism. He also reiterated that ACRP approach was different from district planning, as it existed as an amalgamation of schemes, and hence the two should not be thought of as the same. The ACRP approach emphasises integration, convergence, high technical content efficiency and sustainability. The Chairman asserted that it was now time to go one step further, and ensure that the approach was internalised in the multi - level planning environment so that it formed a basis for district planning.

Dr. Papola suggested that there could be different models of institutionalisation, specific to the local requirements but it is necessary to work within the current institutional set up. In the light of the 73rd Amendment, it would be important to operationalise the approach within the Panchayati Raj System. It would also have to take into account, the interactions between various levels of planning authorities. Given the fact that the ACRP approach is widely accepted by experts it is necessary to think of a variety of instruments like training, exchange of people, monitoring system etc. for its wider acceptance and replicability.

In his presentation Dr. RP Roysharma mentioned that the Government of Bihar, has shown acceptance of ACRP approach at the Secretary' levels. He said that ACRP as a technological component, input

management component and priority area within the State should be taken up for operationalisation so that the approach has better visibility. He suggested two-tier orientation programme for farmers, consisting of a package of ACRP practices to be conducted by the University and Extension Department. He felt that this approach would have a bottom up pressure on the Government and local functionaries to implement the approach. The Agriculture Production Commissioner was recommended as the Nodal Officer for this purpose.

Shri RC Panda made an interesting audio-visual presentation with the help of transparencies giving the sequence of ACRP approach and its operationalisation in Tamil Nadu. He highlighted some of the features of ACRP in his state as the following:

- efficient land water resource management
- productivity increase over long term through the process of coordination at district level, improved input management, rationalisation of crop pattern and farm practices.
- investment plan based on integration of small schemes and financial institutions.
- Plan for infrastructure support (market, storage, inputs)

Shri Panda felt that it is imperative to correct the current style of development planning which is largely:

- a. sectoral/schematic/target oriented,
- b. top down and
- c. budget based

The ACRP approach, he reasoned, is a bottom up style of planning based on issues, prospects and problems of specific areas. It ensures more technological content, better use of current machinery, better participation and investment from stakeholders and It is multi-sectoral and multi-departmental. However, this approach should not be person specific but should be internalised by the system so that it operates and spreads automatically.

Shri Panda felt that educating only the Agricultural Secretaries and Collectors would not be entirely fruitful. The concept should be taken to all relevant departments, as well as local officials and finally to the stakeholders, research institutions and KVKs. NGOs at the district level should be energised into organising training and dissemination at the ground level. The State should also give advice to adopt the approach at policy level by reorienting State Annual Plans on ACRP basis. Similarly district and block level plans also need a reorientation, retaining their over all consistency with the State Plan. From his own experiences Shri Panda cautioned that it would not be wise to under estimate the farmers' wisdom; the ideal approach on the contrary would be to offer them options and incorporate their feed back. Implementation of the approach should be a democratic process which though slower, would be a more sustainable way of ensuring continuity. Shri Panda emphasized that the feed back/MIS System is crucial since it is the cyclic model.

Mr. Jyothi and Dr. Hanumappa presented the case for Karnataka and they emphasised that it was imperative to mobilise political support at the local level. They suggested a three-tier training model :

- a. State level - Zonal Officers - 2 days
- b. Regional/District level - 2 days
- c. Field level officers - Long duration, a week or so.

Shri AK Dwivedi made a presentation for Himachal Pradesh. He said that the State was horticulture dominated and new technologies like germ plasm need to be disseminated here. He suggested that lead farmers may be exposed to advance technologies so that they may set up demonstration farms and act as change agents. He suggested a two-tier orientation :

- a. First level - State Secretaries and Departments Heads
- b. Second level - District functionaries

Dr. B Bhuyan, presenting the case of Orissa said that the State cuts across two agro-climatic zones, and hence the approach of institutionalisation across the state would vary. He deferred from earlier speakers who suggested that ACRP is automatically accepted by training. He emphasised that institutionalisation could be done only through demonstration of work in the field. He said that concurrently farmers may be trained on technology based on specialisation.

Shri NK Das speaking for West Bengal, made the startling disclosure that ACRP concept had already been circulated by the State to the democratically elected district level bodies. He said that the State of West Bengal had a strong Panchayati Raj System, led by Sabhapati at village and Sabhadhipati at the district level. Any new scheme or programme had to be accepted and ratified by these functionaries. For instance, the State Annual Plans incorporate constraints emerging as feed back from these levels, and build the required State Plan prioritisation and programmes by agro-climatic regions. He claimed that using the Panchayati Raj Institutions in West Bengal would ensure the acceptance and continuation of the ACRP approach. (West Bengal perhaps presents a unique example of the two tier Government - State and local bodies - wherein one single cadre based party rules in both. It is hence possible that directives flowing from State to local level and feed back flowing from local to State level are much more easily accepted. This may not be the case in other States with hetrogenous State and local level Governments -Ed.)

Shri K Rajan, while leading the discussions after the presentations recapitulated how plans got formulated by any system. Plans are a result of the survey of potential, status evaluation, followed by selection of alternatives. The ACRP approach has added more vigour into the process by using better information systems, modelling and involvement of a network of technical personnel. He said that plans are financed either by State initiative or through stakeholders funds. The ACRP integrates the two. The 73rd Amendment advocates a system of planning and governance which is different from the existing hierarchical system. Any proposals for changing the functional system as well as the question of accountability should be carefully examined before the commencement of the institutionalisation exercise.

Dr. Basu commented that the five States presented different styles of institutionalisation. He felt that the Tamil Nadu model was very well organised and systematic. Orissa model by comparison was very optimistic since it presumed that institutionalisation had already set in with the inclusion of ACRP recommendations in the State Annual Plan. West Bengal model was very impressive in accounting for the practical processes of implementation. He commented that the Karnataka and Bihar model being only training based, appear to be limited and should incorporate a feed back system too. Lastly, he also felt that ACRP should provide additional services like market information given the new economic policy regime.

Prof. SR Hashim cautioned that projecting ACRP as an alternate to district planning is not desirable. He emphasised that ACRP is essentially an approach towards sustainable resource planning and should support district planning in that role. Keeping this in view the ACRP should become a knowledge bank to be drawn upon as an Expert Consultative System, available to -

- Government Sector - for ecological and resource management and for strategic wisdom
- Stakeholders like farmers cooperatives and other interest groups for technical and information support.

He suggested that this bank should act as a repository of knowledge available autonomously outside the Government and should be in a position to market the knowledge/information.

Dr. SS Khanna suggested that the Agriculture Research Stations (which are part of the State Agriculture Universities) should be made the Knowledge Banks. Dr. VM Rao expressed concern that aggregation of plans from bottom up may lead to the problem of exceeding resource limits. Dr. DK Sharma was sceptical about the Capability of Panchayat to plan in a scientific manner. Dr. Khound reacted to Dr. Basu's statement regarding the use of the Tamil Nadu, West Bengal and Orissa models, saying that such models do not find universal acceptance and replicability since they are constrained by local conditions. Drawing on his experiences he mentioned that while some States or local governments were very receptive to new ideas others were totally insensitive. In this set up the solution lay in finding a common answer towards making all State/local government accept the wisdom of the ACRP work. Reacting to the idea of a knowledge bank, Shri Marwah said that such a bank should exist in the public domain and volunteered to extend NABARD's infrastructure to assist in this work.



Eleven**TECHNICAL SESSION FIVE
FUTURE WORK PLAN****11.a Approach Paper**

The future plan of work of ACRP has the following four major components:

- i). Continuation of five experimental projects
- ii). Institutionalisation
- iii). Continuation of selected district level exercises
- iv). Research & Information Support
 - a. Special Studies
 - b. Computer based Information Support
 - c. Repository (Bank) of technical information.
- (i). Continuation of Five Experimental Projects: In case of the five pilot projects selected for operationalisation, viz., Tiruchirapalli, Mehsana, Puri, Purulia and Shimoga, the major focus will be on:
 - a. Development of monitoring and concurrent evaluation system with special reference to considerations like replicability and convergence of financial resources.
 - b. Documentation of project parameters. Revised project plan may be formulated taking into account the progress achieved during 1993-94 and reprioritisation if required may be done.
- (ii). Institutionalisation: The ACRP has now entered its next logical phase of institutionalisation. The elements of work for this phase in future would be the following:
 - a. Training/orientation at various levels.
 - b. Planning assignments, through a consultative committee consisting of government officials, Panchayats, NGOs among others.
 - c. Feedback system for the state departments and district planning agencies regarding prioritisation and plan allocation.
 - d. Reconstitution of ACRP in the light of the 73rd amendment to the condition.
- (iii). Continuation of selected district level exercises:
 - a. Work already approved at State level has been for the states of Tamilnadu, Karnataka and Orissa. In addition, specific work has been approved for the districts of Dharwad, Samastipur and Hoshiarpur. However, details of workplan and midterm review is required in case of these areas.
 - b. Extension
 - 1. Extension of work to another four to six states including HP, Bihar, Gujarat and UP.
 - 2. Extension of institutionalisation to more than one district in a state.
 - 3. Integration of ACRP exercise with other important prevailing components of planning like Potential Link Credit Plan.

(iv). Research & Information Support:

The important tasks of ARPU are the expansion of its existing information support base, creation of Planning Models and research which is supplementary to the work of the Planning Teams.

a. Special Studies are envisaged to cover the following issues-

1. Employment implications of district level ACRP plan (on-going)
2. Horticulture sector study (on-going)
3. Farming systems studies under different agro-climatic situations.
4. Study of delivery systems and support agencies for operationalising ACRP strategies.
5. Interface of ACRP with macro level strategies, particularly in the context of new economic policy.

b. The components of Computer based Information Support in future would include-

1. Reformulation of the Area Allocation (LP) Model to include modifications suggested by the group of Advisers, Planning Commission. The new model would consider regional farming systems, price non-linearities and varietal specialisation.
2. Extension of District Information System to include parameters relating to markets, prices and infrastructure availability.
3. Project Management Information System. Design and development of a computer based project tracking system which would provide on-line information on the status of different districts by using Wide Area Networks.
4. ISRO GIS : is the new system being installed at ARPU, Ahmedabad which would provide spatial sector modelling on a GIS platform, with a possibility of using satellite imageries.
5. Repository (Bank) of Technical Information. This initially is proposed to one to two districts.

11. b Rapporteur's Report

Chairperson: Shri K Rajan • Rapporteur: Dr. V Rajagopalan

The Chairman, in his introductory remarks, had suggested four areas of interest for the future plan of work *First*, detailed examination of the results of the experimental projects on district level is required which have demonstrated what this method of planning would achieve and the type of convergence which could be relevant and practiceable. This would help in replicating the project elsewhere; *second*, agricultural planning approach and coverage should be reoriented and revamped after giving greater relevance to resource development, technological potential and proposed achievements, rather than overemphasising commodity growth rates; *third*, an insight into what would be necessary to render agricultural planning effective in terms of activities, agencies, investment and implementation; and *finally*, a review of the problem areas which should be looked at amidst the ongoing programmes and to identification of critical areas for further study and modification.

The Chairman had also proposed eight special studies for consideration and invited suggestions for building a Research and Information Support System for agricultural planning. Among the special studies are those which could cover (i) horticultural development issues and policy, as nearly 60 per cent of horticultural activities were confined to three zones; (ii) employment implications of agricultural

planning at district level; (iii) farming system studies for different areas; (iv) delivery system linkages and support for ACRP; (v) trade support oriented programmes and their interface with agricultural planning; (vi) computer-based Information support system providing critical information on resources, technology, markets, prices, and infrastructure available for policy planning decisions; (vii) project management information continuously updating current information; and (viii) preparing a national inventory of resources using GIS, NINCET, LANDSAT, CRISP etc. It was further mentioned that the group might consider any other related issues for discussion.

There was a suggestion that the "Bank Idea" favoured earlier could be tried in any of the units of planning and NABARD could be associated with these activities. Future planning would take a different shape, it would energy deal with initiating the process of development and ensuring participatory planning with the involvement of NGOs, corporate and cooperative bodies. ACRP information should be comprehensive and serve as a bank of information which should be made available for a wider audience of planners, bureaucrats, extensionists, researchers, media and other user agencies.

Another comment was directed at the planning institutions, and it was suggested that district planning exercise could be assigned to NGOs as in the case of KVKs established by the ICAR. It was argued that the resource unit of information could be private or public and the significant issue was the critical information regarding marketing support to farmers and entrepreneurs were encountering operational problems and other related issues that would arise from globalisation of agriculture, particularly in the context of WTO and GATT. The existing excellent technological network in agriculture had to be tuned to meet the new challenges of trade and development.

A number of important studies have been taken up by ARPU and it was essential to present their salient findings together with implications for future research and development. Perhaps we should commission studies on crop specific issues related to export potential and policy support. Further, the Management Information Support should be created, at the earliest. The focus on sustainability and the related issues such as environmentally fragile zones, over- exploitation of resources and resource depletion was emphasised. Research and development at SAUs was stressed and it was suggested that relevant studies could be initiated. A broad spectrum of technology would have a dominant place in spatial development and related issues. Further, it was argued that rural-urban linkages need to be studied, particularly with reference to regional specialisation, occupational distribution etc.

It was pointed out that while ACRP approach was interesting, the distortions due to urban migration, subsidies oriented administration, and the like should be examined in detail. ACRP would then be broad based and related to all facets of farm incomes. The issues of convergence of many schemes, beneficiary consultation, coordination of the roles and activities of line departments, policy planning, concurrent evaluation and mid term corrections would need careful analysis and decisions.

The concept of bank of knowledge as a repository of information, the issues of sustainability based on which long term planning could be drawn and implemented, and studies on the impact of rural-urban linkages would help in clarifying the issues and concretising the essential steps to be pursued. There could be overlapping and duplication of efforts by different agencies such as SFAC and that of ACRP and these should be integrated and their efforts synchronized. Further, institutionalisation should not be restricted to training aspects only but should extend to mundane issues of internalising the past experiences and altering organization modes to facilitate ACRP programmes. The process would involve minimum imposition from NPC and suggestions to strengthen ACRP were invited. In addition, there was a suggestion to start a new in-house-journal to bring out experiences, problems, progress and perceptions of ACRP and decentralised planning for exchange and interaction between agricultural planning agencies, state and union government, and sub-state Institutions and agencies. It was informed that Dr. V Rajagopalan, Consultant, ARPU would be the editor of the Journal.

The Member, Planning Commission expressed satisfaction over the useful deliberations at the meeting and said the ACRP had tremendous future. The experimental results should be considered crystallised knowledge based for learning and training. The case of mango harvests, for instance, in different times and problems of logistics due to distance are all cases in point. Farmers' presence was however lacking which should be sought to be improved in future. Further, some of the important reports could be translated in local languages for wider dissemination of the ACRP activities among people. Exchange of ideas could thus be ensured. The proposed Journal would serve to disseminate knowledge and experiences and interactions on intellectual and administrative matters.

He noted with satisfaction the formulation of Tamil Nadu model and West Bengal model for extending the ACRP approach to other areas of the State. If a consensus could be forthcoming from the States, Planning Commission would take up the matter for policy planning.



PART - III

KEY PAPERS

Twelve

ECONOMIC LIBERALISATION - IMPLICATIONS FOR AGRO-CLIMATIC REGIONAL PLANNING

GS Bhalla*

Introduction

The new economic policy of liberalisation of the Indian economy introduced in June 1991 consisted of two components. The short term stabilisation measures included the devaluation of the rupee, the reduction of the fiscal deficit and the dismantling of barriers to free flow of foreign capital. The medium term Structural Adjustment Programme (SAP) introduced reforms in exchange rate, fiscal, trade and industrial policy and policies on the public sector, the financial sector and the capital market. Although, the new policy did not make any explicit reference to agriculture, such radical changes in the economic policy are bound to have a far reaching impact on agriculture, the dominant sector of the Indian economy. More important, the earlier agricultural policy framework which aimed at food self-sufficiency and primarily relied on active public sector role in investment in irrigation, power and other rural infrastructure and in the formulation of input and output price and technology policies, will have to undergo significant changes.

In this context, it is also important to critically examine the implications of new policy for Agro-Climatic Regional Planning. This is particularly so because the new trade policy package promises to specially benefit agricultural production and exports through bringing about significant improvements in its terms of trade. The role of Agro-Climatic Regional Planning (ACRP) has to be examined in the context of new opportunities that are expected to open up in the agricultural sector in the area of exports of crops including horticultural crops, fisheries and live-stock products. This paper attempts to discuss a few of the issues relating to Agro-Climatic Regional Planning in the country in the context of economic liberalisation.

Evolution of Agricultural Planning Strategy in India

Agricultural planning strategy in India constituted a part and parcel of overall planning of the economy. The whole set of macro-economic policies namely trade, fiscal, monetary, price and technology policies were all designed to sub-serve the planning objectives of augmenting agricultural growth with the main aim of providing food security to India's rising population.

Planning strategy consisted of large scale development of rural infrastructure in general and of irrigation in particular. From the very inception of planning, large public investment was undertaken in large, medium and minor irrigation projects both in the central and state plans.

The evolution of the plan strategy for the agricultural sector can be better understood by subdividing the entire post-independence period into three distinct phases. The first phase during the pre-Green Revolution period, 1949-50 to 1964-65, was characterised by land reforms combined with large increases in irrigation. This strategy relied on extensive growth since it was area increases which constituted the main source of growth during this period. The growth rate of agricultural output during 1950-51 to 1964-65, the period prior to the introduction of new seed fertilizer technology, was 3.1 per cent per annum. A decomposition of growth during this period shows that about 65-70 per cent of growth could be attributed to area increases and only 30-35 per cent was because of increase in yields.

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Since there are limits to total increase in net sown area, and in fact in many cases net sown area had increased to an extent which was not sustainable in the long run, since it was depleting the forest area, further reliance on agricultural growth based on area increases was clearly not realistic. While to some extent the situation could be retrieved through increasing the gross cropped area brought about as a result of increase in irrigation, once again there were limits to such expansion.

The second phase, the post Green Revolution period from 1967-68 upto 1989-90 is characterised by technology led growth where yield increases played a major role in the growth process. Keeping in view the fact that the food demand in the country was increasing rapidly and the limits to area increases were becoming non-sustainable, there was an urgent need for developing yield increasing technologies. It is in this context that the introduction of Borlaug seed-fertilizer technology marked a historic development. The planners were not very much concerned with the impact of new technology on natural resource endowments. Instead, keeping in view the urgent need for raising agricultural output, and realising that the new technology yielded best results only in assured irrigated areas, the main emphasis was on the spread of technology through increasing irrigated areas as also through developing new technologies in rice and other foodgrain crops. Hence, the post-Green Revolution period of 1967-68 to 1989-90 could very aptly be called a period of intensive technology led growth.

During the period 1967-68 to 1990-91, agricultural output recorded a growth rate of about 2.7 per cent. That yield raising technology was the main determinant of growth during this period is clear from the fact that during this period, yield increases contributed above 90 per cent to the total growth of output and the contribution of area increases declined to less than 10 per cent.

It is important to note that in both the area led and technology led growth periods, the issues relating to land, water, rainfall, climate etc. were kept in the background. There were some scientist who did emphasize the need for giving careful thought to resource specific problems like soil erosion, salinity, water logging, siltation, falling ground water levels and deforestation. However, they were not able to make much dent on the primacy of technology led growth strategy. It was only much later, somewhere during the early eighties when in many areas, intensification of production through large scale adoption of new technology and excessive use of soil nutrients started leading to large scale soil depletion as well as salinity and deepening of underground water table that the policy makers started showing some concern about these adverse developments and the need for looking at the natural resource endowments in relation to technology. It is in this context that the initiation of agro-climatic regional planning marks a qualitative improvement in plan strategy. This is because for the first time, natural resources were given explicit recognition and agricultural planning was sought to be designed within the framework of homogeneous agro-economic regional planning.

The ACRP brought to light, for the first time, the inter-face between technology based growth and natural resource endowments by examining the growth performance from a perspective of Agro-climatic Regions delineated by the Planning Commission in 1988.

Agro-Climatic Regional Planning - An Overview

According to the Planning Commission documents, Agro-climatic Regional Planning was primarily aimed at more scientific utilisation of available natural and land made resources. Factors like climate, soil type, demography, water resources and irrigation facilities were to be specifically taken into account and related to agricultural output and planning. Therefore, a major emphasis was to focus attention on agro-climatic resources in addition to technology. As a first step, the country was divided into 15 regions on the basis of common agro-climatic factors like soil type, rainfall, temperature, water resource etc. An attempt was made to adopt a farming system approach at a disaggregated level rather than the traditional crop production approach. The aim was to make a development profile of each region through optimal mix of land and water management, crop production, animal husbandry, aquaculture,

horticulture, forestry and agro-processing activities. The 15 regions and 73 sub-regions were delineated on the basis of reports by various scholars, expert bodies, the National Commission of Agriculture and the ICAR. For each broad region, a Zonal Planning Team (ZPT) was constituted, chaired by the Vice Chancellor of State Agriculture University located in the region. The ZPTs were required to formulate for each region an optimum development strategy and suggest appropriate programmes and action points for implementation. These strategies and programmes were later translated into state plans by Agro-climatic Regions. With a view to formulating appropriate regional development strategies, the basic information on socio-economic indicators, land and water resources, crops and cropping systems, agricultural support systems and allied sectors like livestock, horticulture, fisheries, agro-processing was collected and analysed. This regional analysis was later translated into state-region plans for administrative convenience. As a result of this exercise, the emerging development strategies were prioritised considering the need of a state-region. The coordination of the activities of the ZPT's was provided by the Agro-Climatic Regional Planning Unit (ARPU) set up by the Planning Commission at the Sardar Patel Institute of Economic and Social Research in Ahmedabad, in the capacity of a central support cell. It has also been entrusted with the task of developing an integrated information system and planning models besides commissioning special/sectoral studies to supplement the work of the ZPTs.

The main focus of various studies undertaken by ARPU has been to evolve national crop production scenarios consistent with regionally differentiated strategies and crop output plans based on Agro-climatic Regions.

It is clear from the above description that the Agro-climatic Regional Planning introduced in 1988 is a major attempt to understand the inter-face between technology based growth and natural resource endowments. This is not to suggest that the relationship between technology and resource endowment has now been clearly understood. As a matter of fact, only a beginning seems to have been made in this direction. While there is a growing concern for the degradation of environment, however, it is not clear to what an extent this is a consequence of technology based growth. Nor do we know the extent to which problems like floods, water logging, soil salinisation and land erosion have restricted the spread and effectiveness of technology and thus lowered its benefits. Systematic research in these directions is handicapped by severe data constraints. The ACRP is the first attempt that has tried to relate spatial patterns of agricultural growth to natural resource endowments. But a great deal more remains to be done.

Having briefly reviewed the achievements of ACRP, it is important to analyse to what an extent and in which way ACRP can make a positive contribution in the context of liberalisation of the Indian economy. The next sections therefore, briefly reviews the main elements of new economic policy and its likely impact on the ACRP.

Economic Liberalisation - The Main Features

The new economic policy introduced in June 1991 marks a radical departure from the earlier policy framework in India including agricultural planning. The rationale of the new policy has been provided by many neo-classical economists and scholars from the World Bank, the IMF and some other multilateral agencies. Their main argument is that planning, with a large element of control and regulation leads to distortions in the allocation of resources based as it is on the arbitrary whims of policy makers. On the other hand, market performs the function of providing appropriate signals for resources to move in the right direction in a cost free manner. Hence, the need to put greater reliance on a "market friendly" approach rather than on government intervention.

The main rationale for the structural adjustment programme and the new economic policy is to set prices right with a view to creating an appropriate incentive structure for augmenting agricultural

production and exports. It is pointed out that many inward looking protectionist strategies followed in India as in many other developing countries, have resulted in the introduction of numerous distortions that are inhibitive to rational production decision making and high growth. The removal of many of these overall and sector specific distortions through macro-economic trade policy and fiscal reforms would in the long run rationalise agricultural production, encourage exports and lead to a higher growth rate of agricultural incomes and employment.

The protagonists of the new policy argue that both overall planning framework and sector specific government policies pursued in India were discriminatory to agriculture. The import substitution industrial strategy adopted in India was inherently discriminatory against tradeable agriculture for several reasons. Firstly, high protection accorded to industry by raising the prices of modern farm inputs implicitly taxed agriculture and secondly, overvalued exchange rate worsened agriculture's terms of trade and introduced a bias against agricultural production and exports. Further, non-alignment of internal prices with border prices led to inefficiency in resource use, distorted cropping pattern and prevented producers from deriving the benefits of comparative advantage in agriculture. It is further argued that sector specific government intervention also discriminated against agriculture. In particular, low prices given for agricultural output in general and for foodgrains in particular ostensibly for food security reasons and the zonal restrictions on movement of foodgrains worsened agricultural terms of trade. Further, huge stocks of food reserves for food security reasons entailed heavy costs to the exchequer, which could have been avoided by placing more reliance on imports. It is pointed out that large subsidies on fertilizers, credit, irrigation, power and other inputs were more than counter balanced by the low administered prices of output. Economic reforms in general and structural adjustment policies for agriculture in particular, were inter-alia designed to eliminate discrimination against agriculture and result in raising the prices of tradeable agricultural commodities including foodgrains vis-a-vis manufactured products. The trade reforms designed to integrate the Indian economy with the world economy were supposed to specially benefit tradeable agricultural sector for several reasons. Firstly, with the expected withdrawal of subsidies by the developed countries, the exports of agricultural products including horticultural and animal husbandry products were expected to record significant increases thereby bestowing large benefits to agricultural producers. Secondly, trade policy reforms were also expected to make many agricultural inputs cheaper and thereby lead to reduction of production costs. Thirdly, real devaluation of the overvalued exchange rate including reduction of tariffs was expected to improve terms of trade for tradeable agriculture. It has been estimated that in India the discrimination against agriculture because of overvalued exchange rates and because of sector specific interventions more than counter balanced the benefits the producers derived from input subsidies on fertilizers, irrigation and credit etc. Removal of direct and indirect discrimination combined with withdrawal of input subsidies it is argued, would in addition to conferring net benefits on the producers, lead to better resource allocation in the agricultural sector.

But there are scholars who argue that the structural adjustment programmes may have some serious short and medium term implications for the agricultural sector. It is not our aim to go deep into this controversy and debate. Suffice it to say that the main consequences of abandonment of planning and understanding economic liberalisation measures could be injurious specially to the food security of the poor sections. Although it is generally agreed that the agricultural sector is likely to gain from opening up of international trade and integration of the Indian economy with the world economy on a multilateral basis, it is also pointed out that many other provisions of GATT particularly those relating to TRIPS could be injurious to the development of indigenous research and development systems for the country.

Keeping in view the envisaged benefits that could accrue to developing countries in the area of horticulture, animal husbandry, aquaculture etc., it is important to bring about relevant changes in agricultural planning that would enable producers to derive maximum benefits from new developments.

Implications for the ACRP

The new economic policies are being credited for having created a favourable climate for agricultural production and exports. This is primarily because new policies have resulted in the removal of explicit and implicit discrimination against agriculture. The reforms in the trade regime undertaken since 1991 including the devaluation of exchange rate, reduction of tariffs etc. have helped to improve the terms of trade for agriculture and have resulted in increased exports from both agricultural and agro-processing industries. Many of the sector specific government interventions which were discriminatory against agriculture have also been removed. For example, zonal restrictions on internal movement of foodgrains and other agricultural products have been completely done away with and compulsory procurement has been abandoned. The devaluation of the rupee combined with a rise in international prices has resulted in a significant increase in agricultural exports, in particular, exports of marine products and agro-processing industries. Notwithstanding the favourable macro-economic and trade policy environment, the important policy issue that needs discussion is the relevance and the nature of changes that ought to be introduced in the technology led growth strategy in general and Agro-Climatic Regional Planning in particular.

It is sometimes alleged that since most of the planning objectives aim at rapid development, cost considerations are quite often ignored in the name of promoting development. The technology led growth strategy adopted in agriculture which was initiated in 1966-67 concentrated on augmenting yields and growth rates of crops where new technology became available. To begin with, costs did not constitute the direct determinant for the adoption of new technology. It was rightly presumed that the cultivators would adopt new technology only if they found it profitable. It is important to remember that inspite of absence of explicit emphasis on cost effectiveness and on comparative advantage, the introduction of new technology did result in substantial reduction in cost of production per unit of output of both wheat and rice and also some other commodities. And given the assurance that all output could be sold at remunerative prices, cultivators were able to earn large surpluses, which they used both for increased consumption and further investment. A part of the benefits of technology could also be passed over to the consumers in the form of lower prices. The point to be emphasised is that in the development of the technology, although cost consideration were not given explicit recognition and output maximisation through promotional measures constituted the primary objective, nevertheless, the package of policy measures did lead to agricultural production becoming more efficient.

In some cases however, because of lack of economic accountability some distortions were introduced in resource allocation for research. For example, there is evidence to suggest that the scientists recommended normative doses that gave higher yields, but did not result in maximising returns for the farmers. This brings out the bias of the new technology and of extension services in increasing yields rather than maximising returns.

However, despite these experiences, on the whole the new technology led to not only cost reduction but also made some major crops like wheat, rice and cotton competitive in the international market. It should therefore be appreciated that despite many micro level interventions, the agricultural policy to encourage new technology was economically a feasible proposition.

One of the major limitation of ACRP seems to be its lack of explicit concern for cost effectiveness. While there is absolutely no question that the ACRP has, for the first time, sought to explicitly take into account the natural resource endowments and constraints in the process of agricultural planning, it is also true that the cost effectiveness of Agro-climatic Regional Planning approach does not occupy the importance it ought to receive.

It needs to be emphasised that agricultural policy in general and the ACRP in particular should be so designed that in addition to meeting the food security needs domestically, the policy framework should enable the agricultural sector to derive maximum benefits from trade liberalisation and integration with the world economy. While, serious efforts should be made to overcome the adverse impact of TRIPS and to safeguard indigenous research and technology systems, the policy should aim at making agriculture, horticulture and livestock more competitive through generating increased surpluses at competitive prices. The ACRP has succeeded in giving a better understanding of the resource endowments of the Agro-climatic Regions, and has also very well articulated the regional plans, keeping in view the available technologies as also the soil, water regimes in different parts of the country. But the ACRP has not so far explicitly built prices of both inputs and outputs into the models. Consequently, the planning exercises do not bring out the relative advantages of different regions in the production of various commodities.

This should indicate the lines on which planning exercises could be improved. The need is to study:

- (i) The comparative advantage of each Agro-climatic Region in the production of various commodities by assigning appropriate prices to both outputs and inputs. These prices should be shadow prices as seems to be the case in the optimising exercises undertaken by the ARPU.
- (ii) There has to be another exercise to look at the relative comparative advantage by assigning border prices of inputs and outputs of various crops and once again look at the relative comparative advantage of various regions in the production of specific crops.
- (iii) A much more difficult exercise would be to calculate dynamic comparative advantage which would build into the models the future expected prices of agricultural inputs and outputs as a consequence of expected changes in world commodity prices due to anticipated withdrawal of subsidies by the developed countries and expected improvements in technology.

Quite often, many mathematical exercises tend to ignore some important dimensions of the development process. It would therefore be important to assign appropriate values not only to tangible production, but also to employment and income of labour force in the production process. In our view, this would impart a much greater relevance to the very useful work already being done by the ACRP in the Planning Commission.



Thirteen

PLANNING FOR LIBERALISATION: ACRP IN THE CHANGING CONTEXT

V.M. Rao*

Liberalisation is expected to stimulate growth processes and bring about growing integration between the domestic market and the world markets. It is best to view it as a pervasive process which could give rise to major structural changes in the economy spread over a period of several years. This long transitory phase would have to be steered by the policy-makers through continuing corrective, regulatory and promotional interventions and, in this sense, planning would become more important than now rather than less until the economy fully assimilates the changes occasioned by liberalisation. The purpose of this brief note is to enumerate the tasks that ACRP may have to take up in the transitory phase to help agriculture in adjusting to liberalisation and making effective use of the opportunities it offers for growth and development.

Agriculture is a widely dispersed household activity carried out on millions of farms by producers who are too small to influence markets and the prices ruling them. However, while considering the likely impact of liberalisation on agriculture, it is important to keep in mind the sharp intra-sectoral differences which have emerged in the course of growth and diversification of agriculture since independence. The Green Revolution areas have now acquired considerable capacity to adopt technological change at a fast pace and to develop cultivation of land, viewed for long as a subsistence activity pursued by the poor, into a modern, viable and growth-oriented industry. It is significant to note that wheat and rice - the two prominent Green Revolution crops - figure in the list of products in which India has a comparative advantage in international trade. The Green Revolution areas are likely to respond enthusiastically to liberalisation in terms of higher production, wider diversification and proliferation of numerous value - addition activities using modern techniques and processes. Removal of restrictions on movement, trade and exports and the resulting access to growing markets would create a favourable environment for the Green Revolution areas to scale new heights of performance. Another sector in agriculture which is still in an embryonic state but which could grow fast in a liberalised economy is the modern corporate sector capable of giving a big thrust to production and exports in areas like speciality crops including horticulture and floriculture. All that these two sub-sectors would need for their growth in the context of liberalisation is a level playing field and a stable and smoothly operating macro-economy.

However, it is necessary to remember that these two subsectors of agriculture account for a small proportion of our agricultural population and resources. The predominant part of agriculture consists of millions of farmers, mostly small and marginal in size, operating in sharply differing soil-climatic conditions with market nexus ranging from near-subsistence to extensive involvement in market. The trends are towards further reduction in the size of holding alongwith deeper intrusion of markets into farmers' decision processes and activities. The impact of liberalisation, obviously, would not be uniform on these vast number of farm operators. Two dimensions of differentiation need to be considered while assessing this impact. First, marketisation does not operate evenly across space, regions and farmer categories; further markets tend to differ from commodity to commodity in their structure and performance. Secondly, the policies pursued so far for development of agriculture have had pronounced

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biases favouring certain regions and crops and it is believed that the resulting benefits have been shared disproportionately by farmers with substantial ownership of land. Left to itself, liberalisation is likely to reward precisely those sections within agriculture which have been the principal beneficiaries of marketisation and policy-induced changes that have occurred so far.

Keeping in mind the subsectors of agriculture described in the first and second paras above, the policies needed to help agriculture in adjusting to liberalisation can be put into two major categories. The first category would include the macro-economic policies for growth and stabilisation. One of the functions of these policies would be to monitor the price signals emitted by agricultural markets with a view to intervention, if needed, to keep these signals in line with the level and composition of output required by the economy. Interventions would also be needed to ensure that important determinants of output like research, extension, credit and input supply remain sufficiently strong and effective to support agricultural growth. The second category would consist of a wide range of programmes and measures to promote agricultural growth in areas which have remained backward so far by undertaking investments, building up infrastructures and creating institutional arrangements and procedures for peoples' participation. The gains of liberalisation for the agricultural sector would be realised fully only when both these categories of policies for intervention in agriculture operate effectively complementing and reinforcing each other.

An important requirement of such interventions is a steady flow of data and research inputs for monitoring, projecting and visualising alternative scenarios corresponding to different variants of policies and their combinations. Agro-climatic Regional Planning (ACRP) can play a valuable role in providing these essential inputs on a continuing basis in a systematic and coordinated manner. With its location at the state level, ACRP would have to operate with two distinctly different but complementary orientations to serve this role. The aggregation of state-level indicators of agricultural performance would reflect the changing parameters of agriculture at the national level. The state-level ACRP units would have to bear in mind the changes in national-level parameters while deciding on their annual programmes and medium term targets. The policy-makers at the national level, in turn, would have to read the changes at the aggregate level in terms of those occurring at the level of different states. The consultations between the national policy-maker and the state-level ACRP units would provide a framework for linking state scenarios with the national perspective from which planning at both the levels would gain important inputs and insights for formulating policies and development strategies.

The second and, in a sense, a much more important function of ACRP is to serve as a two-way communication system between the state-level planner and those located at different decentralised levels including grassroot level development personnel, representative bodies of rural people and NGOs. Large parts of agricultural and rural sectors are yet to be equipped with the full range of institutions, infrastructures and devolution of resources and decision making powers needed for development of decentralised planning. Without a reasonably effective decentralised and participatory planning system, it would be difficult to translate the national level agricultural policies and strategies into phased and prioritised packages of programmes suitable for different areas and to ensure that the resulting agricultural growth is broad based and is adequately shared by the poorer sections in the rural society. A necessary condition for successful decentralised planning system is the techno-economic foundation provided by ACRP. A little reflection would show that optimum use, conservation and development of land and water resources of an area - which is the chief concern of ACRP - would be the centre piece in rural development planning and it would have to play a key role in bringing together the sectoral programmes and service centre schemes into a coherent area development plan.

ACRP now appears to have reached a decisive stage in its evolution. It has to make the transition from the learning phase consisting of a series of exploratory exercises to the operational phase where it has to start undertaking the functions which it has been designed to serve. It would be a good idea to review the experiences gained so far in different states with a view to discussing the time-frame to reach the next phase. Another issue which would need careful consideration is the data inputs needed by ACRP in its operational phase.

Liberalisation implies that the planning at the national level becomes more indicative than prescriptive. At the same time, the state will have to play a more active role in terms of public investment in agricultural and rural sectors, creation of infrastructures and promotion of institutions. It would be necessary to consider the implications of the changing role of state for planning at different levels. An important question to ask is : Are the present statistical systems adequate to meet the needs of the changing situation? It is necessary to remember that ACRP can only be as good as the data on which it relies.



Fourteen

**AGRICULTURAL POLICY PLANNING AND ECONOMIC
LIBERALISATION - CONTEXT AND SIGNIFICANCE OF ACRP**

DK Dasgupta*

Biological diversity indicates variations and abundance of species, and their living environment. Species diversity is represented by morphological, physiological and genetic features, whereas ecosystems diversity shows the difference in habitats and biological communities.

The process of species diversification started soon after the origin of life on this planet. It is a gradual process, influenced by various geo-physical and climatic factors, leading to emergence of new strains. Species incapable of adjusting themselves to the changing environment became extinct with passage of time. It is undenyng that bio-diversity plays a significant role in nature, while providing major clues as to the origin and evolution, and the specification process of species. Indeed, nature's diversity reminds us of their importance with the existence of life. It is also the very backbone of sustainable advances in agriculture because without diversity we cannot make any selection or recombination. No doubt diversifying food production and expanding food choice and tastes for improved nutrition are of vital importance, but without their preservation, all these efforts will bear no fruit on a long-term perspective. There is thus, an urgent need for the conservation of species as well as the restoration of degraded habitats. Food and environmental security depend upon the diversity of life on earth.

It would be pertinent to recall here the relevant excerpts of the report of the Commission on Environment and Development, Chaired by Mrs. Gro Harlem Brundtland, Prime Minister of Norway, submitted to the United Nations in 1987, which stressed the dependence of security, well-being and the very survival of our planet on changes in development strategies and ethos that would include a land ethic for the protection of our land resources and a global germplasm ethic for the conservation and utilization of genetic variability in economic plants. Conservation of soil as well as the genetic resources of plant, animal and fisheries are imminent to restore this ecological balance. Diversification of crops and development of appropriate cropping and farming systems to suit them need to be developed on a more scientific basis. Evidently, these perceptions have led to the concept of Agro-Climatic Planning in agriculture.

However, under the present context of India and several other countries around the globe having signed the General Agreement on Trade and Tariff (GATT), which is coupled with the trade liberalisation policy now being pursued by this country, it is but certain that such liberalisation in agriculture would affect every community, since all of us are either producers or consumers of food. This is particularly so for the vast majority of our rural poor for whom most production is meant for self-consumption. Hence, any planning process of agricultural policy with a regional bias will have to reorient its priorities, keeping the latter within somewhat restrictive ambit of the broad frame-work of GATT. In this context, it may be worthwhile to recapitulate the basic tenets of GATT.

With the objectives of bringing about a degree of uniformity among the regulations of different countries, controlling the respective export, import and tariff measures, GATT was established in 1948. India is a signatory to this, and the present membership of GATT is 116. The members have met over the years occasionally to iron out the differences and maintain the spirit of mutual agreement. During the

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eight round of such a meeting held in Uruguay in September, 1986, some of the developed countries attempted to include within the scope of GATT certain issues that were not in conformity with the original provisions of GATT. The issues of greater concern to India have been the Trade-Related Investment Measures (TRIMS), Trade Related Intellectual Property Rights (TRIPS), and General Agreement on Trade in Service (GATS). Although it was originally intended to have GATT finalise its decisions in these areas by December 1990, the round failed without any conclusions because of serious differences on, inter alia, agricultural subsidies, between the USA and the European Community (E.C). In the meanwhile, Mr. Arthur Dunkel, the former Director General, GATT, brought forward a draft proposal for the members of the GATT to either take it or leave it. This, the so-called Dunkel draft, has now been formalised into an international agreement under GATT (Das Gupta, 1994).

The export and import of agricultural products is guided by the GATT agreements. The intention of the Dunkel draft is to establish tariffs in the light of the Dunkel formula subject to changes, if so needed, by mutual consent. According to the provisions of the draft, every developing country is obligated to import not less than two percent, even if that means borrowing for the purpose. As a result of the general lowering of tariffs under the Dunkel draft, the prospects of Indian exports, so it has been argued, should look brighter, enabling the country to improve its share of world trade and strengthening its balance of payments.

The text of the draft agreement on TRIPS demands uniform standards on patentability, working of inventions, onus of proof regarding infringement, etc. The draft suggests acceptance of the Paris Convention of 1888, which had a similar aim. The subject of Intellectual Property Rights (IPR) and their protection, particularly of patent rights, has become a central issue in scientific, technological and economic development, and in scientific cooperation between industrialised and developing countries.

Context and Significance Of ACRP

Agro-climatic Planning in agriculture underlines the concept that widespread agricultural development is possible only if adequate attention is paid to local endowments of land, climate and water and appropriate agro-climatic development strategies worked out in terms of soil improvement, water harvesting and management and then the crop and non-crop based development strategies, required for utilization of the region's potential. Since the late eighties the Planning Commission has endorsed this agro-climatic planning strategy (Alagh, 1994).

The Eighth Plan accepts this strategy as follows:

"Agro-Climatic Regional Planning Approach (ACRPA) was initiated by the Planning Commission in 1988 to formulate integrated development plans for agriculture and allied sectors differentiated by homogenous agro-climatic regions. During the Eighth Plan, emphasis is on development for resources and their optimum utilisation in an integrated and sustainable manner for constituent subsectors. A macro level strategy for the 15 broad agro-climatic zones, is proposed to be incorporated in operational integration in state plans covering activities in crop and non-crop sectors. ARPU teams are preparing operational plans for about 30 districts. These will be implemented in pilot block/watersheds during the Eighth Plan, with the help of the State Agricultural Universities, ICAR, and state extension officials working at the districts level". (Eighth Plan, Vol. 2, p.10).

Our main argument is to operationalise the support of technology to domestic and external agricultural concerns. The external environment is now more compelling within the GATT framework environment.

The decision of the government to accept proposals in the Dunkel Draft in the context of liberalization and globalization of the national economy has opened up new arenas of technology import in the agriculture sector. It also prompts our attention to the need to preserve biodiversity. We should try

to evolve a suitable sui-generis system of protection where both researchers' and farmers' interests could be promoted adequately.

There is a need for substantial investment in agriculture which has been overlooked in the past. Both a sizeable public investment on building up infrastructure facilities and private investment for on-farm development are necessary. Infrastructural support, for which adequate central and state budget allocations are necessary, should have special emphasis on road transport, warehousing, processing and marketing facilities. On-farm development by means of private investment for which credit facilities are required, should focus on land development, soil and moisture conservation measures and livestock development.

The possibilities for export of processed agricultural commodities have increased with economic reforms. The research so far stressed on the primary uses of the commodities. Quality improvement for processing and prevention of post-harvest losses should be included in research for agro-processing for domestic consumption as well as for the export.

Capital intensive modern agriculture accords business status to agriculture. For successful agri-business, technical knowledge, business acumen and management skills are essential. Scientific teaching and training programmes in production management, marketing management and financial management are needed to develop competence, confidence and entrepreneurship among workers and farmers for rural development. Such education and training can lead to self employment in agriculture and allied enterprises in rural areas.

Global agriculture is seemingly at crossroads. For achieving ecological, economic and environmental sustainability, agricultural research priorities and public policies need redefining. Damage to land, water and biological diversity, as well as potential alterations in temperature, precipitation, sea level and entry of ultraviolet 'B' radiations in the stratospheric region threaten the ecological foundations, so essential for sustainable agricultural advancement. Imparting a pro-poor and pro-nature bias in agricultural research, extension and development seems to be the urgent issue that the scientists need to address today. The new technologies ought to be assessed by the scientific body in the perspective of the long-term effects on not only production, but also the quality of resource base and environment on one hand, and the social implications on the other. This entails an in-depth understanding of the farming systems under which a farmer operates, and the various interactions that influence "on-site" and "off-site" effects of technology interventions. Public policies are needed to discourage activities aimed at short-term economic gains at the cost of environmental degradation. It appears imperative that science academies, such as an agricultural university and its scientists, should be encouraged to work on research strategies and priorities which can harmonise the often conflicting requirements of the market-driven "private profit" approach with the human security compulsions of "public good", in terms of environmental protection and poverty alleviation (Das Gupta, 1994).

The recent advances in frontier technologies, especially biotechnology have brought to the forefront the vast potential of manipulating genetic material and creating purposeful diversity. Developmental research centred on biological softwares, such as biofertilizers, bio-pesticides, vermiculture and bio-remediation agents needs attention for an optimum blending with the more conventional chemical input-sensitive high cost agricultural production systems. Current developments in agro forestry and agricultural meteorology research also need to be sustained. Finally, anticipatory research on avoidance and mitigation strategies, particularly with regard to genetic resource material, in response to global climatic changes, should receive a special priority on the research agenda of the present day agricultural scientists.



Fifteen

**INSTITUTIONALIZATION OF
AGRO-CLIMATIC REGIONAL PLANNING**

R C Panda*

Background

A new approach to agricultural planning, viz., Agro-Climatic Regional Planning (ACRP) was launched in June 1988 and started with the regionalisation of the country into fifteen agro-climatic zones based on agro-climatic factors like soil, rainfall, irrigation, etc. For detailed operational planning, the fifteen zones were sub-regionalised into seventy-two sub zones. Agro-Climatic Regional Planning emerged in the back drop of the mid-term appraisal of the Seventh Plan and the framework action plan for 1988-90, which brought out the need for improved macro and micro level planning methodology for primary sector. At the time of the mid-term appraisal, efficiency of water use planning and management, a more realistic assessment of resource requirements, greater co-ordination at district level and improved policies of credit, seeds for alternative crops and alternative delivery systems were underlined as the short run needs. In the long run, each region had to plan for maximisation of agricultural production potential on a sustainable basis. In order to address this, Agro-Climatic Regional Planning exercise was initiated through the framework action plan. The framework action plan initiated the approach for considering agricultural development potential in a sub-regional context.

Objectives

The basic objective of Agro-Climatic Regional Planning is to foster a more balanced growth of output and employment from the agricultural sector. In operational terms, the objectives are: (a) to prepare a land and water development strategy for the resource base of each region. This would in particular examine the possibilities of sustainable development; (b) to examine the crop and non-crop based development possibilities for the resource endowment of the region and to choose the more promising and rewarding options; (c) to develop investment proposals for such development, both for public infrastructure and land and water development programmes and for private investment through the banking and institutional support policies; (d) to detail the marketing, agro processing and infrastructure support required for the more promising patterns of development; and (e) to examine the feasibility of the planning exercise from the initial stage so that operational viability of specific programmes is kept in focus.

The Agro-Climatic Regional Planning takes an integrated view of the agricultural economy in relation to resource base and linkages with other allied sectors, so that future agricultural development programmes could be specific to regional development strategies without being mere extensions of the ongoing schemes. Implicit in this approach is the criterion of sustainability of agricultural activity in a long-term context and employment generation process in the crops and non-crop sectors.

Why Agro-Climatic Regional Planning?

Agro-Climatic Regional Planning Approach emphasises the development of resources and their optimum utilisation in a sustainable manner, by correcting the agricultural production resource constraints and maximising the potentials of each region. This is a departure from the practice of planning which focuses on constituent sub-sectors on schematic and target oriented approach.

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a) Current Planning Process:

The planning procedure currently and widely followed is sectoral, schematic and target oriented approach. The sectoral plans are prepared on year to year basis in an adhoc manner with inadequate consideration of the key results, area, production and productivity gaps and the constraints. The State or Central Government schemes as and when prepared are sanctioned and implemented in all the areas with reference to certain norms and targets. All the schemes are target oriented. The implementing agencies are more concerned about the achievement of the targets rather than its impact on the beneficiaries/environment, and integration of line objective schemes for synergic impact.

The sectoral plans are prepared by the Heads of Departments at the district level which are aggregated at the State level and implemented after approval by the Government / Planning Commission. The outlay for the sectoral plans is decided based on the financial position and the priority accorded to the agricultural sector by governments. The integration of the schemes involving the land, water, needs of people, and cropping system is inadequately attended to, in the planning and implementation of production and development programmes.

Apart from this, special programmes are sanctioned on an adhoc basis by the Centre or State. At the district level there is no consolidation of the plans of the different departments. Let us take an example. Agro-forestry schemes are being implemented at the village by Agriculture, Forest, Horticulture and Rural Development Departments. Each has its targets. There is very little co-ordination among the departments at macro and micro levels of planning and execution.

- b). Further, no perspective planning is adopted by the development authorities as focussed in Agro-climatic Regional Planning. The differences between this approach and the current planning practices are briefly listed below.

Current Planning	Agro-climatic Regional Planning
Plan for administrative unit	Plan for Agro-climatic Region/Zone
Top down planning	Bottom up planning
Budget oriented	Issue and problem oriented
Focus on sectoral component	Focus on resource endowment, their utilisation, constraints and potential.
Ground realities not considered	Ground realities considered
Technology options not considered	Technology options, local needs, knowledge are considered and prioritised
Inadequate peoples' participation	Peoples' participatory approach for planning and execution monitoring.
Private investment not accounted	Private investment is integrated
Individual department	Multisectoral package oriented
All agencies are not involved in planning	All agencies are involved right from the beginning in planning

The above discussion indicates that planning mechanism is by (i) state heads of development departments at the top level, (ii) at middle level, administrators and development department heads at district and (iii) at grass roots level, block level functionaries execute the work or operationalise the programmes. Two things emerge out of the above discussion. Those are (i) there exist a machinery which can be better utilised and (ii) lot of funds flow to the district which could dovetailed and utilised optimally. This is basically emphasised in the Agro-climatic Regional Planning approach in the operationalisation of strategies and from here items the suggestion for the institutionalisation of the approach. It involves internalisation the of Agro-Climatic Regional Planning Approach and strategies in the existing planning machinery.

The systematic approach of Agro-Climatic Regional Planning would expose the planning machinery to the need for integrated resource base planning with farmer participation. This approach of planning takes the basic concept of land and water resource endowment and constraint analysis and identifies strategies for agricultural development with employment generation in a sustainable manner. Since this approach warrants bottom-up planning, it requires the integration of activities at Agro-Climatic Regional and Zonal levels. This requires efforts in proper understanding of the approach at all levels for proper analysis of resources, development issues, constraints and processes for the formulation of programmes to overcome the problems and bridge the gaps. Hence, exposure to this new approach is essential to develop necessary skill/information base, so that, the planners, administrators and grass roots extension personnel get convinced of the philosophy, principles and practice of Agro-Climatic Regional Planning. Thus, the internalisation of Agro-climatic Regional Planning at the State level, District level and the operational level agricultural planning and implementation is necessary for faster and expeditious result.

How to Institutionalise ?

Consistent with the basic rationale of the Agro-Climatic Regional Planning approach and the need to keep in mind the operational relevance of administrative boundaries for the purpose of implementation, this planning process has to be exposed to administrators and implementing personnel at the macro and micro level viz. at state, district and grass root level for planning, implementing and monitoring. It is programmed not only to expose them to the process but also involve them to prepare the plans for each Agro-climatic Region. Institutionalisation is planned in a four tier system.

- a. The State level heads of development department will be exposed to this approach mainly to integrate the various programmes/schemes to implement the resource based strategies to be identified by the core group and channalise the funds available from State and Central governments and other agencies. This will enable the preparation of long term perspective and development plan of the zone and operational annual plans based on the Agro-climatic Regional Planning exercise. Thus key policy makers, planners and administrators will be thoroughly sensitised to this planning approach.
- b. At district level, core group will comprise of officials of different development departments, administrators, financial institutions, NGOs etc. They will be trained in the principles and practices of the Agro-Climatic Regional Planning approach and strategy. This group will carry on the preparation of development plan after analysing the resource level, constraints, gaps and priorities of the region and zones. The plan will be prepared on a long term perspective and indicate the possibility of integrating or dovetailing the ongoing schemes at district level for implementation. The farmers and NGOs whose involvement which ensures the easy implementation of the strategies, will also participate in such training programme at the district level.
- c. The grassroot level extension functionaries are the actual implementing agencies of the plans prepared. So it is more essential to orient them to Agro-Climatic Regional Planning approach.

Emphasis needs to be given to these regarding the involvement of people and other institutions at grass roots level. They will be trained in the broad based agricultural programmes cutting across their respective departmental barriers and boundaries. Participatory planning and execution of programmes, survey and identification of resource potentiality, constraint and gaps, methodology to adopt location and problem specific technology to overcome the problem for the maximisation of output will be the components of such exercises training.

- d. The last tier in the system is the farmer. Their needs are to be looked from three angles i.e. farm, farmer and farming system. The farm indicates resource endowment (land, water and capital) and quality. The farmer needs to decide on the output requirements and input needs. The farming system involves the technology and package of practices for a sustainable agricultural development. So it is necessary to orient him also on Agro-Climatic Regional Planning approach so that there will be easy acceptability and implementation of the integrated mixed farming strategies. The institutionalisation process will take the beneficiary of agro-climatic regional planning into its fold.

The national resource personnel engaged in ACRP, scientists of agricultural university, agricultural planners, administrators and implementors besides the NGOs associated with the approach will provide the needed support for institutionalisation of the this planning strategy in the current processes of agricultural plan formulations, implementation and monitoring. Tamil Nadu has planned to institutionalise its agricultural development plans in Tiruchirapalli and Ramanathapuram districts adopting the above strategies of training and exposure. It is hoped that the steps taken by Planning Commission will go a long way in adopting grass root level planning on agro-climatic basis for sustainable development of agriculture in an eco-friendly manner.

Institutionalisation Of ACRP Approach - A Model

Level of Institutionalisation	Area	Constituents	Need	Methodology	Results
Policy level Administrators and Planners	State	Heads of departments of Agriculture, Horticulture, Animal Husbandry, Fisheries, Agril. Engineering, Irrigation (PWD), Financial Institutions, Planning Department, Planning Division (SPC)	Reorient State Annual Plans on ACRP basis	Sensitisation and exposure	Resource back up and carry out policy corrections
Mid-level Planners and Administrators	District	Agriculture, Animal Husbandry, Agricultural Engineering, Horticulture, Fisheries, Irrigation, Lead Bank, NABARD, Central Co op. Bank, Dist. Develop. Officer, Asst. Project Officer, Res. Institution, KVK, NGO	Understand resource use level, and potential, and draw local need based strategies.	Impart training	District committee to solve and carry out mid course modifications.
Grass Root Level Staff	Block	Field level staff of the Departments, Institutions and NGOs indicated in level II	Understand local need, farmers' participation, and develop location specific farming system.	Impart training	Solve and report
Farmers	Village	Farmers	Select suitable crop and noncrop activities to suit resource base	Training	Feedback on development and problem

Sixteen**DECENTRALISED AND MULTI-LEVEL PLANNING****K. Rajan*****Decentralisation of Power & Planning - An Area of Continuing Interest**

In the context of comprehensive rural development, attempting a decentralised form of governance has been a cardinal element in our political philosophy. The Directive Principles of the State Policy contained in the Constitution requires "the State to take steps to organise Village Panchayats and endow them with such powers and authority as may be necessary to enable them to function as units of self-government". It was also decided that the advancement of the society be secured through social and economic planning. With the launching of National Extension Service and Community Development Movement in the fifties, the issue of both decentralised local self-governing institutions and the planning process have tended to overlap.

Emphasis on Decentralisation Process in VIII Plan

This finds expression in the perceptive remarks of the Deputy Chairman to the Eight Plan in the words "The Eighth Plan recognizes the essential need to involve people in the process of development. The attitude of passive observance and total dependence on the Government for development activities has become all pervasive. It has to be altered to a pro-active attitude of people taking initiative themselves" The Planning Commission has now worked institutional strategies which will mean creating or strengthening various peoples' institution at the district, block and village level in order to synthesise the purposes of investment with optimization of benefits at the grass-roots level by relating these programmes to the needs of the people. Panchayats and Nagarpalikas, elected by the people, will have to play a larger role in their areas. They should be vested with adequate financial resources, technical/managerial inputs and decision making authority."

The Plan document further elaborates these ideas and refers extensively to the need for bringing about systematic involvement and active participation of the people in developmental activities, as stated in para 1.4.43 to 1.4.47 in Vol.I of Eight Five Year Plan, 1992-97. Two principal grounds which seem to provide the rationale for formulations are: (a) decentralised institutions have the capacity to diagnose the needs of the areas, interact with the governmental agencies in order to draw needs based local plans and to implement those plans in close cooperation with the administration; and (b) being accountable to the community, are better placed to improve the delivery systems in the administration of schemes and programmes, drawn up after responding to the felt needs of the people, to optimise the benefits reaching those, to whom they are meant. These form the bedrock of the basic conceptual framework in advocating decentralisation of planning and plan implementation process and to be carried out by institutions at the grass roots levels.

Brief Review of the Experimentation on Decentralisation Process

This paper does not intend to deal with the question of evolutionary process of democratic decentralisation. However, it must be stated that the first concrete measures, for all that followed in the experimentation of decentralisation of administration and democratic power by different states must be traced to the recommendations of the Balawant Rai Mehta Committee. The Committee had been set up to review the working of the community development blocks and plan projects. Panchayati Raj institutions having a three tier integrated organic structure were suggested. Then state legislations

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for creating institutions, with suitable modifications allowing for regional variations followed. Panchayati Raj Institutions got off to a good start in the sixties, but for a few states like Maharashtra, Gujarat, Karnataka and West Bengal, in others either the institutions were superseded or allowed little freedom to operate.

Decentralisation of Planning - District Planning

The administrative Reforms Commission highlighted the need for District Planning and to relate it to those areas where local variations in the pattern and process of development were likely to yield quick results in terms of growth. In 1969, the Planning Commission communicated guidelines to the States for formulating district plans. This detailed the concept of district plan and methodology of drawing up such a plan in the framework of annual plan, medium term plan and perspective plan. The Commission also agreed to assist the states in the setting up of planning machinery at the district and sub district levels over the years.

Block Planning

A Working Group on Block Level Planning headed by Prof. ML Dantwala submitted a report in 1978. It identified the remoteness of planning agencies at the district level from the actual scene of action as the cause of mismatch of actual financial allocations with location specific needs. A forceful plea was made that block level planning, (the same area which was covered by community development blocks) should be the appropriate sub-state planning level for proper appreciation of the felt needs of the people. Thereafter, the Commission issued guidelines on formulation of block level plans.

However, at about the same time, another Committee headed by Shri Ashoka Mehta and been appointed to go into the working of Panchayat Raj Institutions. It advocated that developmental efforts had to be in tune with the needs of the poor and marked by a high degree of co-ordination which was not possible to be achieved at the State level. While recommending Block level planning, the Committee stressed that the district officials should be properly qualified and placed under the control of the Zilla (District) Parishad. It also suggested that the Panchayati Raj Institutions should be made to develop into agencies of planning schemes which were of immediate necessity.

State Legislation - Constitution of Panchayati Raj Institutions, Powers, Functions etc.

At this stage it would also be appropriate to briefly outline the efforts of the States to enact legislations for constitution of Panchayati Raj Institutions. What is of particular significance is the constitution of institutions at the block and district levels. Since then many of these legislations have been further amended from time to time. There are considerable variations in the manner of constitution of Panchayats at various levels starting from the village upto the district in different states, as also the manner of election of the office bearers. Even in terms of functions entrusted to the PRIs at different levels, the position varies considerably from state to state. Another important feature to be noted is the association of MPs. and MLAs with these institutions. The pattern shows considerable changes from state to state, while in Maharashtra the Zilla Parishads do not include MLAs or MPs, in others they are members of the Zilla or Block Panchayats with or without voting rights.

Pattern Adopted in Transfer of Function to PRIs

A matter of critical significance for this paper is the question of powers and functions entrusted to the PRIs, particularly those at the block and district Level. Broadly, there are two types of patterns namely, the legislation itself spelling out certain functions as to lie in the jurisdiction of District Panchayat (Zilla Parishads), as is the case in Maharashtra, Gujarat or Karnataka, or the Acts only provide for certain functions to be entrusted to Zilla Parishads by a general or special order of the State Government.

The various Acts dealing with Panchayat Institutions do provide for income flows to these institutions at different levels. Considerable differences exist as amongst the states. In this connection, it should be noted that where certain schemes are transferred to the Zilla Parishads, corresponding outlay for implementation are also made over to Zilla Parishads. One can see broadly three types of activities taken by Zilla Parishad from the point of funding the programmes, namely those (i) taken up by themselves from the funds raised by them or devolving them to under the statute itself; (ii) implementation of transferred schemes; and (iii) schemes implemented by them based on specific orders of the government. In the last mentioned cases, the degree of freedom exercised in the execution of the scheme/programme would be limited. Without the statute itself providing for certain types of activities/schemes to be transferred, it would be decided based on special/general order of the State Government.

Seventy Third Constitutional Amendment Act incorporates a new part in the Constitution dealing with PRIs (hereinafter called the Amendment Act). The Seventy Third Constitutional Amendment marks an important and almost a culminating point of these evolutionary processes in regard to decentralisation of democratic power. The Act seeks to give constitutional status to the Panchayats at District and sub-district levels. This envisages the constitution of Panchayats at the village, intermediate and district levels in every state. One major element is giving representation to the MPs and MLAs in the block and District Panchayats. The Amendment has the following important provisions which are of significance in so far as they relate to socio-economic planning:

- (a) Subject to the provision of the Constitution, the legislation of a State may, by law, endow the Panchayats with such powers and authority as may be necessary to enable them to function as institutions of local self-government and such law may contain provisions for the devolution of powers and responsibilities upon Panchayats at the appropriate level, subject to such conditions as may be specified therein, with regard to :-
 - i) preparation of plans for economic development and social justice;
 - ii) the implementation of schemes for economic development and social justice as may be entrusted to them including those in relation to the matters listed in the Eleventh schedule.
- (b) State legislature may be law
 - i) authorise a Panchayat to levy, collect and appropriate such taxes, duties, tolls and fees.
 - ii) assign to a Panchayat such taxes, duties, tolls and fees levied and collected by the State Government for such purpose;
 - iii) provide for making such grant-in-aid to the Panchayats from the Consolidated Fund of the State; and
 - iv) provide for constitution of such funds for crediting all moneys received, respectively, by or on behalf of the Panchayats and also for the withdrawal of such moneys.
- (c) Governor of a State to constitute within a year and thereafter at the expiration of every fifth year, a Finance Commission to review the financial position of Panchayats and to make recommendations to the Governor as to;
 - i) principles governing distribution between the State and Panchayats' net proceeds of the taxes...
 - ii) determination of taxes... which may be assigned to or appropriated by the Panchayats;
 - iii) grant-in-aid to the Panchayats from the Consolidated Fund of the State; and
 - iv) measures to improve the financial position of the state.

- (d) Any provision of any law relating to Panchayats in force in a state immediately before the commencement of the Constitution Amendment Act 1992, inconsistent with the provision of the part (Part IX) of the Constitution could continue to be in force in a state for a maximum of one year unless it is repealed or amended, earlier.
- (e) The Eleventh Schedule of the Constitution includes the following functional areas, viz.;
- i) Agriculture including agricultural extension;
 - ii) Land improvement, implementation of land reforms, land consolidation and soil conservation;
 - iii) Minor irrigation, water management and watershed development;
 - iv) Animal husbandry, dairying and poultry
 - v) Fisheries
 - vi) Social forestry and farm forestry
 - vii) Minor forest produce
 - viii) Small Scale industries including food processing industries
 - ix) Khadi, village and cottage industries
 - x) Rural housing
 - xi) Drinking water
 - xii) Fuel and fodder
 - xiii) Roads, culverts, bridges, ferries, waterways and other means of communication
 - xiv) Rural electrification, including distribution of electricity
 - xv) Non-conventional energy sources
 - xvi) Poverty alleviation programmes
 - xvii) Education, including Primary and Secondary schools
 - xviii) Technical training and vocational education
 - xix) Adult and non-formal education.

State Laws to be brought in Conformity with the Amendment Act.

We may note that the Central Government expects that the State Governments will move the concerned legislature to amend the legislations to bring them to conform to the Constitutional Amendment. Ministry of Rural Development has also fixed a target date for completion of this process. What is of interest to note is that the Central Government has itself initiated action to enact Manipur Panchayati Raj Act, now that the State is under the President's Rule.

Block or District Level Planning

The 73rd Constitutional Amendment Act completely changes the scenario in so far as the debate on decentralised planning and local self-government is concerned. If the Manipur Bill is to be taken as an indication of what the Central Government would expect of the State, while they amend their legislations for constitution of Panchayats, then the matter should be treated as foreclosed, except in

so far as the question of functions entrusted to Block level Panchayats and Zilla Parishads are concerned. It is true, even this division of work could engender substantial debate and would directly impinge on the question of the Commissions' view and advocacy of the planning methodology, that is being in favour of Block Planning or District Planning. The NDC Committee on Micro Level Planning and Involvement of People at Grassroot Level, while recognizing that the concept of District Planning has come to be widely accepted, considered that the block or the taluka or even a group or a cluster of villages such as Mandal be focussed upon as the smallest unit of planning. However, the Committee felt, in its words, that it "would like to leave final choice in this matter consistent with the provisions of the Constitution (Seventy third Amendment) Act, 1992 to the State Governments".

Principal Issues

To facilitate the examination of principal points relating to the question of decentralisation of planning and implementation of plans, the issues could be seen broadly under three sets, namely

- 1) Institutional aspects;
- 2) Allocations of sectoral and sub-sectoral functions falling exclusively in the mandate of PRIs; and
- 3) Planning and implementation aspects

It is evident that many of these would have substantial overlaps and a policy in regard to one will have an immediate bearing on other aspects.

Institutional Aspects - Approval and Finalisation of Plan under Block or District Planning System

There have been major differences in the State legislation in the past both in regard to the manner of constitution of the institutions at various levels and their relationship as amongst the institutions at the different tiers upto the district level and with the State Governments. With the Amendment Act in terms of basic principles, functions, powers, financial arrangement, it could be expected that a large measure of uniformity will be expected to prevail.

In effect, the preparation of perspective, five year or annual plans would be carried out at the Block or District level. The NDC Committee on Multi-level Planning felt the matter should be decided at the State level. For several reasons, it may be useful, especially in the framework of 73rd Amendment, that preparation of plans, in the sense of one composite and integrated plan document is attempted at the District level, that could be based on a holistic approach in its formulation and ensure implementation in a coordinated manner.

Preparation of the plan at the District level would imply that while the lower tier that is the village or Block Panchayat would initially prepare the draft plans in respect of their areas, the aggregation and integration of the plans would be carried out at the District level. That is the Block Plan would have to be approved/sanctioned by the Zilla Parishad. On the other hand, if we expect that socio-economic planning would be carried out at the block level, the implication would be the plan, emerging at the block level would be approved at that level. At the District level, only an exercise in consolidation would take place.

All over the country, with the introduction of the National Extension Service and setting up of Community Development Blocks, a development machinery was created at the block level, normally an area consisting of about 100 villages. The Block Development Officer was assisted by a number of extension officers dealing with different disciplines. The status of personnel posted at the block level may have changed over the years. However, in all the States most technical Departments of the State Government have senior officers at the District level, who form the keypin of the departmental hierarchy. Right from the British days, the Collector (District Magistrate/Deputy Commissioner) as representative of

the government at the district, was expected to coordinate the working of all the departments. The district revenue machinery was also strengthened to provide assistance to the Collector/Dy. Commissioner, to discharge the developmental functions. In several states, like Maharashtra, Gujarat and others, with the setting up of Zilla Parishads (Panchayats) for executing several development activities, on the basis of statutory transfer of function/schemes, the State Government created a separate developmental machinery under a senior officer of rank of Collector called the Chief Executive Officer of Zilla Parishads. If the Manipur Panchayat Raj Act, now passed by the Lok Sabha, indicates the policy of the Central Government, it is to be held that the Centre would like to see a strong administrative set up the district level. Apart from creating a post in the rank of Deputy Commissioner as the Chief Executive Officer, a Chief Planning Office for each Zilla Parishad, the State Government is to post a number of officers of Group A, B and C services of the state to serve under Zilla Parishads. It would also be relevant to mention that the Planning Commission had appointed a high level Committee to Review the existing administrative arrangements for Rural Development and Poverty Alleviation programmes (CAARD), and to recommend appropriate structural mechanisms to ensure that they are planned in an integrated manner and effectively implemented under Dr. GVK Rao, Ex-Member of the Planning Commission on March 28, 1985. There are several recommendations of the Committee as need to be considered in deciding upon the administrative set up. In the Committee's view the district should be the basic unit for policy planning and programme implementation and the Z.P should, therefore, become the principal body for the management of all development programmes which can be handled at that level. It also recommended that the district should include the both the plan and non-plan resources available, as well as institutional resources, and strongly favoured preparation of District Budget. The Committee, however, suggested that the major operational machinery for implementation of District Rural Development Plan will be that of the block level set up. The Committee recommended that the Block Development Officer, to be called the Assistant Development Commissioner (ADC) (i.e. B D O in the status of Sub-Divisional Officer), should be the sheet anchor of the entire rural development process.

Responsibility of Plan Formulation - Schemes/Projects/Programmes and the Role of District Officers of Technical Departments

If the present status of the administrative set up of various technical departments continues to remain, one may examine whether this would easily facilitate the process of integrated planning at the District or Block level. An important issue in the concept of planning at an areal level, is whether the schemes/programmes/activities have been formulated keeping in mind the requirements of a given local area or whether these are put as a part of a programme/scheme decided at the State level for implementation in different local areas. The District/Block plan then merely a reflecting the activities at that level of a programme to be implemented on a state wide basis. If it is to be accepted that in the true spirit of local area planning, the formulation of schemes/programmes/projects are to be undertaken at that level, it is but necessary that all the pre-requisites for planning process would exist at that level. It would appear that it may be more easily possible to fulfill these at the district level rather than at the Block level. At the latter, it is the implementation of plans, settled at the district level, that concerns most. It is difficult to bring about a situation where on a day to day basis officers of the next higher level in hierarchy would be expected to contribute wholly to the plan formulation at the block level. That is the Block Development Officer would be able to get the kind of response necessary for plan preparation from the District level officers of various departments. Even to achieve coordination at the District level, through the traditionally well established office of the Collector/DM/Dy. Commissioner, has not been easy, this would argue in favour of District being the appropriate level for decentralised planning.

Funds for Plans - Extent to which PRIs have Freedom to Formulate their Own Schemes

Resources for financing the plans and the arrangements in this respect form a critical aspect of the past attempts at decentralisation. In several states identified sources of local revenues such as the land revenue was totally devolved to the PRIs and incentives given through matching state assistance to enhance the land revenue through imposition of cess or land revenue. The PRIs were also allowed to levy other cesses, fees, tolls etc.

Traditionally the levy of house/property tax has been an important source of income for the Gram Panchayats. However, these formed a very small part of the resources for financing plans being implemented by PRIs. The overwhelming part of the district plans financing came from transfer of resources along with the schemes entrusted to them by the State Governments. In their very nature, the scope of the PRIs to change the schemes or the financing pattern under the schemes was limited. In some states additional funds were provided under the head, District Planning. In terms of volume as well as stability in flow from year to year on this account, an uneven picture emerges. The District plans were largely a collage of schemes being implemented at the district or sub-district levels, that the State Governments allowed the Zilla Parishads to reflect in the District Plans either by transfer or permitting a discussion on prioritisation.

Approval of District Plans by Higher Level Bodies Presided over by State Ministers

In several cases, the District Plans were to be approved/sanctioned by bodies like the District Planning and Development Council, District Plan Coordination Committee etc. normally headed by the guardian minister for the district. The Amendment Act requires the State legislation to endow Panchayats with power and authority for preparation of plans for economic development and social justice. The Manipur Act, however, requires the District Plan to be prepared by the District Planning Committee headed by the Deputy Commissioner of the district and forwarding the Development plan to the State Government. The Finance Commission to be constituted in pursuance of the amendments in the wake of 73rd Amendment, is expected to decide on principles governing (a) distribution between the State and the Panchayats of the net proceeds of the taxes, duties, tolls, as well as the allocation between the Panchayats at all levels of their respective shares; (b) determination of taxes, duties, fees etc. which may be assigned to or appropriated by the Panchayats; (c) grant-in-aid to the Panchayats from the Consolidated Fund of the State; (d) measures needed to improve the financial position of the Panchayats etc. Funding of the development plan could be expected to be an important area of the Terms of Reference of the Finance Commission to be created by the Governor. It may be easier to decide on the issues of devolution when dealing with a limited number of agencies such as at the district level from the point of view of implementing the Development plan than dealing with hundreds of Block Panchayats. The latter would be the case if one adopts the Block as the basic tier of planning. The assessment of funds required with reference to the functions entrusted will then have to be essentially looked at the block levels with hundreds of blocks in most of the major States. This would become a very labourious exercise, as would be the matters relating to decision on providing grant-in-aid. It would then appear to be a sound basis to work on evolving integrated District plans rather than straightaway opting for block as the basis for planning.

District Rural Development Agencies

For implementation of Rural Development programmes, the Government of India promoted the establishment of bodies called the District Rural Development Agency (DRDA). Many non-statutory or non-registered bodies have also been established on the basis of administrative orders for bringing about coordination in the implementation of specific programmes by different Ministries at the Centre or State Governments. Often these Committees or bodies are headed by the District Collector or the Chief Executive Officer. Many of these have been in existence for quite some years. Nevertheless,

effective coordination continues to be an area of major concern. Ineffective implementation of schemes is attributed to the schemes not being appropriate for the local situation, linkages between various departments being found wanting etc. Given the experience, it would be far better to first focus on streamlining District planning, before attempting a far more difficult exercise of Block planning. In any case other types of coordination mechanisms established, ought to be merged into PRIs at District levels. If at all there is a need to constitute any coordination committee this should be under the aegis of Zilla Parishads, rather than as a parallel stream.

Entrustment of Development Functions to PRIs

In all legislations dealing with decentralisation of democratic power, and as a parallel process schemes for decentralising planning, an attempt is made to see what functions are normally performed by the State, (In this context the State Governments) could be entrusted to Panchayats at the District and levels below.

The State legislations had provided for transfer of certain functions to be performed by the PRIs exclusively or transferred some schemes along with funds for their implementation. In many States a system of entrusting the PR institutions, especially the ZPs to implement the schemes drawn up by the State Government which could continue to remain as essentially State function, on agency basis was also contemplated. The position now significantly shifts with the 73rd Amendment. As indicated earlier some 19 items have been included in the Eleventh Schedule and hence the planning in respect of these sectors would need now to be undertaken by the PRIs. Ideally it may be preferable for ZPs to work out the district plans.

The Manipur Panchayat Raj Bill also further details the specific activities under each of the sectors/sub sectors of development. In effect, it would mean that all the schemes falling under these functional areas would need to be transferred by the State Governments to the ZPs. In this connection, some points which may arise for consideration could be briefly summed up as -

- i) Do the State Government also implement schemes as part of State responsibility under different functional areas or should all schemes relating to these sectors of development be planned and implemented by the PRIs? Ideally the State Government should not be implementing parallel schemes and whatever funds would normally have been deployed for various programmes under sub-sectors of development would be provided to the ZPs. In some states the concept of plans at the district level including what was termed as the local sector and state sector had been evolved. With the 73rd Amendment this position will have to undergo a change and one could expect that there shall not be any state sector schemes implemented at the district level even through the use of ZPs as agents of the Government.
- ii) Agriculture, land improvement, rural development, water that is to say water supply, irrigation and canal subject to entry 56 of List I, public health and sanitation, hospitals and dispensaries, fisheries, communications that is to say roads, bridges, ferries not specified in List I, markets and fairs, industry subject to entry 7 and 52 of List I etc. are all included in List II i.e. the State List of 7th Schedule of the Constitution. Nevertheless, it may be stated that in these and several other areas falling within the state list the central intervention has been becoming more and more important over the years. The most notable thing being that of rural development with large outlays under the central sector for this purpose. The issue is whether the Centre would continue to operate a large number of centrally sponsored schemes in these areas and whether the funds will be routed through State Governments or will these be directly passed on to the ZPs. The latter procedure has been followed to some extent of moneys being passed on to the Panchayats directly. Were the Central Government to pass on funds directly to the ZPs, this could conceivably dilute the role of the State in matters falling in the State List. That, the Central Government does

contemplate contributions and grants being made to the Zilla Parishad funds, is clear from the Manipur Bill. As a matter of propriety it may be desirable to take a view that all funds from the Centre in respect of schemes falling under the sectors of development which may become the mandate of the PRIs will be routed through the State Governments only. Even here a view will have to be taken as to whether the Central Government should at all frame schemes which fall within the purview of the PRIs and instead all grant-in-aids be made through the State Government to these Panchayats to facilitate formulation of plans in different heads of development assigned to PRIs.

Non-Government Organisations

Another issue of some importance is the modalities adopted by the Central Government in the implementation of schemes. In many schemes, the various Ministries/departments have been seeking to provide funds to NGOs for undertaking developmental activities like in the case of many facets of rural development - drinking water, rural health and sanitation, wastelands development, family welfare etc. If these functions are to lie in the province of Panchayats, the question is whether parallel implementation of schemes through NGOs by the Centre is at all advisable or should this be left to the judgement of Panchayats to associate the NGOs working in the local area.

Central Assistance for Sub Plans

Another aspect of critical significance is the Sub Plan Approach adopted by the Central Government in ameliorating the socio-economic lot of under-privileged sections of society such as the members of the Scheduled Tribes under Tribal Sub Plan and Scheduled Castes through Sub Component Plan. The Central Government provides Tribes under Tribal Sub Plan and Scheduled Castes through Sub Component Plans. The Central Government provides assistance to the States for improving the efficacy of the ongoing programmes taken up by the State Governments to improve the lot of these under-privileged sections. As brought out in the 73rd Amendment, the implementation of economic development and social justice is to be entrusted to the Panchayats including those in relation to matters included in the Eleventh Schedule. A view will have to be taken as to whether the present administrative arrangements made for implementation of the Tribal Sub Plans through the concept of Integrated Tribal Development Blocks and the SCPs as a State administered function should continue or these be brought under the aegis of the ZPs. If these Panchayats are to reflect the felt needs of the people and reservation to the extent of their proportion in the population provided for members of SCs and STs as well as stipulation that not less than one-thirds be reserved for women (including number of seats reserved for women belonging to SCs/STs), it may be necessary that a view is taken on whether the special plans should be merged with the district plans. In fact, it may not be necessary to adopt any specific special plan approach, as the PRIs could be expected to respond to the needs in the local area and meet the aspirations of all.

Agro-Climatic Zonal Planning

Under many heads of development local area based planning has been considered to be critical. In 1988, at the instance of the then Prime Minister, the Planning Commission had undertaken an exercise on the desirability of bringing in agricultural planning based on natural resources endowment and available technologies with a view to achieving sustainable development, a higher agriculture growth rate thereby improving the income levels of both farmers and the landless dependent on agriculture. The country was divided into 15 broad Agro Climatic Regions and later climatic and soil parameters. The Planning Commission had constituted Zonal Plan Teams (ZPTs) under the chairmanship of Vice-chancellor of one the Agricultural Universities in the region/zone, associating scientists,

representatives of the development departments of the state concerned, financial institutions and others. Zonal strategies were first worked out for rapid agricultural development taking into account the natural resources as well as available technology. Thereafter, it was decided to work out district strategies considering that this is commonly accepted as the operational administrative area. The Agro-climatic Regional Planning Unit in the Planning Commission has been seeking to put in place agricultural planning based upon this approach rather than the traditional commodity production orientation. It was decided that a beginning may be made in the 8th plan in trying to operationalise agricultural planning on Agro-climatic Zonal basis and to develop the institutional framework for the preparation of district agriculture plans in a few districts in different Agro-climatic Regions. It was felt that from the 9th Plan onwards agricultural planning should essentially be based upon the district plans. That is to say that the state agricultural plan would be but an aggregation of district plans and the National plan an aggregation of state agricultural plans. It had also been decided that the policy framework which will promote operationalisation of agricultural plan based upon strategies worked out by the ZPTs would be evolved so that scientific agriculture could be promoted which would maximise income, create larger employment opportunities and will be compatible with the environment, and particularly arrest the degradation of soil and water resources etc. In essence, the formulation of a district plan based upon the strategies advocated by the ZPTs would have looked at afresh the resources available and the production systems to be promoted in the light of available technologies. The Schemes/Programmes to be taken up in a district would have been guided by these considerations and one could have expected to see that considerable variations in the components of different schemes/projects could exist so that these will address specifically to the local problems and would also take note of the market driven demand for various types of agricultural commodities. To some extent, the Small Farmers Agri-Business Consortium also seeks the same goal though this has a much larger technology orientation as well as on processing of agricultural commodities. SFAC aims at bringing about a close linkage between primary producers particularly the small and marginal farmers and the processing units. An issue to be decided is whether alternative approaches to agricultural planning should be merged with the functioning of Zilla Parishads, or be allowed to be operated as a separate concurrent function by the state since it is presently being attempted on a pilot project basis. One significant matter that needs a clear view is whether the ZPs can bring about necessary linkages between research, extension, input delivery agencies, financial institutions and markets, inherent in the agricultural planning on Agro-climatic Regional considerations.

A similar view also needs to be taken in respect of wastelands development programmes. To what extent these programmes should be completely brought within the mandate of the ZPs or whether the Central and State Governments need to take up a programme outside the ZPs especially those relating to promoting investments of corporate bodies, NGOs and others to undertake wastelands development, would also require decision.

Merely allocation of some sectoral or sub-sectoral functions to the PRIs may not be sufficient for an orderly and systematic growth in the sector. The latter may call for linkages to be established between programmes being implemented with markets on the one hand and others providing services. Even with the state intervention at the highest levels, it may not have been easily possible to ensure that effective linkages are brought about. Often it is the administrative machinery at the higher levels who are concerned such as the heads of Technical Departments or State Secretariat Departments. There has to be clear recognition that despite the decentralised process the state's role under several heads of development will need to continue and would make the programmes undertaken by the PRIs implemented efficaciously.

Methodological Aspects in the Planning Process**Date Base Information and Studies etc. as Pre-requisites for Planning**

For the decentralised planning to be truly reflective of the felt needs of the people, it is essential that the plan formulation exercise should be initiated at the lower areal levels. Undoubtedly, such an exercise would require a great deal of data base, information and the use of statistics, studies etc. One may have to examine whether such information will be available and at what levels such information support system will be created.

Designing and Formulation of Schemes / Programmes by PRIs - Availability of expertise, authority etc.

There will have to be a clear understanding that programmes/projects will be formulated to meet the requirements in the local area and will be financed out of block grants. Perhaps, it is in this light that the constitutional amendment talks of provision of grant-in-aid. If the State Government were to design the schemes/projects and expect these to be implemented it may still not answer adequately the question of these programmes meeting the needs of the local people. There are several related issues which one may have to consider, as given in the following paragraphs:

If the schemes are to be formulated at the district and sub-district levels it would ipso facto, mean that the PRIs will have necessary expertise to formulate schemes. Presently different functionaries of State Governments have powers as per well established regulations dealing with delegation of financial and technical powers. If it is contemplated that the technical approvals for projects and financial approvals are accorded at the district level one may have to look at the existing delegation orders. Secondly, the present orders also require inspections to be carried out by higher technical authorities. Specific orders need to be issued on the extent of supervision and responsibility of divisional officers of various departments as well as those at the state headquarters. It may be possible that there could be differences of opinions. A mechanism for conflict resolution will have to be put in place.

Accountability to the State legislature - Authorising Fund Flow from Consolidated Fund to the PRIs

In so far as the accountability for implementation of programmes is concerned, as the schemes/programmes would be funded largely by transfer of funds from the States to the PRIs on the basis of demands for grants voted by legislature, accountability to the state Legislatures will also arise. In some states there are already Standing Legislative Committees in respect of local bodies. It may have to be recognised that the accountability will be both of the State Governments as well as the local bodies. The State Government's role, perhaps, cannot be diluted beyond a point.

District Planning & Development Council, District Planning Coordination Committee - Role of the State Governments

The Manipur legislation approved by the Parliament also contemplated creation of a District Planning Committee and submission of district plans for approval. In other states agencies like the District Planning Coordination Committee or District Planning and Development Council also have been set up. Here again, clear-cut guidelines need to be evolved on the jurisdiction of various Committees without which the basic objective of the involvement of the local people in plan formulation and implementation may not be fully attained.

Issue of Prioritisation of Areas where Schemes/Project are executed

The setting up of the Panchayats at the district and sub-district levels through the constitutional Amendment making these virtually the third tier of governance was essentially to see that the felt needs of the people are recognised in the formulation and implementation of the plans and that the State/Central Government were considered far too remote from the scene of action. In this context, it is not only the design of the programmes/schemes which per se are important but more importantly the question of priorities in the implementation of the schemes in different areas. Given the paucity of the resources it has not been possible for the state to meet the felt needs of all the areas simultaneously and since needs undergo a change it has been a chase between the growing needs and the capacity of developmental agencies in meeting the needs. The issue is whether this hiatus between the needs and the capacity to fulfill can be expected to be bridged only by making local people responsible.

Expectations of Local People from MLAs and MPs

In several states where ZPs with substantial authority and powers were set up, the MLAs had felt that they could not respond to the demands for items of public work which their constituents demanded. This gave rise to a programme for enabling the MLAs to approve small development works in their constituencies on priority basis i.e. where the decision to take up an activity rested with them. Obviously, this was due to a non-agreement between the ZP authorities and the local MLAs. This process has been carried out further under the MP Local Area Schemes. If the felt needs of the local people are to be decided locally, a view will have to be taken as to whether these separate parallel programmes, even in respect of activities falling within the jurisdiction of the ZPs or other institutions below should be given overriding priorities and not fit in with the priorities decided by the PRIs. Implementation of parallel programmes can conceivably create odd situations arising from competitive politics.

Relations between PRIs and other Peoples' Organisations like Cooperatives

Many of the activities now being entrusted to the Panchayats would need to be dovetailed and coordinated with other forms of people's initiatives like the cooperatives in a very large measure and NGOs. Here again there could be areas of disagreement leading to a mismatch between programmes taken up by the Panchayats and the activities of the cooperatives. This used to be resolved, earlier at the State Government level. This could be an important issue to be considered while considering the methodological aspects of decentralised planning. Both the Constitutional Amendment and Manipur Panchayat Act have given the responsibility for rural electrification to the Panchayats. This could conceivably create friction between the State Electricity Board and PRIs, as essentially the funding of such programmes would come from the Boards, as supplemented by the state funds.

State's Resources for Infrastructure Development

It must also be noted that while State Government has extremely important responsibility in terms of rural development and improving the economic lot of the poor, it has other important responsibilities for creation of infrastructure such as irrigation, power generation and transmission, construction of road network, development of rural markets, apart from several critical social sectors like education, health etc. Extent of resources mobilised by the State Government which have to be shared with the Panchayats will be a moot point, unless one were to assume that in respect of transferred functions the State Government's responsibility will be significantly reduced. One cannot expect that the State Government will only provide plan funds to ZPs and other PRIs, while financing of the entire services included under the non-plan side would be met by the State Government. In most functional areas, there are equally large if not much higher outlays, on the non-plan side. The issue would be whether

both the plan and non-plan functions would be transferred to the local bodies. That the state function will be diluted significantly is difficult to sustain, given the experience that the Central intervention on matters included in the State List of the Constitution has been increasing in an exponential manner over the last several plans. This is likely to affect State's role in infrastructural areas which in turn would call for a larger Central intervention. How far, these constraints, make the decentralisation process efficacious will have a crucial bearing on the very conceptual framework from which recent developments on this vital subject originate.



PART - IV

SUMMARIES OF PAPERS

Seventeen

AGRICULTURAL POLICY PLANNING AND ECONOMIC LIBERALISATION IN EASTERN U.P. WITH SPECIAL REFERENCE TO ACRP.

SS Khanna, BVS Sisodia, RK Singh*

The authors have examined potentials of agricultural production in resource rich region of Eastern U.P. and suggested strategies and policy changes needed to fully exploit these potentials in accordance to the Economic Policy adopted by the Center.

In order to exploit the available potential of each region/subregion of the country through a systems approach, an indepth assessment is being made of the hydrological cycle, lithosphere and atmosphere. In this approach more and more stress is being laid on decentralized planning process tuned more to local specific conditions and needs. Some important strategies were identified by Planning Teams for each Agro-Climatic Zone, which included land development, determining the crop, silvi-horticulture models and indicating backward and forward linkages with agro-based industries. In the present paper, some of the above issues are reviewed to suggest appropriate strategies which might enhance the pace of development in eastern regions of Uttar Pradesh.

1. Geographical and Environmental Features

The state of Uttar Pradesh has been divided into five administrative segments viz. Western, Central, Bundelkhand, Eastern and Hill segments. The eastern segment popularly known as the Eastern Uttar Pradesh or 'Purvanchal' consists of 18 districts. Three divisions viz., Varanasi, Gorakhpur and Faizabad, consisting of 18 districts, constitute a major part of eastern U.P. and fall under the jurisdiction of Narendra Deva University of Agriculture & Technology, Kumarganj, Faizabad.

2. Socio-economic Characteristics

The total population of the State is about 139 millions of which about 48 millions belong to the Eastern U.P. (1991 census) which is about 34 percent of the total population of the State. The population density in Eastern U.P. is about 604 which is much higher than the State figure (471). and its population growth rate during the last decade was 26.2 per cent as against 25.2 per cent for the State.

The literacy rate was 40.9 per cent as compared to 41.7 per cent of the State. The female literacy is about half of the male literacy. About 55.4 per cent persons are directly involved in agriculture in the eastern U.P. as against 66.2 per cent in the State. The percentage of landless labourers is more (22.1%) in the region than that of the State. Per capita income in this region is below the state average of Rs. 3553.00 at Rs. 2544.6. Land belonging to marginal and small farmers is very high, i.e., 93.9 per cent in this region as compared to 89.4 per cent in the State. Irrigation potential has increased substantially at present over 1980-81 as number of tubewells have increased in Eastern U.P., although this increase is still below the state figure of 107.63 percent.

The daily wages rates for agricultural labourers in rural and urban areas are very low, at Rs. 15/- and Rs. 21/-, respectively, as against the official rate of Rs. 35.00. The female labourers receive 60-65 percent of wages of their male counter parts.

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3. Present Scenario of Agriculture

A relative scenario of agricultural development in the Eastern U.P. with respect to other regions of the State and State as a whole indicate that cropping intensity has been comparatively high (154.12%) in the eastern and western regions but a little bit lower as compared to hill regions (162.39%). The percentage of net irrigated area in Eastern U.P. was second highest (58.18%) as against 78.48 per cent in western region. The average foodgrain production here was found to be 16.20 q/ha which was below the average of western and central region and also the State as a whole. The pulse productivity was quite satisfactory, as it ranked second after central region but it was above the State average. The performance of oilseed production was not upto the mark as its productivity turned out to be quite low (4.93 q/ha) as against highest of 10.25 q/ha in the western region. The fertiliser consumption ranked second (90.14 kg/ha) following western region (108.20 kg/ha) but it was above the State average (88.74 kg/ha). Per capita foodgrain availability was the lowest (205 kg) in comparison to other regions of the state.

4. New Farm Policy and Agro-Climatic Regional Planning (ACRP)

The Government of India has recently announced a new farm policy with objectives to accelerate all round development and economic viability of agriculture including horticulture, livestock, fisheries and sericulture. It aims at infusing new dynamism through public investments in infrastructure development, and a much greater impetus for private investments.

It is a well known fact that the economy of the Eastern U.P. is crop-based and consumption oriented. Crop production, in turn, is mainly cereal dominated. Among the cereals, rice and wheat dominate the scenario and account for over 70 percent of the total gross cropped area. Although a significant increase in the productivity of rice and wheat has been accomplished during last decade, productivity of these crops is still far behind as compared to that of Punjab (33 and 37 q/ha of rice and wheat, respectively) and Haryana (28 and 35 q/ha of rice and wheat, respectively). Not only that, rice and wheat productivity has been quite unstable during last three years, i.e. 16.80, 16.37, and 15.50 q/ha in case of rice and 19.41, 21.52 and 20.27 q/ha in case of wheat during 1990-91, 1991-92 and 1992-93, respectively. Efforts are to be made in two directions: (i) to take measures to stabilize yields and (ii) to increase the level of rice and wheat, close to that of Punjab, Haryana and Western part of U.P.

Plans for North Eastern Plain Zone

The following strategies are required to be developed in the North Eastern Plain Zone (NEP).

- i) To bring the vast watershed area available in the zone under cultivation by developing proper crop production technologies.
- ii) To develop deep water technologies including varietal selection.
- iii) Trying alternate crops like sugarcane, jute, fodder crops in low lying areas.
- iv) To evolve rice-fish culture technology.
- v) To increase cropping intensity by growing pre and post rice/rainy season crops.
- vi) To provide better crop planning for utilising residual soil moisture in Diara land.
- vii) To introduce sugarcane and spices in Bhat Soils.
- viii) To carry out studies on micro-nutrient deficiencies, amendments and screening out germplasm particularly of pulse and oilseeds.

Plans for Eastern Plain Zone

Quite a sizeable area in Eastern Plain Zone (EPZ) characterized as wastelands, are currently lying unutilized and offer a great scope for increasing productivity and production. It is, therefore, imperative to develop cheaper means of improving wastelands especially the alkali soils and undulating lands of the zone. The studies in following areas will be desirable :

- i) Use of locally available farm wastes, press-mud etc. to supplement chemical amendments to reduce the cost of reclamation.
- ii) Screening and selection of germplasm with resistance to saline-alkali conditions as a means of biological reclamation of such soils.
- iii) Screening and selection of suitable forest and fruit species, grasses and their compatible combinations and developing appropriate agro-techniques for successful plantation, especially in the areas with undulating topography and high erodibility.
- iv) Developing integrated approach to wasteland management, especially in areas having large tract of wastelands.

Plans for Vindhyan Zone

The following plans are recommended for the Vindhyan Zone (VZ) :

- i) Water conservation and management for efficient crop production under different cropping situations. This includes (a) in-situ water harvesting. (b) individual plant harvesting system. (c) use of drip and sprinkler irrigation for slopy and rocky terrains. (d) contour bunding and water reservoirs etc.
- ii) Development of crop varieties suitable for different cropping and water management system.
- iii) Fertiliser management for cropping systems under dry land situations.
- iv) Management of red and black soils and shallow rocky and undulated terrain.
- v) Integrated approach of agro-forestry, soil conservation to increase productivity and to avoid soil erosion in upland hilly regions.
- vi) Improvement of fruit, fuel and fodder production through agro-forestry systems. Aonla, ber and bael with promising strains can be propagated.
- vii) Cultivation of soyabean with parallel cropping of maize should be encouraged as this zone appears to be ideal for such enterprises.
- viii) Sericulture should get impetus.

Policy formulation

1. Institutional and Infrastructural Support.

- i) The government should come in a big way to link up maximum members of villages by road.
- ii) Regular supply of electricity particularly at crucial phases of agricultural operation when power supply is needed.
- iii) Availability of diesel must be ensured in rural areas by the government.
- iv) Cold storage and ware-housing facilities should be enhanced.
- v) A regulated marketing network should be established for sale of farm production and purchase of farm inputs.

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- vi) Availability of improved seeds should be ensured at door steps of the farmers by government and non-governmental agencies. In view of the majority of marginal and small farmers in the Eastern U.P. the government should provide subsidy on improved seeds particularly the aforesaid group of farmers.
 - vii) Supply of low cost bio-fertilisers should be systematised.
 - viii) A group mobilisation should be encouraged to organise their own input supply and delivery systems to take advantage of economies of scale. The government should provide incentives and support to such groups. As the majority of the farmers being marginal and small, they cannot afford to purchase modern agricultural implements like tractors, seeddrills etc. Such groups can ensure these custom services in time on hire-basis.
 - ix) There is need to develop a network of rice mills in view of rice being the main crop.
 - x) There is great scope of post-harvest and processing industry in the selected areas.
 - xi) In view of increasing mechanisation of agriculture, a greater impetus need to be given in terms of incentive and support for private investments in developing infrastructure for repair and maintenance workshops, also training facilities for the satisfactory use of farm machinery and implements in this regions.

2. Livestock Development

- i) There is a recognized breed of cattle known as Gangitri in Eastern U.P. This breed is very well adapted to local agro-climatic conditions, and hence there is a need to undertake breed upgradation programme.
- ii) Similarly, there is indigenous breed of buffalo viz, water buffalo similar to the famous Murrah, available in most of the districts of EPZ and NEP. Germplasm improvement programme will be worth undertaking here to increase the milk production in the region.
- iii) Introduction of high yielding cross breed animals offers a great scope in increasing milk production.
- iv) Improvement / replacement of local sheep for better wool and meat and to boost up the carpet industry in Varanasi district of EPZ and Mirzapur and Sonbhadra in VZ.
- v) Introduction of fodder crops in cropping system.
- vi) Breeding of crop varieties for dual purposes, i.e. both for grain and fodder.
- vii) Development of post harvest technologies and livestock based industry for processing, preservation, canning, packaging and marketing of livestock product including poultry, fisheries etc.

3. Diversification in Agriculture

- i) Commercial cultivation of aonla in sodic soils.
 - ii) Intensification of litchi cultivation in Eastern U.P.
 - iii) Intensification of citrus cultivation.
 - iv) Integrated watershed management programme in Yamuna catchment.
 - v) Sunflower and potato cropping system.
 - vi) Integrated agricultural development in flood prone districts.
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- vii) Intensification of spices development programme.
- viii) Hybrid tomato development in potential areas.
- ix) Intensification and rejuvenation of mango cultivation.
- x) Development of fisheries in Ramgarh lake, Gorakhpur.
- xi) Development of wet and raising water table areas of Mendawal block of Basti and Bhathat block of Gorakhpur.
- xii) Enhancement of rice productivity in deep water (including semi deep water) areas of eastern Uttar Pradesh.
- xiii) Banana cultivation in Baharaich and other districts of NEPZ.
- xiv) Parvar cultivation in EPZ.
- xv) Incentives to increase Inland fisheries production, particularly in existing ponds and tals.
- xvi) Incentive to enhance poultry industry for egg and meat production.

4. Socio-Economic Development

The socio-economic base play an important role in the adoption of any new development programme including new technologies. The socio-economic situation in Eastern U.P. is not fair. The people are very conservative and income-equality is very high, hence socio-economic development programmes need to be revamped in this region. The possible ways are:

- i) Feasibility of subsidiary sources of income and employment in agro-based industry and scope of post harvest technology
- ii) Cooperative approach to marketing and supply of inputs.

5. Subsidy Issue

There is a strong feeling presently that the subsidy from technology transfer system in irrigated areas should be withdrawn and the money and the manpower so saved should be deployed in dry regions if we really want a repeat of the "Green Revolution". We must realize that soft options of continuing attention on low risk-better endowed regions will not help the developing countries in the coming decades. A combination of different strategies and structures for different ecological regions is required.

The whole concept of subsidy needs a review. One important change that needs to be adopted to redesignate subsidies as production incentive, which are to be linked to the rate of adoption of various improved technological practices.

6. Strengthening Research Network

There is a need to strengthen the research network in this region in view of the prevailing diverse agro-ecological and complex situations. Although NARP has been created in different zones in order to develop technologies to meet location-specific needs but the lack of resources at these stations has been the main hurdle for scientists to carry out activities as per their mandate. Thus, given the emphasis on agro-climatic zoning, the Planning Commission should specifically earmark funds to support these institutions to perform on-farm trials/station trials and also to develop more multi-location testing facilities in rainfed regions. This will boost up the technology generation/adoption with local-specific considerations and farmer participatory approach in order to increase the overall productivity of the regions/subregions.

Eighteen

AGRO-CLIMATIC REGIONAL PLANNING AT THE STATE AND DISTRICT LEVELS (Some reflections on Andhra Pradesh)

T V S Rao*

After a careful examination of the past trends and patterns of development of the agriculture sector the Zonal Planning Team (ZPT) for AP made the following recommendations:

1. Assign the highest priority to basic resource (land and water) development through programmes, wherever necessary, to remove productivity constraints.
2. Second priority was given to research and technology development and dissemination of technologies.
3. Simultaneously programmes for infrastructure development such as input delivery systems, marketing, transport, storage, credit etc may also be taken up.

The Team had also recommended a strategy for development consisting of several programmes. These programmes were prioritised among the agro-climatic regions of the state. The programmes suggested by ZPTs are not unknown to our scientists and planners. But what is new in the strategy is the suggested scale and prioritisation, among the programmes, and also among different agro-climatic regions. It also suggested an overall theoretical and policy framework into which all programmes have to be fitted in to achieve a rapid and balanced agricultural development.

There has been no interest taken up by the State Planning machineries in incorporating the recommended programmes in the State Plans. Recognition/adoption of the ACRP approach was absent. Even now if the programmes are taken up by the government, there is no evidence of Regional Planning. Several questions have been raised for the missing out of the Agro-Climatic Zonal Planning in Andhra Pradesh.

The author has suggested that planning may start at the sub-regional level and subsequently aggregated into a district plan. Also, planning may be done on a project basis rather than on a schematic basis as is now being done, to ensure (a) comprehensive development covering all facets including marketing, processing, input supplies etc and (b) inter-departmental coordination at the planning and execution stages. Monitoring and evaluation are extremely important concomitants of planning. Periodic revision of strategies suggested above must be based on an evaluation of the programmes being implemented.

The experiences in AP point out that unless the whole process is institutionalised in an official manner, and all departments in the Government recognise the need to work in collaboration with each other, planning cannot become a reality. Any amount of informal approach by the ZPT, or lobbying with the administrators will not yield tangible results. For this, the action should emanate from the Planning Commission, should have the approval of all the concerned departments at the Centre, the States and the Districts in that order. To avoid divergence in future between the ZPT approach and the State approach, a Joint Consultative Committee may be officially constituted with representation from the ZPT, State Government and Planning Commission to prepare plan strategies once in every five years.

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The Zonal Planning Teams may continue to function as now, with the present regional coverage, to review the strategies every five years in the light of experiences with ongoing programmes and in keeping up with the changing technology and scenarios of the agricultural economy. At the state level, the preparation of state strategies on the basis of ZPT recommendations may also continue. Thus planning on Agro-Climatic Regional basis will become a permanent phenomenon. The author has stressed the importance of the amalgamation of similar schemes and dovetailing with ACRP priority programmes in view of limited resources.

Focus on Decentralised Planning

The differences in soils, climate, irrigation support have caused agriculture to become diverse leading to varying cropping patterns, rural employment etc, even within a district, calling for area-specific development strategies. Therefore, the need for decentralised planning is more acute in this sector than perhaps in any other sector of the economy. Its importance in development planning is derived from the fact that agricultural sector influences the lives of a majority of our population in one way or the other.

The principal objective of decentralised planning, namely incorporation of developmental needs of lower levels of administration into the state level plans, and through them into the national plans, has not been fully achieved. Strengthening local institutions was not effective except in a few states like Maharashtra, Karnataka, Gujarat and West Bengal. There is an inherent dependence on the bureaucracy to identify local development constraints and ameliorative programmes. The author has illustrated the case of AP, how planning from below is achieved here and how the state plan is prepared. There is sometimes a multiplicity of agencies implementing these programmes. There is also a multiplicity of programmes focussed at a certain problem. Another problem is the role played by people's representatives in spatial allocation of the programmes. In the absence of a scientific basis for location of programmes, political influence plays a significant role.

There are several drawbacks in the present system of planning from below :

1. There is no scientific basis of planning. It is necessary to have a perspective of needs and possibilities that comes out of a scientific assessment of the resource base; past performance and potentialities so that any programme neatly fits into the whole and there is no adhocism, repetition or redundancy of programmes. Such a framework will also specify inter regional and inter sectoral priorities that can help in proper resource allocation to various programmes and their spatial spread.
2. Planning at the district and the lower levels heavily depends on what is ultimately sanctioned by the state government. The state government sanction is based more on the resources made available by the Planning Commission and programmes suggested by it.
3. There is no technical competence at the Mandal level or the district level to prepare the district plan. Manpower is also lacking.
4. The people's representatives are not taken into confidence.

It is to remove these lacunae that the Planning Commission in 1988 thought of decentralised planning on the basis of Agro-climatic Regions.

Agro-Climatic Regional Planning in Action

The author elucidated the different stages of ACRP since its initiation. The process of decentralised planning undertaken by the Planning Teams was described phasewise. The first task of the ZPTs

was to identify homogenous subregions within the zones. The zones exhibited considerable divergence of agro-climatic features, hence the need was felt for identifying subregions.

The second task of the Zonal Planning Teams was to prepare a profile of the agriculture and identify constraints for development. A large volume of data from various published and unpublished sources was sifted and analysed to identify past trends and present status of each of the sub-regions, and the zones as a whole, with respect to large number of selected important indicators of development. The next step was to formulate a strategy for overcoming the constraints and to optimise the development of resources in the subregions.

For implementing the recommendations of the ZPTs it is necessary to make them applicable to states, which are the second stage planning units in the country. When more than one zone covers a state, preparation of state level strategies involved a synthesis of the recommendations made by the various ZPTs that included areas from the particular state.

When the State level profiles and strategies were formulated, the recommendations of the concerned ZPTs were respected and incorporated.

The considerable disparities in resource endowment and the level of their management in various sub-regions and also in the required strategies were brought out which in itself is an eloquent justification for decentralisation of planning even below the state level on agro-climatic basis.

Operationalisation of Developmental Strategies

An attempt is made in this section to illustrate with the case of Andhra Pradesh the various techniques and steps followed in operationalisation.

The proposed strategy implied a marked change from the present crop-oriented approach to a resource-oriented approach and this was accepted in principle. Therefore the ZPTs took up the next step of operationalisation of their strategies. This involved several steps:

- i) defining the technical details of the individual components
- ii) defining the cost of the programme
- iii) intersectoral and inter-regional prioritisation
- iv) fixing the time frame and targets in various plan periods
- v) amalgamation of the programmes into the present schemes

Prioritisation of Programmes for Sub-regions

Several criteria that can be adopted for determining priorities in choosing programmes for implementation in any region. These include (i) the area that could benefit from it, (ii) the additional output that can be generated, (iii) the returns to investment in terms of "incremental output : investment" ratio, (iv) employment generation potential, etc.

While recommending the time frame, the urgency for development of that particular component, as well as the difficulty of its implementation were given due consideration.

Hence regions with the maximum extent of the problem or potential is tackled first and the other regions are taken up later so that in the course of the programme implementation stage is reached when all regions show more or less even levels of need or potential.

The teams also suggested the modalities of funding the programmes. Some are to be the responsibility of the Government and no public participation is envisaged. In some cases institutional credit may be available, as ascertained from discussions with NABARD. However, subsidy element was provided for in accordance with prevailing norms for weaker sections. In the case of larger farmers no subsidy is involved and it is expected that they will meet the expenditure either from their own funds or through bank loans. On the basis of these assumptions, the shares of the Government, public and banks was estimated.

The ZPT proceeded to examine the present programmes of the Government of Andhra Pradesh to see to what extent additional resources may have to be mobilised for the new strategy. The issues prioritised in AP were: watershed development, tank irrigation, improvement of drainage, groundwater development, waste land development, reclamation of problem soils, development of animal husbandry, development of brackish water fisheries, extension system and seed supply.

Wherever new programmes are suggested, or new modalities are recommended it may be desirable to launch pilot projects initially, to assess the recommended pattern, the functioning and benefits of the programmes before extending them on a large scale. It will also help to demonstrate the availability or otherwise of the programme for external funding, if required.



Nineteen

AGRICULTURAL EXPORTS AND ECONOMIC LIBERALISATION

S Arya*

The author has discussed export potentialities of agricultural commodities in view of the economic liberalization particularly with reference to overcoming the balance of payments crisis. There has been a great deal of debate among economists and others about the merits and demerits of what has come to be called as the New Economic Policy (NEP). The NEP is meant to globalise the Indian economy with the basic objective to put the economy on a high growth path by bringing about the necessary structural adjustments. In this strategy, an important place has been assigned to growth in exports. And in order to help increase exports, it is argued that it is essential to update quality, modernise technology and identify the areas of comparative advantage in terms of available technological options and labour requirement. In order to bring in new technology, it is considered necessary to remove restrictions on ownership etc. Dismantling of laws like the MRTPA and FERA is expected to revitalise Indian economy through increased foreign investment and unrestricted flow of modern technology. This will ultimately help Indian economy to compete in free markets of the world. It has been indicated by BS Minhas, that we can export agricultural goods worth US \$ 2 billion a year. This thought is being further strengthened by RS Paroda. Minhas has dealt with these issues in detail and his logic is powerful.

In agricultural sector, we are not so dependent on foreign technology. Our farmers have been growing crops for years and with some more support the yields can be augmented, provided the current proposals on agriculture in the Uruguay Round negotiations of the GATT do not legally create barriers, e.g. by giving multi-national companies a monopoly in production of seeds as a result of the proposal to patent even life forms, which is not allowed by the law in India. But even if that does happen, it is possible that output increases take place in alliance with agri-business corporations on terms that may not be most favourable to the farmer.

In addition to not being so dependent on foreign technology, India is naturally endowed by varying agro-climatic conditions. It has abundant supply of cheap agricultural labour as compared to other agricultural produce exporting countries of the world. The first basic task for producing an agricultural commodity on favourable terms is to identify the crop-wise potential areas and to chalk out the strategy for exploiting those potentials in the most favourable way. In this context the role of the Agro-Climatic Regional Planning Unit of the Planning Commission, Government of India becomes vital. Now the question is to identify the export potential commodity wise and to prepare suitable strategy and policy measures to make the best use of the opportunities available. This will help to strengthen the national economy in general and to that of agriculture and its allied sectors in particular.

In view of the above considerations having bearing on agricultural policy planning and economic liberalisation, strategy for export addition of some of the crops has been suggested.

Cotton: There is a big demand for the extra long staple fine quality cotton in the world market. During the year 1990-91, India exported cotton worth Rs. 855 crore. There exists considerable potential to enhance our export of fine cotton. On technology front, this is the world leader today in fine and super fine cotton hybrids production. The developmental efforts in the supply of quality seeds of hybrids and improved varieties in compact areas and the monopoly procurement would help a great deal in maintaining the quality standards for export of cotton. The improved high yielding quality cotton varieties would help in augmenting production.

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Intensification of hybrids research especially for northern India is to be given high priority. Development efforts to increase area under improved varieties and hybrids have to be intensified. Integrated pest management programme is necessary for reducing the cost of cultivation.

Oilseeds: The extractions which do not contain more than one per cent oil constitute the most important export items. The range includes soybean, groundnut, sunflower and rapeseed as well rice bran and cotton seed. In terms of value, soybean is followed by groundnut and rapeseed. During 1990-91 the export was to the tune of Rs. 625 crores, as against only Rs. 173 crores in the year 1987-88. Concerted efforts are necessary to maintain the quality of HPS groundnut kernel, as the requirement of aflatoxin free meal is necessary for the export market. Similarly, in case of rapeseed-mustard, export can be substantially increased to South Korea and EEC countries with rapid development of "sixty" types possessing low erucic acid and glucosinolates. Brassica Juneca grown in the States of Rajasthan, Uttar Pradesh, Madhya Pradesh and Gujarat has low percentage of glucosinolates and, therefore, efforts are needed to make arrangements for procurement from these states for export purpose.

Rice: Basmati rice is cultivated in about 7.00 lakh hectares mainly in northern states which produce 6.06 lakh tonnes of milled rice. Out of the global market of nearly Rs. 1100 crores, India's share is 33 per cent. This can be raised to 50 per cent with concerted efforts. There is need to make special efforts for production and distribution of high yielding varieties as also plant protection against diseases and pests.

Castor Oil: Castor oil having very low solidifying temperature is used as lubricant in air crafts. This is exported to the extent of Rs. 57 crores. We have the largest area under castor in Andhra Pradesh but the yield is very low being about 2 quintals/ha. However, in Gujarat due to the cultivation of castor hybrids the yield is more than one tonne/ha. In order to increase the production of castor in Andhra Pradesh cultivation of hybrids is necessary as the same could give two to three fold increase in productivity even under rainfed conditions. With little more efforts, export potential could easily be doubled in the next 2-3 years.

Jute: The Textile Ministry has fixed an ambitious target of Rs. 1000 crore for export of jute goods upto 1994-95. It will necessitate improvement in jute as well as mesta crop in West Bengal, Assam and other jute growing areas. Quality being the most critical factor in jute, the facilities will have to be improved for retting. Retting in India is generally done in standing water, whereas in Bangladesh advantage of fresh running water is taken. That is why the quality of jute of Bangladesh is better. It is, therefore, imperative that we devise suitable methods and give proper support for improved retting. There exists also very good scope for promoting jute based products by providing proper encouragement and incentives to all engaged in manufacturing of jute products.

Guar Gum: Present export of guar gum is around Rs. 70 crore. It can be further increased if derivatives are prepared and exported. A number of improved varieties have been developed which, if cultivated in a larger area, can improve the productivity and also the export potential of this crop. Presently, whole guar seed is fed to the animals. Since 28-30 percent guar gum in the seed is not utilized in the animal system, educating the farmers about the use of guar meal as animal feed would further increase the guar gum production. Thus, export could be doubled with proper research and development support.

Fresh Vegetables and Fruits: Among the non-traditional agricultural commodities fresh vegetables and fruits can play a pivotal role in contributing to bridge the yawning trade gap of India. Besides the limitations of perishability, the country is endowed with varying agro-climatic conditions and cheap labour suitable for growing good crops of vegetables and fruits throughout the year. India has an added advantage of being nearer to the Gulf countries which are the main importers of fruits and vegetables. But to accomplish this, the country will have to increase the production of quality vegetables and fruits and regulate its supply.

Twenty

AGRICULTURAL PLANNING POLICY AND ECONOMIC LIBERALIZATION - CONTEXT AND SIGNIFICANCE OF A.C.R.P.

Dr. P. Vittal Rai*

The author has highlighted upon the issues on agricultural planning in context of the economic liberalization approach adopted by the Union Government.

In the planned economic development of the country, Planning Commission played an important role and has passed through several stages since 1950. It first adopted macro level planning and from Fourth Five Year Plan onwards, it considered micro-level planning. Recently, from Eighth Plan, in order to exploit the principle of comparative advantage at the regional level for the development of agriculture and allied sectors, Agro-Climatic Regional Planning (ACRP) process was initiated by the Planning Commission which emphasized the planning based on agro-climatic parameters.

However, due to the changes in economic policies towards liberalisation, acceptance of Dunkel proposals and the New draft on Agriculture Policy Resolution in India, the need has arisen to analyse the relevance of ACRP approach in the changed economic scenario.

Considering the agriculture situation in India, foodgrains production increased by 4 per cent per annum during fifties to eighties and it slackened to 1.7 per cent during the first seven years of decade eighties. Similarly, share of agriculture sector in total investment declined from 26.1 per cent in the First Five Year Plan to 11.9 per cent in Seventh Five Year Plan. Hence, capital formation in agriculture had declined in general and particularly in the private sector.

The author has pointed out that the new trade policies have led to increased production of diverse commodities, which in turn have encouraged agro-processing sector. The backward and forward linkages thus formed have led to vertical integration in the farming sector, thereby benefitting both the producer and the consumer. Operational efficiency through the principle of comparative advantage at regional level has been effected by the ACRP approach.

The small and marginal farmers may be encouraged to establish their own agri-business consortiums which will bring together all agencies concerned with the development of agriculture. This will help in forging a close link between primary producers and processing units in the private sector and also act as catalysts in agro-industry growth. With the new trade and agricultural policy, the increase in agricultural exports is possible, hence production needs to be coordinated with exports.

However, the new draft on agriculture policy is silent on introducing single agency approach for dispensation of credit and other inputs delivery, which is considered to be essential for the success of ACRP approach for the development of agriculture. The required institutional changes would make available all types of credit under a single window to the farmers and prevent the farmers from borrowing indiscriminately from various other financial agencies and would help in solving the problem of overdues. In this direction, the proposal of merging the Apex Bank and State Cooperative Agricultural and Rural Development Banks at the state level into one and ultimately at the Panchayat level by making use of the vast net work of cooperatives to provide all the three types of loan may be considered.

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The ACRP has to cut across state boundaries to evolve technology for the development of agriculture and allied sectors through coordination and interaction amongst scientists and administrators of a particular zone, which would help in the free flow of technology within the zone. At present, the participation of the state planning machinery in implementing the state plans and district plans prepared by the ZPT's is not so encouraging. Hence, this has to be further strengthened and encouraged in implementing the recommended plans keeping in view priorities fixed, organisational changes suggested at different levels. This is going to be tried, implemented, monitored and evaluated in the selected pilot districts in all the zones which serves as a guideline for replicating in other districts of the zone as well.



Twenty One

NEW AGRICULTURAL POLICY PLANNING AND ECONOMIC LIBERALISATION: DEVELOPMENT OF MAHARASHTRA AGRICULTURE

Dr. AG Sawant*

The author brings out the inadequate attention being paid to agricultural planning based on natural resources endowments and has suggested measures to overcome this deficiency with particular reference to various agro-climatic regions of Maharashtra state.

Although agriculture is often said to be a priority area in our planning, allocation to agriculture sector including irrigation and flood control with the sole exception of First Plan has always hovered around 20 to 23 percent of the total public sector outlays. Secondly, there was lack of regional approach to planning as well as required attention to the location specific needs of the various regions.

Planning in agriculture sector was excessively preoccupied with meeting the targets of growth mostly though short term, quick yielding methods following more of the same approach. For this, the planning was limited to compilation of state demands and pruning the same to an agreed figure at the centre without giving a viable scientific and regional approach to the development of agriculture and allied sector. As such, for balanced regional growth, Agro-climatic Zonal Planning has been considered as an effective approach. In this, emphasis is placed on resource efficiency and conservation. In a broader sense, the approach called for a departure from the macro or sectoral approach to agricultural planning as often attempted earlier and focussed on an integrated approach, combining both crop and non-crop sectors in a regional frame work, a step towards decentralised planning process. The Planning Commission operationalised this approach in 1988 mainly with a view to help in formulating VIII Five Year Plan for agriculture and allied sector on the basis of agro-climatic regions. The potential for growth and diversification has been fully exploited taking a holistic view of the climate, soil type, topography, water resources and relating to production requirement and employment.

Maharashtra State is geographically covered under three agro-climatic zones viz. Eastern plateau and hills (Zone -7 (i) - Chandrapur, Gadchiroli, Bhandara), Western plateau and hills (Zone-9) and Western plains and ghats (Zone 12 (i) - Greater Bombay, Thane, Raigad, Ratnagiri and Sindhudurg). Eastern plateau and hills zone is subdivided into hilly subzone (Kolhapur, Nasik, Pune, Satara, Scarcity subzone (Ahmednagar, Dhule, Sangli and Solapur), Plateau subzone with medium black soils, (Akola, Amravati, Aurangabad, Bid, Buldhana, Jalgaon, Jalna, Latur, Osmanabad and Parbhani) and Plateau subzone with deep black soils (Nagpur, Nanded, Wardha, and Yavatmal districts).

The above zones and subzones differ greatly in agro-climatic conditions and soil types. The average rainfall ranges from 602 to 3640 mm per annum. The lowest rainfall in the State is received by scarcity subzone. The Konkan region (Coastal hilly region) receives the highest rainfall and the soils are acidic in nature. In low rainfall areas of the Western plateau zone, black soils are observed. These soil are fertile in nature. In Coastal hilly zone, lateritic soils in the South Konkan coastal zone (Ratnagiri and Sindhudurg districts) whereas medium black soils in North Konkan coastal zones (Thane and Raigad) are found. In this hilly zone, long stretches of the "khar" lands caused due to ingress of sea water are also observed. In Eastern plateau hilly zone, soils are sandy and poor in fertility.

There being a remote possibility to increase area under different crops, emphasis needs to be given to increase crop productivity. This is possible through well planned development programmes together with use of improved crop production technology and optimum utilisation of natural resources.

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Focal point of Agricultural Development

Climatic constraints in the form of large portion of rainfed areas (85%) subjected to vagaries of monsoon, high run off and poor retentive capacity of the soil in large tracts have resulted into growing of low value crops. The variability of monsoon is 30-40 percent of normal and probability analysis indicates different rainfall patterns occurring in the State. The ultimate irrigation in the state is limited to less than 30 percent of the cropped area after completion of all proposed irrigation projects. This pinpoints the need for developing core strategies around rainfall system. The situation is further aggravated due to the fact that nearly 50 percent land owners being small and marginal have limited resources investment capacity. Considering these issues, the Agro-climatic Zonal Planning Team has prioritised the following areas for agricultural development in the state:

- a. Watershed development
- b. Horticultural development
- c. Development of dryland agriculture
- d. Agro-industries development
- e. Fodder development programme for increased milk production
- f. Reclamation of saline soils in Konkan region

Besides, emphasis on forestry, marine fisheries and inland fisheries development is also laid down.

Waterahed Development Programme

The large area of hills and Deccan plateau comprising nearly 46% of the net sown area of the state needs conservation of rain water to stabilise productivity in that area. Considerable amount of work has been done in the past. However, integrated approach of land and water conservation, putting land to correct use based on slope and fertility status did not receive due attention. This programme in the State is in operation in a big way. However, successful implementation of programme would need people's participation on a large scale. Therefore, it is necessary that the village community is involved right from the planning stage.

Kharland Development

About 65,000 ha of "khar" land has been reported in Konkan region of the State of which about 50% is reclaimed. A fifteen year programme is proposed for reclamation of these "khar" lands. About 52 schemes covering area of 7138 hectares are proposed during the VIII Five Year Plan. It is possible to take up agricultural production and pisciculture in the reclaimed area. This would generate 1.72 million mandays of employment.

Development of water resources

In the State, area irrigated from all sources (canals, wells and others) is 13 percent. Well is the major source of irrigation. The State has large unexploited groundwater potential as utilisation is only 24 percent. Number of wells proposed in Zone 7 (1), 9 and 12 (1) during VIII Plan are 8500, 1,56,323 and 14,725 hectares respectively which would generate irrigation potential for an area of 1.80 lakh hectares. However, this target is small and needs to generate additional groundwater potential of 3.0 lakh hectares during VIII Plan. Micro Irrigation methods like sprinklers and drip systems need to be extensively used as it saves 30 to 50 percent water.

Crop Improvement and Cropping Pattern

As stated earlier, efforts to increase crop productivity are required. Agricultural Universities in the State have developed and released large numbers of high yielding disease/pest resistant improved crop varieties alongwith their cultivation practices. However, there exists wide gap between potential yield and actual yield of the improved varieties and is mainly attributed to low adoption of improved crop production technology. The results of the National Demonstration Plots have clearly shown that the present productivity can be doubled with the use of recommended production technology. Besides, the area under foreign exchange earning rainfed fruit crops like mango and cashew is showing increasing trend which is a sign of changing cropping pattern. In Zone 9, there is tremendous scope for increasing area under fruits, vegetables and flowers.

The Scarcity zone (Ahmednagar, Dhule, Sangli and Solapur) offers scope to increase area under oilseeds by substituting area under jowar and bajra. Dryland horticulture could also be promoted in this subzone. Mixed cropping in Kharif crops of jowar and bajra with pulses can help in increasing production of pulses and bringing greater stability in rainfed areas. In the Plateau subzone with black soils, suitable substitution of jowar and cotton, mixed cropping of these crops with pulses and developing rainfed horticulture alongwith agro-processing infrastructure development have been suggested.

Horticultural Development

In the foregoing section, the key role of horticulture sector in the future agricultural development of Maharashtra is mentioned. Further, in view of the liberalisation of export policies, recently declared policy of State government on liberalisation of the land ceiling for horticultural crops plantation and processing units and implementation of horticultural plantation under Employment Guarantee Scheme, favourable environment is created to increase production and export of horticultural produce. Development of this sector in a well planned manner would increase its share in total export of fruits and vegetables of the country. At present, in India, exports of fresh and processed horticultural products is to the tune of Rs. 722 crores per annum respectively. It is estimated that the country could achieve exports of over Rs. 1851 crores by 1996-97.

The area under fruits and vegetables increased by 163 percent between triennium 1974-75 and triennium 1984-85 in the State. Fruits and vegetables are grown on about 6.0 lakh hectares, considering the climate, soil and water resources, which lead to high monetary returns and high employment generation potential. The state has congenial environment for developing irrigated and rainfed horticultural crops. The concentration of fruit crops is seen in sub-regions 9(1), 9(3) and 12(1). The State also contributes to a large extent to the production of spices and condiments like chillies, onion, garlic, turmeric and ginger.

Livestock and Poultry Development

Agriculture being mainly rainfed in the State, livestock and poultry production has scope only as a subsidiary occupation to farming. It provides employment all the year round and particularly women can be gainfully employed. Further, agricultural by-products can be efficiently used in livestock and poultry feeding.

The ZPTs have suggested the following action plans for the development of this sector:

- Improvement of productivity of indigenous milch breeds of cattle and buffaloes through selective breeding and cross breeding.
- Intensification of artificial insemination programme during VIII Five Year Plan. The programme could be concentrated in Plateau subregion where good nutrition is available.

- Improvement of sheep and goats by cross breeding. Subregion 7(1), 9(1) and 9(2) are well suited for sheep and goat production. In subzone 12 (1) goat production needs attention.
- Qualitative and quantitative improvement of feeds and fodders. This calls for definite plans to develop pasture lands and fodder cultivation as a part of cropping system.
- The health cover needs to be improved. The present coverage of 20,000 animals per veterinary unit should be improved to 10,000 animals per unit by 1995.
- Poultry industry is rapidly expanding in Maharashtra particularly in subregions 9(1) and 9(2). The ZPT has proposed 6% annual growth rate during VIII Plan so as to increase per capita consumption from 21 to 40 eggs per annum. Poultry development programme should be encouraged through cooperatives and private sector around cities in the State.

Fisheries Development

Maharashtra has 720 kms of coastline and therefore fishing has been the major occupation in 352 villages on the western coast of the State. The annual marine fish production is 3.5 to 4.0 lakh tonnes. Besides, 14,500 hectares brackish water area is available for fish production. In the State, inland fishing is possible on 3.0 lakh hectares of waterbodies.

With a view to increasing the fish production and thereby the living standard of the fishing community, planned efforts with regard to conservation of fishery resources, improvement in fishing boats, fish seed production, improvement in fishing techniques, fish processing, utilisation of fishery by-products, production of commercially important fishes, use of marine plants etc. are required.

Agro-processing, Marketing and Communication

Post harvest technology and development of agro-processing sector in rural area needs to be given due emphasis in order to achieve maximum economic returns from agricultural produce through the creation of appropriate infrastructure. In the State, processing industries in the case of sugarcane, cotton and to some extent in oilseeds and pulses have been established which could be expanded during the VIII Plan.

An integrated chain from production, transportation, processing to marketing is well established in cooperative ventures in case of sugarcane and cotton but in other crops, the conditions exist at a primitive stage. Beverage is a significant industry of the State. Processing of cereals, pulses, oilseeds, fruits and vegetables, spices and cotton have a great potential. A study by ORG on the agro processing sector has indicated potential for the surplus available in case of grapes, other fruits and groundnut for processing to the tune of 79,793 and 2191 thousand tonnes respectively in Zone 9. There also exists considerable scope to develop network of Small Scale Industries. Sericulture, apiculture have also great potential in the State. The ZPTs have qualified the agro-processing activity needed during VIII Plan in Zone 9 and subzone 12(1).

Effective communication and marketing facilities are important for fruits and vegetables as nearly 33 percent of the produce is lost due to improper post harvest handling. For this reason the establishment of a chain of cold storages is required to preserve the surplus and to get better economical returns through value addition. In order to encourage entrepreneurs to establish processing units, four centres for training as well as four regional research centres for research and development work in agro-processing have been proposed.



Twenty Two

POTENTIAL AREAS FOR IMPROVING AGRICULTURAL BASED ECONOMY IN THE DISTRICT OF SAMASTIPUR

Faiz Akram*

The author has attempted to focus on some important areas for agricultural development of Samastipur district in context of ACRP approach, keeping in view the New Economic Policy framework of the Government of India.

The district of Samastipur in north Bihar with approximately 96% of its population residing in villages has a rural base. About 80% of the total geographical area (2.61 lakh ha) is put under various agricultural purposes with 60% net sown area. Animals form the important supporting sector to agriculture. The district is endowed with rich physical resources in terms of (i) Productive soils (ii) huge water resources (both surface and ground water). (iii) favourable weather parameters (iv) plenty of farm labour and (v) good technological background. Wide range of crops with high productivity can be grown in all the regions of the districts. But despite rich physical resources and high crop yields potentials demonstrated, the productivity of crops are still low and have enough scope for their improvement. Still 51.3% of total population is below poverty line, the majority of which belongs to scheduled castes. Agricultural sector of the district constitutes 3.3% of the state's income which with greater and concerted attempts on all fronts may be raised appreciably, directly improving the economy of farmers.

Regional analysis of the district in the process of Agro-climatic Planning exercises have exposed many practically feasible, and economically viable avenues which may accelerate the economic growth of the district and thereby betterment of the lot of the farming community. Efforts therefore are needed to (i) concentrate and push specific enterprises/ related crops which have better market (ii) develop agro-processing units, and (iii) explore export potentialities. The essence of new agricultural policy set forth by Government of India during VIII Plan has to be understood, realised and implemented for all practical purposes to harness the agro-climatic capabilities and imparting new directions in planning. Identification and concentration of specific enterprises in potential belts will further the cause of improving the export capability under the economic liberalisation policy of the government. There is therefore, a need to push the production of agricultural components in the light of the new agricultural policy.

The crop productivity in general is much below the demonstrated yield potentials, both in irrigated and rainfed situations. There is a need to augment the crop productivity levels by the adoption of :

- a) Situation based specific production technology
- b) Better extension and administration support
- c) Improving the credit facilities and creating investment capabilities.

Among the cereal crops grown in the district, rabi maize has high yield potential to the extent of 9-10 tons/hectares, with use of available technology and production systems. Little bit of crop planning with vision and determination may double the production of maize in the district. This may lead to or warrant an establishment of a starch and cornflakes factory. Zonal Planning Team has also visualised the establishment of cornflakes and starch factory at Samastipur. Inter-cropping of rabi maize and potato has a good future in the district and will increase the land and input use efficiency.

* District Magistrate cum Collector, Samastipur.

There is potential scope for diversion of area under various spices. The district of Samastipur has the potential capacity of producing various spices viz. turmeric, ginger, coriander, garlic and fennel. In addition, areas of Dalsinghsarai, Ujiarpur, Morwa, Kalyanpur and Pusa are potential belts for growing red chillies. Therefore, there is an immediate need to diversify the area from low viable food crops to low volume, high value crops which have export values. In addition to growing spices, processing plants for various spices may be set up which will also create additional job opportunities. In lands where kharif maize has traditionally been grown, may provide a potential niche for spices production.

The third important avenue is to diversify the marginal and sub-marginal areas under fruits crops. The important fruit crops which may be encouraged are mango, litchi, banana and papaya. Mango of special quality may be encouraged in all the blocks of the district whereas litchi, banana and papaya are more suitable to specific regions. The specific fruits may be cultivated as given below :

Fruits	Block
Litchi	Pusa, Kalyanpur, Morwa, Samastipur & Sarairanjan
Banana	Pusa, Kalyanpur, Samastipur, Patori
Papaya	Pusa, Kalyanpur, Morwa, Dalsinghsarai & Ujiarpur

These fruits crops will not only increase the production but also be a source of export. Government of India has already taken steps to streamline the export of litchi and its products. Thus, there is a possibility of diversifying the area under more competitive fruit crops, broadbasing their production and expanding fruit preservation in the district. In the light of area increases under papaya cultivation, the days are not far off when the district will require the establishment of a papain factory. Besides there also exists abundant scope for growing certain medicinal and aromatic plants in certain regions of the district.

This has to be surveyed and appropriate steps taken to augment their production. The district has also rich potential of producing numerous vegetables, throughout the year. Large quantities of green vegetables are being transported daily to other cities of Bihar and other states as well. This enterprise requires due planning and thrust. There is a possibility of establishing fruit and vegetable processing units in the district to give an industrialised fervour to agricultural commodities; one of the items of agriculture policy of the country. Expansion of area under betel vine is also desired in Rosera, Morwa, Hasanpur, Sarairanjan and Ujiarpur blocks.

The district possesses potentiality to grow pulses and oilseeds. In pulses, pigeonpea (rahar) is the most potent crop. Cultivation of rabi arhar in specific blocks of the district has good potential and hence has been proposed to be grown in a sizeable area with a yield level of 22-25 quintals/hectares. Recently cultivation of rajmah in various cropping systems has come as a potential crop with yield levels 20-22 quintals/hectares. Large areas after rice harvest may be diverted to this crop, but these efforts will have to be accompanied with expansion of marketing facilities. Similarly, cultivation of rape and mustard seeds has expanded much and is likely to revolutionise the oilseeds production in the district for which input supply systems and marketing avenues are required to be streamlined. Programmes on pulses and oilseeds besides meeting our domestic needs will aim at saving valuable foreign exchange and will provide additional income to the district.

Due to the presence of a chain of rivers, ponds, low land rice fields and fishery programme have a very good future in the district. Efforts are therefore needed to push up the programme. Similarly, the district has rich potential for upgradation of milk production. This will help better feeding of chilling plants and will also expose avenues for manufacture of various milk products. In addition to fishery and dairying, the district possesses potentiality for augmenting egg production programme.

Besides increasing the area under litchi and rape and mustard seeds there is also a good scope of apiculture as cottage industry in the district. This will help in :

- (i) Increased production of honey
- (ii) Increasing the crop productivity and
- (iii) Generating employment opportunities

The district has the potentiality to launch a well planned scheme for expansion of apiary programme.

Sizable area in the district remains waterlogged for major part of the year, making it unfit for economic returns. Possibilities exist to make these areas more productive by adoption of new management systems comprising of food and fruit crops, medicinal plants, agro-forestry system and fishery programmes. Pilot projects clubbing together the above components has been proposed by the Zonal Planning Team. Thus, agriculture being the most vital sector of the district, it requires due planning and emphasis, in order to create favourable economic environment for farmers' own efforts and investments to step up agricultural growth. Efforts based on districts' capabilities, experimental evidences and experiences gained, will no doubt, spur the economy at a desired level and will set a sound precedence for the development of eastern states of the country.



Twenty Three

CASA'S EXPERIENCE IN THE FIELD OF ALKALINE SOIL REVOLUTION IN MANIKANDAM BLOCK OF TRICHY DISTRICT

Dr. Martin Taylor*

CASA's Role & Participation as NGO

Church's Auxiliary for Social Action popularly known as CASA is a National Service Voluntary Organisation committed to relief and development with special thrust on rural upliftment. Massive rehabilitation measures were taken by CASA in Trichy district in 1977 with the construction of about 5000 semi permanent houses and adoption of hundreds of villages. In Manikandam Block where the problem soil reclamation project has been envisaged more than 20 villages were rehabilitated and adopted for sustainable development as a pilot project in Trichy district.

Plan of Action in the Agro-Climatic Planning Process

- i. Delineation of problem soil/identification of compact areas : this involved co-ordination and consultation with the Department of Agriculture, Revenue officials, Irrigation Departments, Development Department and SSRC in the area mapping of the problem soils and its identification.
- ii. Drainage & Mapping : To be in constant touch with line departments particularly Agricultural Engineering and also to involve the youth clubs in the implementation of the drainage channel formation. Further initiating farmers planning at grassroots level and preparing the farming community to respond efficiently from the very beginning of planning process for total development.
- iii. Water Resource Development, Harvesting and Land use and Water use Planning : To assist the farmers in improving their existing irrigation structures with the assistance from departments such as THADCO, DRDA, Agriculture Engineering, Backward Class Departments of Agriculture, and increased farmer participation.
- iv. Distribution of Inputs including Amendments : Distribution of inputs and ensure proper maintenance by the beneficiaries through motivation and awareness generation. CASA will help in assisting the line departments and arrange to issue farmers cards for proper entry of all inputs such as seed fertiliser, etc. and help them to use it promptly without any misappropriation. Awareness camp will be conducted to motivate the farmers and help them to participate in this reclamation project wholeheartedly with enthusiasm and to take part with interest in this development programme.

The contiguous zone of Manikandam Block includes seven villages visualised under the Proposed Alkaline Soil Reclamation Project.

Personnel

Local volunteers and unemployed graduates will be identified and absorbed as community volunteers and organisers. They will be trained and given special orientation to involve them in the implementation of this scheme to make it a success.

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Monitoring

The socio economic survey, impact study and concurrent evaluation will be assisted and taken up independently by CASA so as to record the experience gained out of this programme at various levels and stages. Appropriate documentation will be made with the technical guidance of CARD/TNAU and the Union Planning Commission.

In Manikandam Block the main source of irrigation is supported by NHLKC (New High Level Kattalai Canal) which is a distributary channel of River Cauvery. CASA has adopted Mudikandam Panchayat; Olaiyur comes under Mudikandam Panchayat. In Mudikandam there is one hamlet called Kolarpaty. The wet land of Olaiyur and Mudikandam area have been identified as problem soil areas (1980).

In Manikandam there was about 160 acres of land (alkaline soil) declared as surplus acquired by Land Ceiling Department. CASA undertook a survey of landless agricultural labourers of Mudikandam Panchayat and sent a proposal for land assignment to the government. Accordingly 81 families were given assignment to an extent of 1.5 acres per family. At the instance of CASA, AFPRO (Action For Food Production Team) visited this village and conducted hydrogeophysical surveys. Thereby nine community irrigation bore wells and six open wells were sunk with 50 percent contribution under a scheme of the government. All these wells were energised in 1988 with the efforts of CASA. Assistance to the farmers apart from these was also given to the tune of Rs. 400/- to Rs. 1000/- per acre, in kind, to improve the land.

Soil Science Research Centre/TNAU/Trichy

Number of training programmes were organised as well as on farm alkaline soil reclamation demonstration was conducted with the technical expertise of scientists from SSRC. At the instance of SSRC/Trichy, SPIC conducted total soil sample survey and the quantum of gypsum requirement was worked out. SPIC had come forward to supply gypsum (300 M.T.) at exfactory rates (25% cost).

Lab to Land (KVK)

Potential fifty farmers were identified (1992) to whom the input services were extended, and tree saplings given. Goats (special varieties), zinc sulphate and agricultural implements were also given to these agricultural labourers having land with the problem soils.

Irrigation Extension Service

In Olaiyur, in the identified 300 acres of alkaline soil areas - sixteen farmers were given assistance to drill hand bores and oil engines were purchased by availing D.R.D.A. subsidies. These farmers were organised as Small Farmers Development Society. Likewise in Mudikandam too a separate farmers society was organised. Apart from this seven community irrigation wells were sunk in Olaiyur, out of which five wells have been energised (1993).

Introduction of Sugarcane in Alkaline Soil

As a team effort of Cauvery Sugar, SSRC/TNAU and Central Bank of India, sugarcane cultivation was introduced in Olaiyur (1988). After careful treatment of the soil with press mud and water with gypsum, sugarcane germination was ensured and sixteen farmers had trial plantations in 1988-89. Successful yields of upto 74 M.T. in an acre of land have been recorded.

Coir Compost Demonstration

In 1992-93 coir compost preparation was demonstrated to farmers from the above villages. Few farmers have already completed the application of coir compost in their field and have benefitted by higher income due to increase in the yield of paddy and improvement in the soil texture.

Employment for Women (Women Development Programme)

Goat rearing, sheep farming, dairy farming as also mulberry cultivation have been introduced in the Mahila Mandals. Based on the Bharatidasan University's technical guidance, sericulture will be introduced in the alkaline soil, wherever it is necessary.

For mushroom cultivation twenty women have been trained who will be involved in spawn seed production soil for compost preparation. Five hundred women will be involved in the coir compost preparation and in the technology transfer. The DWCRA Mushroom Group, Punganur, Trichy, will monitor the implementation in association with SSRC/CASA.

Compact Area Approach

In Panchapur area, alkaline soil reclamation will be undertaken first and thereafter buffalo grass will be cultivated with the coordination of Animal Husbandry Department. This programme will be further taken up under Waste Land Development Scheme to improve fodder development. The beneficiaries (landless farmers) will be given fodder plots on lease basis in Panchapur village.

Rural Employment for Youth

The drainage channel will be formed followed by the topographical survey of Agriculture Engineering Department. Five hundred unemployed youth will be given employment opportunities both in the implementation and maintenance of this work. The volunteers from the literacy mission would be involved in awareness generation and implementation of this scheme.

Infrastructure

There is one agricultural godown constructed by CASA in Mudikandam village of Manikandam Panchayat Union of 5000 square feet which will be put into use for the temporary storage of the agricultural inputs envisaged under this scheme.

Crop Rotation

In the dry belt of alkaline soil area where NHKLC water is passing through, palm rosa grass cultivation will be taken up in consultation with SSRC which will improve the quality of the soil as a natural course of reclamation. Secondly, wherever irrigation is feasible, sugarcane also would be raised with bank tie-up and press-mud will be used in the process of reclamation.

NGO's Coordination

Thus CASA will be involved in the dissemination of technology transfer to motivate and organise the village farmers and help the various departments for smooth functioning of the scheme for the development of sustainable agriculture.



Twenty Four

**INSTITUTIONALISING OF ACRP APPROACH IN
A HORTICULTURE DOMINATED STATE : H.P.**

A. K. Dwivedi*

The basic objective of Agro-Climatic Regional Planning Approach of the Planning Commission, initiated in mid-1988, is to have a balanced growth of output and employment from agricultural sector. This calls for a resource based development strategy and an examination of crop and non crop based development possibilities. However, the other related aspects have also been covered under this exercise. Hence, an integrated view of the agricultural economy in relation to resource base and its linkages forms the fundamentals of ACRP exercise.

Himachal Pradesh falls in Zone-I, i.e. Western Himalayan Region and Sub Region-2. The Zonal Planning Team with the involvement of HPKV, Palampur and Dr. YS Parmar University of Horticulture & Forestry, in collaboration with State level Departments has prepared a comprehensive data base for this sub-region and on the basis of which horticulture development emerges as one of the important sectors of the economy. Hence, horticultural development in consonance with resource endowment in this sub-region forms the core strategy. The major focus has to be on development of horticultural crops especially floriculture, mushroom cultivation and apiculture. The district has also potential for kiwi fruits.

The main components of the horticulture development comprises of :

- i. Improvement of productivity of existing plantations through utilization of improved production and protection technology and use of genetically superior plant material.
- ii. Diversification of horticulture economy-
 - a) Promption of new fruit crops like cherry, pear, kiwi fruit, olive, nuts etc.
 - b) Promotion of the cultivation of off-season vegetables, exotic vegetables, flower crops, medicinal plants (both as inter crops in existing orchards wherever possible and as main crops in substitution to traditional agricultural crops).
 - c) Development of mushroom cultivation and bee-keeping as ancillary horticultural activities.
- iii. Utilisation of improved water harvesting and application technologies for improvement of horticultural productivity.
- iv. Provision of efficient post harvest management technologies.

The institutionalisation of ACRP will comprise of the following levels:

- i) State Level Familiarisation Programme :

This programme may be organised at the state head quarters for two days to be attended by Commissioner-cum-Secretaries, Heads of the line departments, Adviser (Planning), Representative of NABARD, and Head of other State level organisations dealing with Horticulture/Agriculture and allied activities. Resource personnels of the training may be Adviser and Consultant (Planning Commission) and senior experts involved in the work of ACRP in other States.

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ii) **District Level Orientation Training Programme :**

This programme may be of five days duration to be attended by District level officers, viz. Dy. Commissioner, Shimla, District heads of line departments, Representative of NABARD, Lead Bank Officer, Shimla, Representative of Co-operative Department, District Planning Officer, subject matter specialist of line departments etc. The training may be imparted by the senior officer of the Horticulture/Agriculture/I &PH department/members of Zonal Planning Team/AERC/Experts of ACRP in other states. The training may be organised at district head quarters.

iii) **Study Tour of District Planning Team :**

The members of the district planning team will have to be familiarised with the project concept through ground reconnaissance by organising their study tour to some successfully implemented agro-climatic planning projects in other states. One such study tour will be sufficient to serve the purpose.

iv) **Consultancies and Studies :**

The commercial implementation of certain projects like development of floriculture, mushroom cultivation, post harvest management and marketing etc. may require the necessity of generation of scientific data on the basis of which adequate financial support shall have to be provided. Similarly consultancy services may also be required for the formulation of some specific project activities of commercial nature, viz. green houses cultivation of flowers and other crops, installation of drip system of irrigation, establishment of packing and grading houses etc. during the project formulation stage for which provision of funds will be required over and above the state plan funds available to the district.

Institutionalisation Team

The district plans for horticulture development of Shimla district shall be formulated by District Planning Committee under the chairmanship of Dy. Commissioner. Other members of the team shall be the following :

- i) Joint Director of Horticulture (T&E)
- ii) Deputy Director of Agriculture (T&E)
- iii) A representative of AERC, HP University
- iv) Associate Director of Research, RHRS Mashobra.
- v) District Planning Officer
- vi) District Horticultural Officer.

The following infrastructural facilities for providing post harvest management facilities have been created in the State for handling and utilization of fruits :

(a) **Cold Storage Capacity :**

Under the IDA assisted Apple Marketing & Processing Project implemented in the state from 1973 to 1982, five cold storages each with 1000 MT. capacity have been established in apple growing areas of the state. Besides these, the State Government has set up three cold storages in big cities outside the state viz: Delhi, Bombay & Madras, each having capacity of 4300 MT, 2000 MT & 2000 MT respectively. Another cold storage is under construction at Calcutta. All these cold storages have been under the control of HPMC. There is one cold storage with 1000

MT capacity under cooperative sector and one cold storage with same capacity under private sector in Solan and Shimla districts respectively. As such, the total cold storage capacity in and outside the state is estimated as 15000 MT for the fruit of Himachal origin.

(b) Grading & Packing houses :

The HPMC has set up ten modern fruit packing and grading houses in the fruit growing areas under IDA assisted World Bank Project each having capacity to grade and pack fruits ranging between 1500 MT. to 5000 MT. But at present hardly 25 per cent to 50 per cent capacity of these units are being utilized.

(c) Forwarding Centres:

There are four warehouses (three within the state and one at Kundli Border, Delhi) for the forwarding of fruit boxes from the state to various terminal markets in the country out of which three are managed by HPMC and one under Cooperative sector at Parwanoo. The total capacity of these warehouses is to handle about 1600 MT of fruits at a time. 100 per cent capacity of these centres is being utilized at present.

(d) Marketing of fruits :

The fruit growers send their fruit produce to the commission agents in various fruit markets in the state on consignment basis. The HPMC has also set up whole sale shops for the auction of fruits of Himachal origin on consignment basis in important cities of the country. About 80 per cent of the fruit produce of the state is sent for sale in various fruit markets outside the state. Again 80 per cent of the fruit produce exported from the state comprises of apple alone.

(e) Price Support :

Himachal Pradesh has been the first state in India to declare support price for the horticultural commodities so as to stabilise the market prices. This scheme of support price is under implementation since the year 1986. The fruits on these prices are procured by the State agencies to be stored, processed or marketed as fresh fruit through the State's marketing system.

(f) Processing :

The total fruit processing capacity under public, cooperative and private sector in the state is about 26000 MT. About 20 per cent of the fruit produce is generally available for processing purposes. But it has been an experience that the processing industries under public sector are not receiving adequate fruits for processing for the last two years. Efforts are afoot to diversify processing industry in the state. State Government has sanctioned two big processing industries under private sector in the state for the production of fruit based alcoholic beverages/ wines and other fruit products. Besides these, licences for 16 such processing units on smaller scale have been given to the private entrepreneurs.



ANNEXE - A
STATUS OF WORK & FUTURE OF ACRP

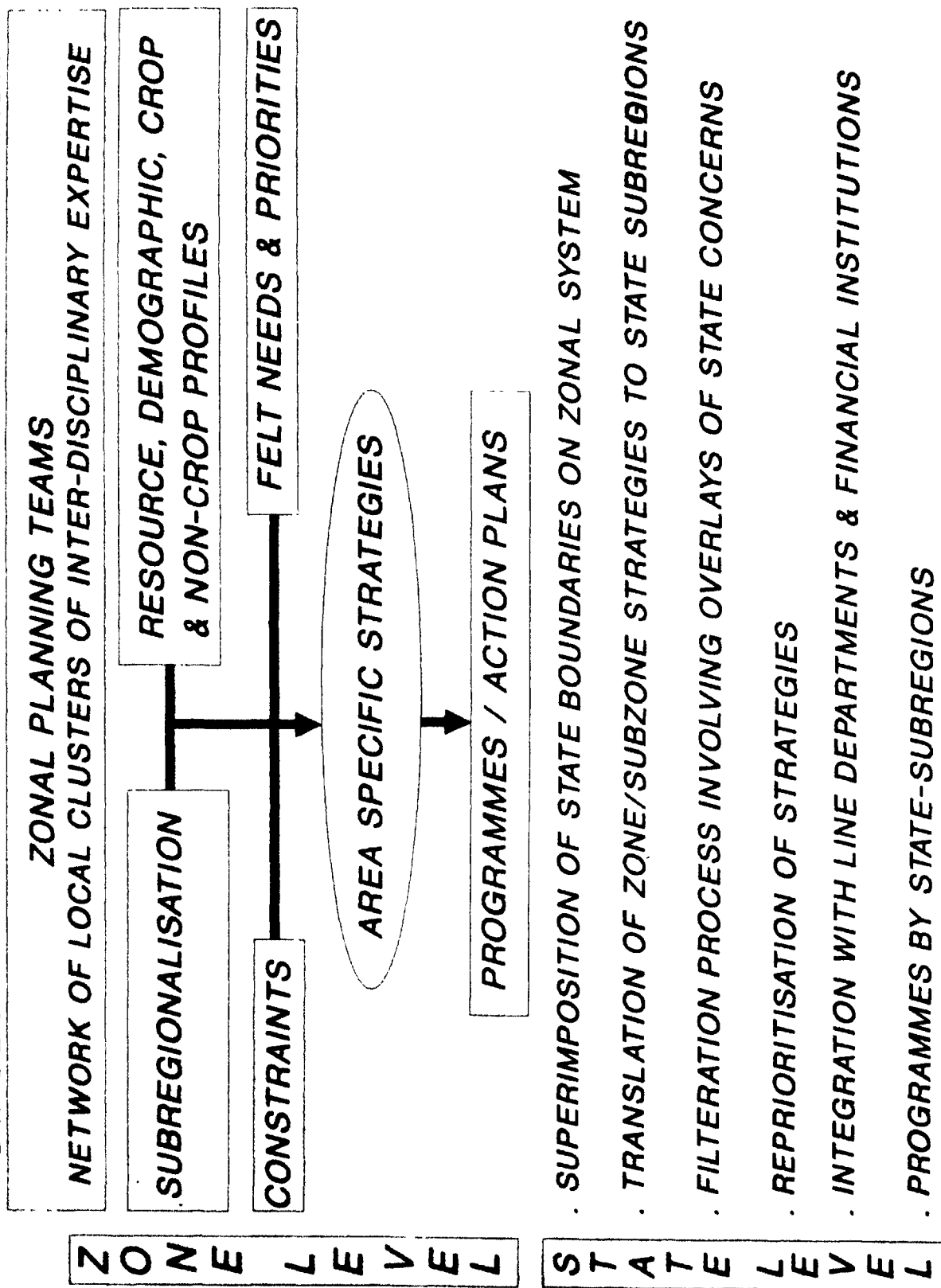
- D N Basu & G S Guha

AGRO-CLIMATIC REGIONAL PLANNING PROJECT.

THE ESSENCE

- o *Resource use efficiency & Inter-generational equity*
 - ⇒ *sustainability; the over-riding central principle*
- o *Regionally differentiated strategies based on integrated area based solutions rather than generalised macro solution*
- o *Provides for:*
 - # *balancing local & regional/national priorities*
 - # *technical input to decentralised planning system*
 - # *implications relating to support systems*
 - # *balancing short term & long term gains of development*
- o *Forum for interaction/feedback between scientists, planners, administrators, beneficiaries*
- o *Convergence of available & institutional resources*
- o *Information & knowledge base in user-friendly format and amenable to modelling*

STAGES IN OPERATIONALISING THE ACRP APPROACH



EXTENSION OF ACRP TO DISTRICT LEVEL

- o Choice of district as the most convenient operational unit
The district represents an ideal platform for planning which balances participation, administrative convenience, technical content and resource management*
- o Selection of 35 districts based on unique/prominent agro-climatic conditions requiring appropriate consideration in regional planning*
- o Sub regionalisation within districts recognising nature of AC parameters, local resource endowments & constraints*
- o Profiles ⇨ Resource Indicators (population, land, water) infrastructure status, local needs & priorities ⇨ Dev. issues*
- o Consultations with line departments and feedback from beneficiaries ⇨ Core strategies*
- o Programs ⇨ Compatibility: Govt., Institutional, Stakeholders
⇨ Schematic Convergence*

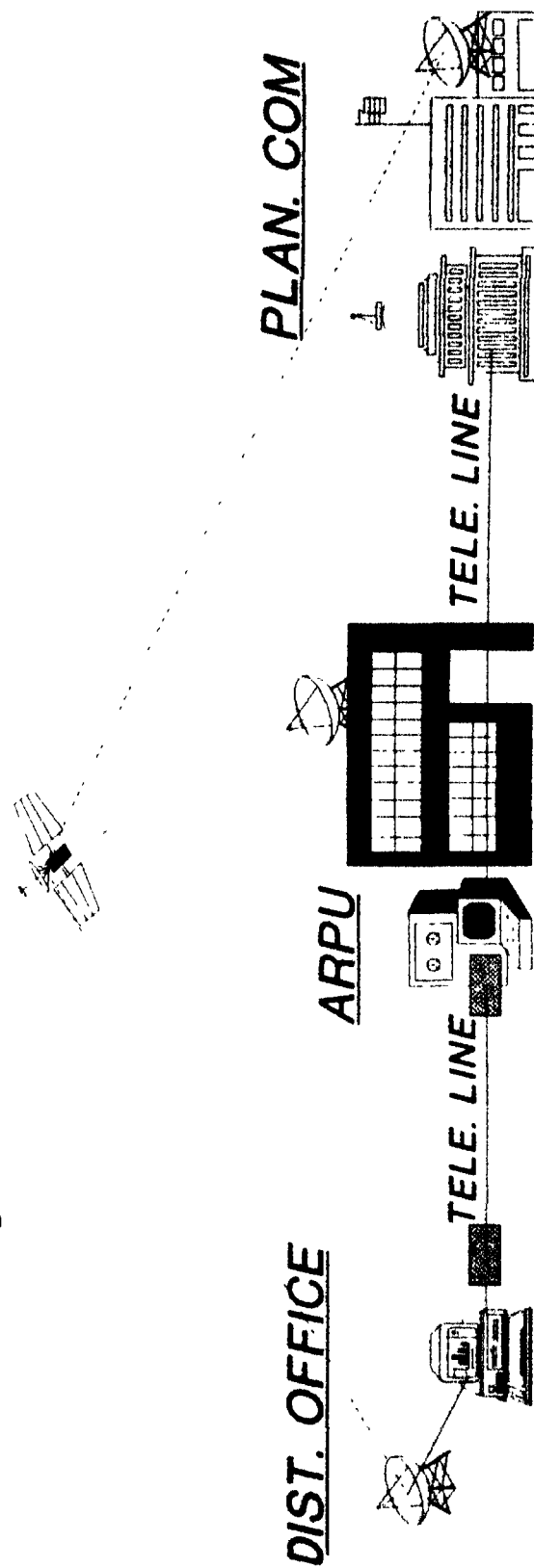
IMPLEMENTATION OF CORE STRATEGIES WITH EXPERIMENTAL PROJECTS

- o Translating core strategies into specific action plans*
- o Projectisation on experimental basis in 5 districts*
 - # Involvement of NGOs and local administration*
 - # Convergence of financial resources including institutional finance, govt. schemes and contribution from stakeholder*
 - # Benchmarking, Concurrent Evaluation & Monitoring, and Documentation*
 - # Computer based Project Management Information System using Wide Area Network (WAN)*

COMPUTER BASED PROJECT MANAGEMENT INFORMATION SYSTEM

OBJECTIVE

- o Capture project component specific physical & financial information from five diff. districts having diff. schedules*
- o Facilitate electronic exchange of data & messages between five districts and ARPU, A'bad; and between ARPU, A'bad and Planning Commission, New Delhi*



COMPUTER BASED PROJECT MANAGEMENT INFORMATION SYSTEM

Implementation

- o Phase-I : Develop an automated system for project tracking and monitoring to be installed at ARPU, A'bad facilitating electronic oommunications between A'abad & Delhi. Field information to be captured in a presoribed proforma.*
- o Phase-II : Facilitate electronic communications between districts and ARPU as well as Delhi using NICNET and/or microcomputers and fax/modems installation at district level*

COMPUTER BASED PROJECT MANAGEMENT INFORMATION SYSTEM

HARDWARE / SOFTWARE

- o *District Level* . *Microcomputer based Clipper/FoxBASE Applications on DOS platform*

- o *ARPU, A'bad* . *Minicomputer and Microcomputer based Clipper/FoxBASE Applications on Unix as well as DOS Operating Systems*

- o *Planning Commission . Minicomputer and Microcomputer based New Delhi Clipper/FoxBASE Applications on Unix as well as DOS Operating Systems*

SUMMARY OF EXPERIMENTAL PROJECTS

CORE STRATEGIES	PROJECTS	AREA (ha)	INVEST- MENT Rs. million
RECLAMATION OF PROBLEM SOILS (DSR 2&3), WASTELAND DEV. WITH FRUITS, FUELWOOD, FODDER	MANIKANDAM BLOCK [TRICHY, TAMILNADU]	1,828	20.32
INTEGRATED WATERSHED DEV. REDUCE AREA OF UPLAND RICE WITH HYVs OF PULSES/OILSEEDS	HIREHALLA WATERSHED [SHIMOGA, KARNATAKA]	22,399	31.28
SOIL & WATER CONSERVATION, RATIONALISE GROUNDWATER USE CROP DIVERSIFICATION FOR RISK MINIMISATION.	SAMI-HARIJ BLOCK [MEHSANA, GUJARAT]	16,994	64.73
TREATMENT OF PROBLEM SOILS & WATER LOGGED AREAS. ADOPTION OF SUITABLE CROPS CONJUNCTIVE USE OF OANAL/GW.	PURI-SADAR BLOCK [PURI, ORISSA]	4,229	5.45
INTEGRATED WATERSHED DEV. RENOVATION OF TANK IRRIGATION RATIONALISATION OF CROPPING	KASHIPUR BLOCK [PURULIA, BENGAL]	5,260	39.64

EXPERIMENTAL PROJECT MEHSANA IN GUJARAT

KEY STRATEGIES
o AFFORESTATION FOR SAND DUNES STABILIZATION & FOR BIO-MASS
o WATER HARVESTING AND GROUND WATER RECHARGE
o CROP DIVERSIFICATION
o FOR ANIMAL HEALTH CARE & FODDER SUPPLY

INSTRUMENTS
o SHELTER BELT & SOCIAL FORESTRY THROUGH SUPPLY OF SAPLINGS
o INTENSIFIED SOIL CONSERVATION ALONG WITH SOIL RECLAMATION
o LESS WATER INTENSIVE CROPS, ARID HORTI., DRIP IRRIGATION
o AI SERVICES & FODDER DEVELOPMENT (UREA TREAT. & AFFOREST)

OUTPUT
o CHECK WIND EROSION & ARREST DESERTIFICATION
o RECHARGE GOOD QUALITY GROUND WATER
o REDUCE RISK AND INCREASE FARM INCOME
o HIGHER MILK PRODUCTION (UPTO 9 LAC LTS / YR)

EXPERIMENTAL PROJECT

PURI IN ORISSA

KEY STRATEGIES

- o IMPROVEMENT OF SOIL SALINITY & WATER LOGGING**
- o AUGMENTATION OF IRRIGATION FACILITIES**
- o INTEGRATED WATER MANAGEMENT**

INSTRUMENTS

- o CONSTRUCTION/REPAIRS OF TWO CUTS**
- o INSTALLATION OF RIVER LIFT & FILTER POINT TUBEWELLS**
- o INTEGRATED FARM POND TECHNOLOGY**

OUTPUT

- o CONTROL IN SALINITY & WATER LOGGING IN 5,000 ha**
- o INTRO OF NON-PADDY CROPS & VEGETABLES IN RABI**
- o HORT. ON ENBANKMENT, FISHERIES & RAISING OF CROPS**

EMERGING POLICY REGIME & ACRP APPROACH

o NEED TO RECONCILE LOCAL OPTIMUM WITH GLOBAL OPTIMUM

• ASSESSING MACRO IMPLICATIONS OF ACRP APPROACH

• DOVETAIL REGIONAL SPECIALISATIONS WITH NATIONAL PRIORITIES (eg. FOODGRAIN SECURITY)

• NEED FOR MORE FLEXIBILITY IN TERMS OF PLAN ALLOCATION
STRUCTURE OF PROGRAMME LEADING TO HIGHER DEGREE OF
CONVERGENCE BETWEEN LOCAL OPTIMUM & STATE/NAITONAL
PRIORITIES

• CONVERGENCE THROUGH ITERATION RATHER THAN
HIERARCHICAL IMPOSITION

EMERGING POLICY REGIME & ACRP APPROACH

0 MEASURES

**- EXTENDING AGRICULTURAL DEVELOPMENT TO NEGLECTED AREAS
WITH GROWTH POTENTIAL**

**- RESPONSIVENESS OF TECHNOLOGY & DELIVERY SYSTEMS
TOWARD OPTIMISING USE OF LOCAL RESOURCE BASE IN A
CHANGING ENVIRONMENT OF ECONOMIC LIBERALISATION**

**- ENHANCING THE ROLE OF DECENTRALISED PLANNING THROUGH
DEVOLUTION OF RESOURCES AND DECISION CAPACITY**
 . FOCUS ON SCIENCE & TECHNOLOGY
 . PARTICIPATIVE DECISION MAKING

**- ORGANISING INFORMATION SYSTEM FOR SPEEDY EXCHANGE OF
MARKET SIGNALS AND KNOWLEDGE**

INSTITUTIONALISATION

OBJECTIVE

TO INTERNALISE ACRP APPROACH IN PLANNING & DEV. OF LAND & WATER BASED ACTIVITIES WITHIN EXISTING OR EMERGING PLANNING & DEV. SYSTEM AT VARIOUS LEVELS

WHAT IT INVOLVES?

- o EXPLICIT RECOGNITION TO LOCAL RESOURCE ENDOWMENTS & PRIORITIES RATHER THAN SCHEMATIC/SECTORAL PLANS SCHEME FORMULATION THROUGH AREA BASED STRATEGIES --> PROGRAMMES; FINALISING AT DISTRICT AFTER INTERFACING WITH STATE/SECTORAL PLANS**
- o INTEGRATION OF TECHNOLOGISTS/SCIENTISTS INPUTS INTO DECENTRALISED PLANNING & DEV.**
- o FLEXIBILITY TO RESPOND TO THE VARYING PLANNING AND DEVELOPMENT MODELS**
- o RECOGNITION OF CHANGING SCENARIO WITH INTRO. OF 73 AMENDMENT & MECHANISM FOR INTEGRATING OF ACRP**
- o VERTICAL INTEGRATION OF DISTRICT CORE STRATEGIES INTO STATE PLAN & NATIONAL PLAN**

WHAT SHOULD BE AVOIDED?

- o HIERARCHICAL IMPOSITIONS / PREPARATION OF PLANS OUTSIDE THE SYSTEM
- o AGGREGATION OF DEPARTMENTAL SCHEMES INTO DISTRICT PLAN WITHOUT FORMULATION OF STRATEGY

POSSIBLE INSTRUMENTS

- o TRAINING/ORIENTATION AT DIFFERENT LEVELS INVOLVING ALL RELATED DEPTS/INSTITUTES/NGOs
- o INVOLVEMENT OF CORE COMMITTEE OF DEPARTMENTAL FUNCTIONARIES/SCIENTISTS/PLANNERS/NGOs ON ACTUAL ASSIGNMENT OF DISTRICT PLAN PREPARATION
- o EXCHANGE PROGRAMMES OF ACQUAINTANCE THROUGH INNOVATIVE PLANNING EXPERIMENTS
- o OVER ALL STRENGTHENING OF DISTRICT PLANNING SETUP THROUGH RESOURCES / INPUTS FROM NATIONAL OR STATE MACHINERY
- o STRENGTHENING SECTORAL/DISTRICT INFO. SYSTEM
- o SETTING UP A STEERING COMMITTEE & MONITORING SYSTEM COVERING ENTIRE INSTITUTIONALISATION OF ACRP FROM THE BEGINNING OF THE IX PLAN

Annexe B
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Annexe C

LIST OF ARPU PUBLICATIONS

Working Papers

1. Zonal Profile. April 1989.
2. Agro-climatic Zones: Profiles & Issues. July 1989.
3. Constraints, Strategies and Programmes for State Level Agricultural Development : (A Short Summary). January 1991.
4. Extension of Agro-climatic Regional Planning to District level & below. (Background note & summary of first phase exercise for twenty-eight districts). May 1991.
5. Agro-climatic Regional Planning at State level : Profiles, Issues, Strategies & Programmes. July 1991.
6. Agro-Climatic Regional Planning at District & Sub-District level (Executive Summaries of 10 districts). February 1992.
7. Agro-climatic Regional Planning -District Level. March 1993.
8. Crop Output Projections for States by Agro-Climatic Subregions (Based On An Inter-Regional Area Allocation Model). January 1994.

Technical Papers

1. Desai, Rohit.D. February 1989. "The state of Agro-Processing industries in Agro-Climatic Zones: A case study of Gujarat Agro-industries".
2. Jhingram,V.G. July 1989. "Proposed Fishery Development in VIII Five Year Plan".
3. Bali, J.S. August 1989. "Towards a strategy and persperctive plan for land and water management".
4. Kashyap, S.P., and Rohit. D. Desai. September 1989. "Employment scenario across Agro-Climatic Zones".
5. ARPU. October 1989. "Crop output plan based on Agro-Climatic regional planning exercise".
6. Sarma, D.V.N. October 1989. "Population and labour force projection 1981-2016 in Agro-Climatic regions".
7. ORG. October 1989. "Water balance study of Agro-Climatic Zone-5". Baroda.
8. ----. August 1989. "Accessibility, communications and related contributing factors to the promotion of high value crops and allied activities and land development in Eastern Himalayan Region".
9. Basu, D.N., and V.Rajagopalan. November 1989. "Land resource use: some perceptions and strategies", ARPU, Ahmedabad.
10. Bapat, M.V. "Soil characteristics of Agro-Climatic Zones: Application of stored soil moisture concept for crop planning", ARPU, Ahmedabad.
11. Basu, D.N., S.N.Joshi, and G.S.Guha. January 1990. "Crop input plan: Irrigation based on Agro-Climatic Regional Planning exercise"

-
12. Bansal, K.K. January 1990 . "Agro Base:Computer data base and query system".
 13. Vaishnav, T.N. February 1990. "Livestock development in Zones 13 and 14".
 14. Kashyap, S.P., and Rohit. D.Desai. March 1990. "Employment scenario: A subzonal view".
 15. Patel, V.M., and K.V.Raju. March 1990. "Strategies for development of drought prone area: A case study of Kachchh District".
 16. Basu, D.N., and G.S. Guha. April 1990. "A decision model for programme selection at regional level", ARPU, Ahmedabad.
 17. Mukherji, P.D. May 1991. (ed). "Fisheries inland and marine -An Agro-climatic regional".
 18. Guha,G.S. November 1991. "Forestry in India:Which way now? A study of forestry profiles & issues in Agro-climatic Regional perspective".
 19. Kashyap. S.P. March 1993. "Decentralised Planning in India: An overview of Agro-climatic Regional Planning Approach".
 20. Basu, D.N. and G.S.Guha. May 1993.. "An area allocation model for states by agro-climatic subregions".
 21. Swaroop, Y.S. June 1993. "Geo-hydrological Information base for selected 34 districts".
 22. Mathur, Niti. December 1993. "Agro-Processing Potential In Selected Zones".

Special Issues

1. "National Seminar on Agro-Climatic Regional Planning held at Ahmedabad, on 5th & 6th March 1990". December 1990.
2. "Information Management System for Agro-climatic Planning", Technical Reference Manual. February 1991.
3. "New frontiers in Information System for Agriculture Planning- the ARPU experience", Lecture Series - I. June 1991.
4. "Seminar on ACRP for Gujarat State", Held at Ahmedabad on December 3, 1991. January 1992.
5. "Proceedings of All India Meeting of Zonal Planning Teams, Ahmedabad, April 16 & 17, 1993". May 1993.

Related Publications Of Planning Commission

1. Alagh,Y.K. August 1988."Guidelines for Planning at the Agro-climatic Regional Level".
2. "Agro-climatic Regional Planning: An Overview". July 1989.

PUBLICATIONS OF ARPU CONSULTANTS

Consulting Engineering Services, New Delhi

- "An Overview of Present Day Fisheries of India and Outlook in the VIII Five Year Plan". August 1989.
- "Sector & Policy Recommendations on Agro-Processing in Sub-zone 3 of Agro-Climatic Zone 1" January 1990.
- "Micro level study on Rural-Urban linkages in the context of developing Agricultural Regions :
(a) Aurangabad district in Bihar
(b) Bardhaman district in West Bengal". July 1991.

Dalai Consultants, Ahmedabad

- "Report on Livestock Development in Gujarat". May 1989.
- "Report on Livestock Development in Zone XIV". November 1989.

Indian Institute of Management, Ahmedabad

- Tripathi, A., et.al. February 1991. "A prototype expert system to aid Agro-climatic Regional Planning".
- Datta, Samar. January 1992. "Socio-economic preconditions for the development of Horticulture: A theorisation based on case studies".
- Srivastava, U.K., & S. Vasthala. November 1992. "Potentials of Agro-processing units in Gujarat".

Jhingran V G

- "Conceptual Fishery Development in VIII Five Year Plan". July 1989.
- "Conceptual Fishery Development of Coastal Orissa".
- "Land Use Resource Utilisation and Scope of Integrated Rural Development through Agriculture". March 1990.
- "Eighth Five Year Plan for Fisheries Development of Agro-climatic Zones", (Separate reports for Zones : 3, 4, 5, 6, 8, 9, 11, 12, 13). October 1990.

MARCONS, Baroda

- "Report on Farm and Non-farm Activities in Hoshangabad and Chindwara districts of MP". February 1990.
- "Report on Survey on the Nature of Employment and Earnings of Temporary / Permanent Migrants into Urban Sector". March 1990. Baroda.
- "Report on Rural Urban Linkages and Behaviour of Labour Market":
Hoshangabad district (M.P.), June 1990;
Chindwara district (M.P.), July 1990;
Farukhabad district (U.P.), September 1990;
Aurangabad district (Bihar), April 1991.

Operations Research Group, Baroda

- "Study on Marketing & Accessibility of Horticultural Crops, Zone II". October 1989.
- "Water Balance Study of West Coast Plains & Ghat Region, Zone 12". October 1989.
- "Cropping Pattern Changes : A Case Study of Chitradurg District (Karnataka)". February 1990.
- "Study on Rural-Urban Linkages in the context of Developing Agricultural Region (Karnataka and AP)". May 1990.
- "Study on Rural Urban Linkages in the Context of Developing Agricultural Region":
 - (a) Morena & Mandsaur districts of M.P.
 - (b) Kolhapur & Parbhani districts of Maharashtra. January 1991.
- "Report on Study on Agro Processing Industries (with reference to Employment & Linkages)". March 1991.
- "Study on Marketing & Accessibility of Horticultural Crops : Uttar Pradesh". March 1991.
- "Agro-processing Potential in the State of Maharashtra". December 1992.
- "Study on Identification of Promising Agro Processing Industries and Feasibility of their Development in Maharashtra State". January 1994.
- "Horticulture Sector Study for Konkan Region of Maharashtra." March 1994.

Search India, Bombay

- "A Study of Farm & Non-farm Sector and Farmers' response pattern in Maharashtra". February 1990.
- "A Report on Agricultural Change Process and Farm and Non-farm Sector in Haryana". June 1990.
- "Development of an optimising model for district level agricultural planning (Search Logic and Data Base)". May 1991.

SPIESR, Ahmedabad

- Parikh, G.O. February 1990. "Report on study on Rural Urban linkages in Gujarat".
 - Shah, N.C., & Anita Arya. March 1990. "Growth of Agricultural Production in Agro-climatic regions: A District Level Analysis".
 - Shah, N.C., & Anita Arya. May 1990. "Poverty estimates of Agro-climatic sub-regions".
 - Parikh, G.O. April 1991. "A study on export of marine products from Gujarat".
 - Kashyap, S.P., & D.N. Basu. May 1991. "Rural non agricultural employment in India: Role of development process and rural-urban employment linkages".
 - Shah, N.C., & Anita Arya. June 1991. "Land productivity differentials in Indian agriculture :A district level analysis".
 - "Agro-Climatic Regional Planning for Jammu and Div (UT)", May 1992.
-

STEM, Bangalore

- Sarma, D.V.N. March 1990. "Optimization model for marginal and wastelands".
- "Extension of Agro-Climatic Planning to district level and below : Case of Tumkur in Karnataka". September 1991.
- "Development of Marginal and Wastelands in Tumkur district". October 1991.

Others

- Srivastava, K.V. March 1989. "Study of horticulture sector".
- Bali, J.S. July-October 1989. "Zonal strategy for soil conservation and watershed management: Seperate reports for Zones: 1, 2, 7, 9, 10, 12, 13".
- Sarma, D.V.N. March 1990. "Optimization model for marginal and wastelands".
- Gopinath, C., & C.S. Sudaresana. August 1990.
- "Cropping patterns changes and employment effects in selected districts of Kerela".
- ICAR, National Bureau of Soil Survey and Landuse Planning, "Agro-Ecological Regions of India".
- Agricultural Finance Consultants Ltd, "A study on Land and Water Resources Development Programme : Amreli district.
- Dixitulu, J.V.H. December 1990. "Culture fishery development in Krishna district of A.P.: A case study".
- Sarma, D.V.N. March 1991. "Population projections by Agro-climatic subzones using economic indicators".
- Centre for Development Studies & Activities, Pune, "A review of the Watershed Development Programme in Maharashtra". March 1991.
- Kundu, Amitabh., & D.N. Basu. June 1991. "Rural Urban Linkages & Agricultural Development".
- Kundu, Amitabh. 1993. "Rural-Urban Interdependencies with particular reference to role of Small & Medium Towns". JNU, Centre for the Study of Regional Development, New Delhi.
- Pavate, M.V. August 1991. "Agro-climatic regions with potential for watershed development".
- Pranava Industrial Services Pvt. Ltd. 1993. "Status & Development of Horticulture Farming & Processing Industries in Madhya Pradesh". Ahmedabad.
- Kulkarni, K.R. 1992. "Yield gap analysis of major crops in India".
- Bapat, M.V. & V.M. Patel. June 1993. "Development Plan for Coastal Saurashtra in Gujarat".
- Institute of Rural Management. 1993. "Livestock Sector & Landuse study in Surat". Anand.
- Institute of Applied Manpower Research. March 1993. "Employment Generation through Decentralised Development of Agriculture : A case study of Samastipur District, Bihar". New Delhi.
- Agricultural Finance Corporation. January 1994. "Sami- Harij Project Report". Ahmedabad.
- Agricultural Finance Corporation. February 1994. "Purulia Project Report." Calcutta.
- Patra, L.M. May 1994. "Urban Rural linkages in India: An Agro-climatic Zonewise Overview".

