

REPORT OF THE COMMITTEE
ON TRAINING FOR
WATERSHED DEVELOPMENT
(Eswaran's Committee)

MINISTRY OF RURAL AREAS & EMPLOYMENT
DEPARTMENT OF WASTELANDS DEVELOPMENT
GOVERNMENT OF INDIA, NEW DELHI

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27 November 1997

V.B. Eswaran
Chairman
Committee on Training for Watershed Development

Preface to the Report and Forwarding Letter

Dr. N C Saxena
Secretary
Ministry of Rural Areas and Employment
New Delhi

My Dear Saxena,

I have the honor to submit to the Government the enclosed Report of the Committee on Training for Watershed Development, which was set up earlier this year.

The Committee felt that the Common Guideline for Watershed Development, of October 1994, issued by the Ministry after considering the Report of the Technical Committee chaired by Dr. C H Hanumantha Rao, were a path-breaking innovation. They recognised and embodied and management of the land and water resources which provide the life support for rural communities. They stressed the cardinal importance of moving away from the conventional approach of each government department planning and acting on its own, in isolation from the other departments and without the involvement of local people. The new approach or coordination between technical departments for providing planning inputs to community organisations to decide micro plans to be implemented by them, should lead to maintenance of the assets created, and their management in a sustainable manner.

Obviously, Government departments and others who have roles in this approach to watershed development need training inputs at different levels. It was, therefore very timely that your Ministry set up this Committee. The Committee is deeply appreciative of the support provided by the department of Wastelands Development generally and the help rendered by the Member-Secretary, Shri Kuldip Rai, Director (Admn). My colleagues on the Committee and I wish to record with gratitude the outstanding help we

had from Shri T N Srivastava, Additional Secretary, through his participation in our meetings and in the drafting of our Report.

The Report of the Committee is the first step. As we have observed this exercise cannot be a one-time effort. It would need to be followed up by the Ministry in a structured way.

We have suggested a National Standing Committee for Watershed Development, a sub-committee for Training, preparation of a National Outline Plan for Training, and plan in each State for Watershed Development Programming including a component of a Training Action Plan.

We believe that the Watershed approach is essential in all Government plans and schemes relating to land and water resources, as is the community involvement enshrined in the Common Guidelines. We would hope that schemes of other Ministries in this field will be persuaded to adopt the same approach.

The commitment of the States to the watershed approach and to the necessity for Training should be secured. Personnel of the relevant technical departments will need reorientation to help planning, implementation, and management of watershed programmes by local community organisations in the manner of technical advisers helping clients. Equally, the States should be persuaded to devote care and attention to developing a network of Training Institutions for various levels, mainly by building upon existing capabilities.

With kind regards,

Yours Sincerely,

V B Eswaran

EXECUTIVE SUMMARY

Role of Women

1. Women form an important constituent of the Watershed Community and are most affected by the continuing of land which results in scarcity of water, firewood, fodder and other daily requirements. At present there is no specific provision in the Common Guidelines for Watershed Development for involvement of women in various committees connected with watershed development programme. It is only the Watershed Committee, the representation of women and members of SC STs had been ensured. In the case of **Watershed Association** which comprises of Gram Sabha of the Panchayat it is envisaged that all adult members would be members of Gram Sabha and hence Watershed association. In order to ensure women's participation, it is necessary to provide that all; adult women residing in the watershed area and getting benefit from it whether as a part of User Group, Self-Help Group or otherwise would be members of Watershed Associations. Women should be members of land based User Groups even if they are not land owners in the land records and also as agricultural or project labourers etc.
2. Formation of separate Self Help Groups should be encouraged for the activities which could be undertaken by women. Activity based Self Help Groups will provide the scope for undertaking the income generating activities. In case of Watershed Committees, at least one third should be women representing

different user, self help and women's groups so that they are able to express their views freely on matters which directly affect them.

3. The Committee also recommends that in all States and District Level Advisory Committees at least one-third members should be women.
4. As regards Watershed Development Team (WDT) which henceforth will comprise of five members dealing with specific discipline, the Committee recommends that at least one member should be a women member. The involvement of women is necessary to ensure post project management and sustainability.

Equity Issues

5. There is a need for undertaking activities for the benefit of the rural poor namely landless and other weaker sections. It should be clearly provided that the landless and other weaker sections of the Watershed Community have equal rights of access and use of resources available in the form of agriculture products viz. fruits, fuel and fodder etc. in the village common lands. Wherever community assets are created in the form of community water resources, fish ponds etc. a mechanism of sharing them with the rural poor namely the landless and other weaker sections should be worked out along with sharing of usufructs from village common lands. Some of the benefits which would accrue from Watershed development programme would be in the form of greater and equitable rights like generation of employment, higher agriculture production and availability of greater bio-mass especially fuel wood and fodder. This could help; in better opportunities for non-form employment for the rural poor and an increase in the general wage level due to increase in opportunities.

Administration

6. The Committee recommends that WDT should consist of 5 members instead of 4 at present. Out of which, at least one should be a woman. On an average, one member of the WDT should be available for two micro-watersheds.
7. There is need for some important of salaries, honoraria and TA / DA etc. for members of WDT and the Secretary of Watershed Association. The Committee recommends that suitable revision in the salaries of WDT members and Secretary of WA may be made so as to attract suitable and qualified persons for watershed development programmes.

Revolving Fund

8. The provision for revolving funds to provide support to members of Self-Help Groups on their giving matching contribution has already been raised from Rs. 50,000/- to Rs. 1,00,000/-. It has been observed that landless persons who form part of Self-Help Groups are not able to generate sufficient saving in order to get assistance from, the revolving funds on matching basis vis-à-vis land owning class. The committee recommends that an amount of Rs 1,000/- should be made available to SHGs without requiring any matching contribution from them so that they are able to start income generating activities.

Cost of Works

9. In view of increase in the works due to inflation, the Committee recommends that the limit of Rs. 4,000/- per hectare for treatment of wastelands may be revised to Rs. 6,000/- per hectare for watersheds having less than 8% slope and Rs. 7,000/- for watersheds having more than 8% slope.

Preparatory Time for Development of Community Organisation

10. Organising the community is an essential part of the watershed development programme under the new Guidelines and therefore. This activity has to be done before any other activity relating to works could be taken up. The committee recommends that the activities relating to the community organisation should as far as possible be completed in the first year of the programme so that the remaining period could be spent in the planning and implementation of the watershed development programme.

Duration of the Project

11. As the time for completing the community organisation, training etc. has been extended to one year, the Committee recommends that the period of implementation of the project may be increased from 4 to 5 years without involving any additional expenditure.

Inter-Development Coordination

12. Where one of the Departments of the State Government is a PIA, it is seen that the funds are placed at the disposal of these departments for undertaking the activities at their convenience without any integrated approach at the watershed level. The committee recommends that the practice of placing funds at the disposal of various line departments is not in accordance with the guidelines and therefore should be stopped forthwith. The Committee also recommends that the PIA, which could be one of the Departments of the State Government working in the district, should be responsible for proper coordination, planning and implementation of the programme through various agencies /line departments.

Remote Sensing and other Scientific Inputs

13. The scientific input available from the National Remote Sensing Agency (NRSA) can greatly help in the preparation of suitable watershed development plans at the project level. The cadastral level maps can be generated wherever the PIA needs them for proper planning of the area. These facilities would be useful and as such the Committee recommends that these may be suitably used.
14. The Committee feels that other scientific inputs would be necessary in any watershed development programme for optimal interventions and sustainable management in the post-project period, with due regard to maintenance of the water moisture balance, efficient use of water etc.
15. The Watershed Development Programmes have been taken up by a number of Ministries Departments and External Funding Agencies. A watershed Atlas has been prepared by All India Soil and Land Use Survey Organisation on a scale of 1:1,00,000. The watersheds delineated in the Atlas have been codified. There is a need to develop also a uniform system of codification of micro-watersheds. The Committee recommends that the Central Government should take up the codification of micro-watersheds. The data-base can be computerized it should be made available to all user agencies indicating what work has been done and by which agency. This information should be updated from time to time after the basis codification and data base work is completed.
16. There is a provision of a basic survey in para-69 of the guidelines. The committee recommends that the basic survey should be made compulsory for every micro watershed which is taken up for development. The survey should be completed before Participatory Rural Appraisal (PRA) exercises begin and watershed plans are prepared and finalised. The instalments for PRA should only be given after the survey has been completed.

ACTION PLAN

(A) Watershed Development Plan

17. Each Use Group is required to prepare an Action Plan in consultation with, and under the guidance of the members of the WDT and the Watershed Committee. There is no mention about the manner in which these plans would be approved by the watershed associations and then sent to Zilla Parishads DRDAs. The committee recommends that the Watershed Development Plan. Before it is sent to DRDA/ ZP for approval, should be discussed in a meeting of the Watershed Association. The members of the WDT and Watershed Committee should give due publicity to the plan and then explain it to the members of the Watershed Association in the meeting. The suggestions given by members of the Watershed Association in the meeting. The suggestions given by members of the Watershed Association should be duly considered and if accepted, may be incorporated in the Plan. Differences of opinion should be sorted out in the meeting itself so that there is no cause of resentment for any individual or group and the works approved under the plan have full support of the watershed community.

(B) Release of Funds

18. The Central Government releases funds directly to the DRDA Zila Parishads. DRDA Zila Parishad, in turn, makes available the funds to the Project Implementing Agency (PIA) in so far as these relate to administrative costs, training and community organisation. The funds relating to works are released directly to the watershed project account of the Watershed Committee. This huge amount of money are available in the accounts of Watershed Committees but the basic responsibility and accountability for these funds continue to be with DRDAs and Project Implementing Agency. The Committee recommends that the DRDAs/Zila Parishad may release the funds to the Watershed Committee in suitable instalments keeping in view the pace of implementation of the works. The DRDAs / ZPs will ensure that sufficient funds are available with the WC for

the implementation of the works programme and that at no point there is a stoppage of works only because the funds are not being released by the DPRA/ZP.

(C) **Responsibility for the execution of works**

19. There is a need to clearly delineate the responsibility of the PIA and the Watershed Committee in the matter of execution of works. The committee felt that the WC may be entrusted with the responsibility for execution and supervision of works wherever outside agencies are not involved. However, where the execution of works requires the services of an outside agency, the responsibility for direct supervision should be that of a PIA and the DRDA/ZP.

Review of existing training arrangements for watershed development

20. As training is an important component of the watershed development programme there is a need for developing a system for organising training for different level of functionaries. Once a project is sanctioned, the project Implementing Agency (PIA) should know what are the various tasks to be done in the matter of training and which institution has to be approached for this purpose. As such there is a need for detailed guidelines which have to be prepared at the State level for this purpose. These guidelines would help in a big way in ensuring that proper inputs are available. There is also a need for developing an institutional mechanism for providing training as soon as there is a change in the incumbent.

Identification of Trainees and Training Modules

21. Before designing any programme for training, it is essential that the persons who need to be trained have to be identified so that suitable programme could be evolved for different types of functionaries associated with the programme. The Committee feels that the personnel who require training can be divided into four groups, keeping in view the level at which they have to operate and the role and responsibility assigned to them in the watershed development programme.

(i) Micro-Watershed

22. A micro-watershed is of approximately 500 hectares. It may comprise a village or a part of village. In cases, it may extend beyond the boundaries of a village or of a gram panchayat of the area. At the micro-watershed level training may be imparted to the following;

a. Members of Gram Panchayat:

23. The training could be for a duration of 3 days and may be given in an institution so that it has a proper focus

b. Village Level Government Functionaries

24. These functionaries include Partwari, Gram Sevak, Secretary of Gram Panchayat, the Anganwadi worker, the school teacher, the samiti sewak, the forest guard etc., It would be useful to sensitise these persons in order to enlist their support. A one

day workshop within the Block to discuss various issues and components of the programme would be useful. These can be organized by DRDA PIA with the support of the concerned district officials.

c. User Groups:

25. The user groups generally comprise of different category of farmers effected by the work activity taken up under the watershed development programme. These may also be formed of persons dependent on common property resources (CPRs) or of persons adversely affected by the development programme. The training programme of these groups could be of a duration of a few hours and the training cum interaction could be organized at a time when the day – to – day farm activities are over. These programmes could be held once in a week or fortnight and may be repeated as many number of times as may be necessary. The training projectors, VCPs, Video and Audio devices etc., may be provided by the nearby training institutions for this purpose.

BACKGROUND

1.01 The Ministry of Rural Development had set up a Technical Committee to review the Drought Prone Areas Programme (DPAP) and Desert Development Programme (DDP) in 1993. This committee submitted its report in April 1994 in which it had recommended that all area development programmes of the Ministry of Rural Development (as it was then known) including Integrated Wastelands Development Project (IWDP) scheme of the Department of Wastelands Development should be implemented on watershed development basis. It had further recommended that 50% of the amount in the Employment Assurance Scheme (EAS) should be spent on the watershed development programme. Based on the recommendations of this Committee, the Ministry of Rural Development formulated the Common Guidelines for all the area development programmes viz., DPAP, DDP, IWDP and the watershed component of the EAS implemented by the Ministry. The main thrust of these Guidelines issued in October 1994 and given effect from 01st April 1995, is on people's participation by involving them in the decision making, implementation and monitoring of the programme through, formal and informal groups and village institutions. The technical interventions and other development activities under the Guidelines have to be taken up in accordance with the watershed development plan finalized through a process of Participatory Rural Appraisal in which the Programme Implementation Agencies (PIAs), the officials of the various Government Departments and the members of the village community should participate and take decisions.

1.02 The approach adopted in the Guidelines is in the nature of a major break through in the existing system of planning and implementation of the various schemes in the rural areas. Some instances of successful involvement of the community in decision making and implementation of watershed development programme have been receiving attention, as these have ensured sustainability and solving of apparently intractable rural problem through local

The terms of Reference (TOR) are as follows:

- a) To review the existing arrangements for training for various types of functionaries in watershed development projects.
- b) To assess the training requirements for capacity building at grassroot level with a view to create/build institutions that will be able to make watershed development programmes sustainable on long term basis.
- c) To assess the capability of institutions engaged in training for watershed development.
- d) To lay down the criteria for selection and identification of institutions for providing training for watershed development.
- e) To recommend various modules of training of different functionaries engaged in watershed development.

- f) To recommend on the support systems required for developing institutions for imparting training on watershed development.
- g) To review the present position of involvement of women in the watershed development programmes and to suggest measures for building their capability for active and effective participation.
- h) Any other matter related with watershed development.

1.04 The Committee held its first meeting on 2nd April, 1997 and devised its own plan for reporting on Terms of Reference. He also said that the Committee need not be constrained by the specific terms of reference given to it but may report on any important issue related to the watershed development programme, including the common guidelines.

1.05 The Chairman of the Committee addressed letters to various NGOs and experts on watershed development to elicit their views on the terms of reference. A large number of them responded, and the committee is thankful to them for their valuable inputs based on their experience.

1.06 On the request of the Committee, the department of wastelands development organized a workshop on 26 – 27th May, 1997 to discuss the various issues related to training for development of micro-watershed. The workshop was attended by the representatives of NGOs, State Governments research and training institutions and other

experts in the implementation of the programme. The participants expressed their views in the plenary session, and in the Groups which were constituted to deliberate on important issues. The proceedings of the workshop have been separately documented and circulated. The observations and recommendations of the workshop have been taken into consideration while finalizing this report. The committee is grateful to the Department of Wastelands Development for organizing the Workshop, and bringing out the proceedings.

1.07 The Committee held a number of sittings to deliberate on the terms of reference as also on other relevant issues connected with the watershed programme under Guidelines, including the Guidelines. During the deliberations it had the benefit of views of all its members except Shri A.P. Fernandez, Executive Director, MYRADA, Bangalore, who unfortunately, could not attend any of the sittings of the Committee.

2. Issues Related to Common Guidelines

2.01 The approach indicated by the Hanumantha Rao committee for the Area Development Programmes viz., DPAP, DDP, IWDP, IJRY and EAS was accepted by the Government and it was decided to implement these programmes on Watershed Development basis. Accordingly, the guidelines were formulated, after extensive consultations with the State Governments. NGOs, Research and Academic Community and other experienced persons involved in the development of watershed and were brought into force w.e.f. 01.04.1995. These programmes are now implemented on the basis of the common guidelines for watershed development issued by the then Ministry of Rural Development, now designated as the Ministry of Rural Areas and Employment.

2.02 The common guidelines provide for the criteria for the selection of a micro watershed, the agencies for implementation the role of panchayats and the development of village level institutions, the manner and extent of involvement of people, as list of activities to be taken up under the programme, the schematic budget, etc., complete flexibility is given to the watershed community to decide about the nature of development programmes which have to be taken the extent of investments to be made and the technical support which could be provided by the programme implementing agencies and line departments of the State Governments. However, apart from training, administration and community organization, the schematic budget does not indicate the amount which needs to be spent on each activity, leaving it to the watershed community to take their own decision.

2.03 The guidelines emphasize the development of an institutional framework in the form of user groups, self-help groups and watershed associations for involving the watershed community, envisage and assign the role of a facilitator in the form of friend, philosopher and guide for the government functionaries. This approach has been in many ways different from the concept of peoples participation advocated in many other programmes of the Government. Consultation with the leading persons of the village or holding group meetings for explaining the programme is highlighted. Involvement and participation of the local people has the connotation of contribution by the beneficiaries of the programme in the form of cash kind or labour. In the guidelines, the responsibility for selection and prioritization of interventions, the implementation and management etc., are the responsibility of Watershed Development Fund requiring contributions from the land owners and village community ensures that the assets created under the programme would not be starved of funds for post project maintenance. The village panchayats have been given the responsibility for overseeing of the programme, and they have to undertake the responsibility for maintenance.

2.04 Since the time these guidelines have been under implementation, some efforts have been made by the State Governments, the NGOs, and the other project implementing agencies to discuss, publicize and create awareness about the new approach indicated in the guidelines for the benefit of government and non government implementing agencies and the watershed communities. But they have yet to percolate down to the district and village level. Even in the line departments of the government there has been general lack of awareness about the programme, and varying

interpretations of the concept of watershed development and people's participation have been the feature in each line department. Even where there has been some understanding about the programme, very little has been done to develop community organization and village level institutions. A tremendous change in the attitude of Government functionaries is required to bring about the quiet revolution in rural India contemplated in these guidelines. This would require the development of a strategy for capacity building not only among the members of watershed communities to assume the new responsibilities, but also among the Government and project functionaries for their changed roles. The guidelines do provide for a massive programme for training for the WDT, the members of the watershed community, the volunteers etc., it has been assumed that the government officials, we should be major instruments of this change, would be mentally prepared to shed their traditional position of power oriented administration to a community oriented facilitator administration.

2.05 Our terms of reference require us to make recommendations on the training for the watershed development under the common guidelines, Secretary, Department of Wastelands Development, during the course of discussion, indicated that the committee may also look into the various aspects of the guidelines under implementation. We have, therefore, addressed ourselves to this issue as it has a bearing on the strategy for training. We sought the views of a large number of NGOs and others associated with the watershed development on the subject as also on other issues related with the common guidelines. We also had the benefit of the views expressed by the participants in the workshop convened especially for this purpose. This workshop was extremely useful,

and even though it was specially devoted to training issues, a number of suggestions were made in regard to the common guidelines. The committee has considered these suggestions and has given its views on these points.

Role of Women

2.06 Women form a very important component of the watershed community and are particularly affected by the continuing degradation of land which results in scarcity of water, fuelwood, fodder and other daily requirements. In some areas, they have to travel long distances for getting these essentials of daily life, involving considerable time and physical strain, anxiety and avoidable drudgery. No specific role has been assigned in the guidelines for women except that they have been clubbed with other weaker sections of the village community. It has been stated that special emphasis will be given to improving the economic and social conditions of the resource poor and the disadvantaged sections of the watershed community such as the assetless and the women. Similarly the Gram Panchayat of the watershed area undertaking a watershed programme is required to pass a resolution assuring that the produce from the common property resources will be equitably shared, inter-alia, with the weaker sections of the society including women. The provisions thus made in the guidelines put the women at a periphery in the entire development programme which is crucial to their own well being let alone the income generation and the drudgery associated with the various types of related household activities which depend on regeneration of natural resources. The concept of woman as an equal and essential participant in the programme has not found

adequate stress in the guidelines and therefore, there is a need to make specific provisions so that the role of women in the entire development programme is not merely that of beneficiaries but recognises the need for their involvement in the programme as full members of the watershed community as a part of the overall development strategy.

2.07 A suggestion has been made that the women should be given representation in all committees connected with the watershed Development programme and this representation should be 50%. At present the various committees state watershed implementing and Review Committee, District Watershed Development and Advisory Committee, watershed Association, Self help groups, User Groups etc., do not specifically provided for the membership of women nor do these earmark any position for them. It is only in the Watershed committee that representation of women and members from SC/STs has been ensured. In the case of watershed associations it is envisaged that if the geographical boundaries of a watershed are co-terminus with the village panchayats or its area is confined within the boundaries of a village panchayat the Gram Sabha of the Panchayat concerned will be designated as the watershed association, in case the watershed comprises of areas coming under jurisdiction or more than one panchayat, a watershed association has to be constituted. There is no specific mention of the women, though in the concept of Gram Sabha it is envisaged that all adult members would be the members of the Gram Sabha and hence also watershed association. In order to ensure women's participation, it is necessary to provide specifically that all adult women, residing in the watershed area and getting benefit from it whether as a part of a user group, self help group or otherwise would be members of the watershed association.

Further, women should be members of land based user groups even if they are not land owners in the land records.

2.08 Separate Self Help Groups need to be formed based on the activities which could be undertaken by women. Even if the activities are not income-generating and economic, women's self help group may be promoted. In the activity based Self Help Groups, women should be given adequate representation especially, in cases, where women could take up the income generating activities. In the case of watershed committee at least one third members should be women representing different user, self help and women's groups so that they are able to express their views on matters which directly affect them.

2.09 The state level committees consist of official representatives of various departments agricultural universities, research and training institutions, and representatives of voluntary organizations engaged in watershed programmes. There is no specific mention for having women members. Similarly, the District level committees consist of 3 or 4 members of the multi disciplinary team, 5 or 6 members of voluntary organization engaged in the watershed programme in the district, and one or two members of the research and training institutions. But there is no mention of women members. The committee is of the view the involvement of women is necessary for a programme of this nature. This would be possible when they are inducted as members in the various advisory and implementing agencies. This committee, therefore, recommends, that atleast one third members of these committees should be women.

2.10 The Watershed Development Team (WDT) comprises of 4 members each dealing with a specific discipline. There is no provision that the members of the WDT should be women. This subject has come up time and again during the course of discussions and it has been stated that if atleast some members of the WDT are women it would help in properly involving the women in the watershed development programme. We are informed that in Gujarat a practice has been started of having at least one woman member in the WDT. We have considered this suggestion. There is no doubt that women, as a member of watershed development team will be immensely useful. It would also encourage the professional women to work in rural areas. We, therefore support this. However, we feel that the bigger issue of involving women as a group in different income generating activities and as a social and economic group with a voice of their own would not be met unless there is a women member of the WDT specifically devoted to this aspect of the programme. The involvement of women, right from the initial stages is necessary to ensure post-project management and sustainability as any degradation of regenerated natural resources again leads to a decline in the availability of fuel, fodder and drinking water.

Equity Issues

2.11 It has been repeatedly expressed before us that the guidelines do not take adequate care of the plight of disadvantaged sections of the watershed community, which would include the landless, the women, the scheduled Castes, the scheduled tribes and other weaker sections of the population. There is an impression that watershed development

activities benefit the landowning class alone and that the landless and other weaker sections of the population do not stand to gain, or derive benefit from the programme.

2.12 We have looked into this aspect of the matter. The provisions in the guidelines provide for the improvement of the economic and social conditions of the assetless and poor persons in the watershed community through more equitable distribution of benefit from land and water resources developed and the consequent bio-mass produced. The Guidelines further state that these people would have a greater access to income generating activities. Para-25 of the Guidelines, which lays down the criteria for selection of a village, clearly states that the gram panchayat will pass a resolution to ensure that the benefits from common property resources and other community assets are shared with the weaker sections of the society in an equitable manner. However, no details of the manner in which this will be affected or the manner in which the benefits would flow have been indicated in the guidelines.

2.13 The watershed programme is basically a development programme for regeneration of land and other natural resources, and promotion of employment. However, the need for generation of employment and improvement of the economic and social condition of the resource poor and the disadvantaged has been clearly emphasised in para – 14 of the guidelines dealing with the project objectives. More equitable distribution of the benefits of land and water resources and greater access to income generating opportunities have been specifically stated. There is a provision for the formation of self-help have to be activity based i.e. – agricultural labourers, women

shepherds, SCs/STs, farmers or activity/purposes i.e. thrift and credit dairying, rope making sewing etc. there is also arrangement for providing funds from the revolving fund to these groups on matching basis for undertaking an promoting the Group activity. But the focus is on group rather than individual. The committee feels that there is a need to have a separate paragraph in the guidelines in which the need for undertaking activities for the benefit of landless and rural poor should be emphasised. It should be clearly stated that the landless and other weaker sections of the watershed community should have greater and equitable access and use of resources available in the form of fruits fuel, fodder and other biomass in the village common land. Wherever community assets are created in the form of community water sources, fish ponds etc., a mechanism of sharing them with a rural poor and other weaker sections should always be worked out along with a system of sharing fuel, fodder and other biomass produce from the village common lands. This should adequately express the concern of the Government in this area. At the same time, the Committee feels that some of the benefits which would accrue from the watershed development programme would be in the form of generation of lucrative employment due to higher agricultural production, availability of greater bio-mass (e.g. fuelwood and fodder) which could help in better opportunities for non-farm employment for the rural poor and an increase in the general wage level due to increase in opportunities.

Cost norms

- (a) Administration

2.14 There is a provision for incurring an expenditure of 10% of the total cost of the project on administrative overheads which would cover salaries and honoraria of the watershed Secretaries, the volunteers, the WDT members, as well as the training of WDT members, the office contingencies and other expenditure. Two issues have been raised on account of the cost norms indicated on administration. The first issue relates to the adequacy of number of members of the WDT for 10 micro-watersheds. In the present arrangement one WDT consists of 4 members and WDT is required to provide technical guidance to the community in 10-12 micro-watersheds. A view has been expressed that the area is too large for a team of 4 members, as it means covering about 10-12 villages. It has been further stated that at least one member of the WDT is required in every micro-watershed to provide technical and administrative guidance and therefore the number of member of WDT should be increased by providing one member of WDT for each micro-watershed.

2.15 The committee has considered the suggestion. In the existing arrangement the watershed Development Team consists of 4 persons., each have specialized knowledge in an area connected with watershed development. The allocation of one member of the team to one micro watershed would mean that the micro-watershed would be deprived of the technical skills and experience of another member in an other area of development. This would defeat the integrated approach envisaged in the watershed development programme. This would also increase the administrative cost on account of payment of salary and wages which would mean that a greater part of the funds will be spent on meeting the salaries and TA/DA claims of the members of the team. We have earlier

recommended that the WDT should consist of five members out of which at least one should be a women. This would mean that on an average one member of the WDT would be available for two micro-watersheds.

2.16 The other issue which has been raised before us is regarding the adequacy of budget for meeting the administrative expenditure even if the number of members of WDT, the watershed Association Secretaries, etc., are kept at the same level as envisaged in the guidelines. It has been stated that the guidelines provide an annual salary of around Rs.30,000 – Rs.31,000 to a member of the WDT. It is expected that out of the 4 members – one member each would be from the disciplines of Plant Sciences, Animal Sciences, Civil Agricultural Engineering and Social Sciences. The minimum qualification required could be a professional degree in the concerned subject. It is difficult to get any person for a monthly salary of Rs.2,500/- with a professional degree in any of these subjects and therefore either the persons are not available or even if one is found he leaves as soon as another opportunity is available to him. This results in the disruption of work and therefore there is a need for revision of the norms on account of salaries of WDT members and Secretaries.

2.17 The committee has given careful consideration to these views. Quick turnover in the members of the WDT or the Secretaries of Watershed Associations results in the disruption of work and adds to the training cost because every person who is put in charge of watershed development programme has to be provided regular training. It is also not possible to get persons with such a meagre remuneration for doing any useful

work in such an important programme. Therefore, there is a need for revising the norms of salaries and honorarium, TA/DA etc., even if it leads to a revision in the administration cost from 10% to say, 15%. This would help in getting the right type of persons as it would also help in their retention till the programme is completed. It has to be borne in mind that the employment provided by the PIA in the implementation of programme is basically of a temporary and ad hoc nature and therefore, there will be a tendency on the part of the members of the staff to leave the job as soon as they get better opportunities; if the remuneration is too low it adds to the problem, and even if some members want to stay their monthly emoluments of Rs.2,500/- are too meagre to sustain their interest and commitment. There is, therefore, need for paying a higher salary to those persons. The committee is in full agreement with the need for paying suitably higher emoluments payable to persons engaged in watershed development programmes. However, in view of the enhanced cost proposed by us should be able to meet the expenditure on account of enhanced emoluments to members of WDT including the additional member. This would also meet the additional requirement of funds on account of the additional expenditure for the fifty year.

(b) Cost on Training

2.18 The guidelines provide for an expenditure of 5% on training of which 3% has to be spent during the first year, 1% in the second year and the remaining 1% in the third year. In the project covering an area of 5000 to 6000 hectares, the expenditure on training would come to around Rs.10 to Rs.12 lakhs per project spread over a period of three years. This would mean a very high level of expenditure. A suggestion has been

made that some amount from the training budget could be transferred to head administrative expenditure as the amount provided for this purpose is quite large.

2.19 We find that at the project level the persons who would require training are the Watershed Users, Watershed Secretaries, the Volunteers, the members of WDT, User Groups, Self-help Group etc., Initially training programme is for longer duration but subsequent training programme will be in the nature of refresher courses. We have identified a list of persons who have to be provided training – institutional and non-institutional – at the project level. This would mean an additional expenditure. In our view, the present provision of 5% would necessary to meet the cost of training on account of the additional persons to be provided training. It may also be stated that like cost on all other heads, the cost on account of training is also increasing. We are, therefore, not in favour of reducing the amount provided for training from the existing 5%.

c) The expenditure on Community Organization

2.20 The guidelines provide for an expenditure of 5% on community organization, out of which 4% has to be spent during the first year and 1% during the second year. This includes expenditure on awareness generation camps on social and economic issues important to the community. The self-help groups and user groups have to be constituted and a revolving fund of Rs.50,000/- which has been to Rs.1 lakh has to be established for giving financial assistance to the self-help groups for undertaking income generating activities. In a project of 10,000 to 12,000 ha. the amount available would be Rs.10 to

Rs.12 lakhs. In other words, an amount of about Rs.1 lakh would be available for each micro-watershed.

2.21 The suggestion made is that this amount could be reduced to 2-3% another view is that this amount may be used over a period of four years instead of limiting its use to only first two years.

2.22 We have considered the views expressed on this issue. We feel that the amount provided for Community Organization includes expenditure on entire point activities as also awareness generation programmes which are necessary for launching the watershed development programme in an area. The amount therefore has to be spent in the first year and there is no jurisdiction or necessity for planning expenditure in third or fourth year. The entry point activities are required to be undertaken to establish the credibility of the PIA and other organizations which are undertaking the programme. A change in this arrangement would shift the emphasis from awareness generation programmes and the need for organizing community to elsewhere. We are therefore not in favour of either changing the percentage of expenditure on this account or extending the period from two to four years.

(c) Revolving Fund

2.23 The provision of a Revolving Fund of Rs.50,000/- had been made to provide support to members of Self-help groups on their giving a matching contribution. This amount has recently been raised to Rs.1 lakh. A view has been expressed that the persons

owning land are able to get 90% of the expenditure as a subsidy, the landowners are required to contribute only 10% of the cost of interventions in the watershed development fund in the form of labour or cash contribution. The landless persons who would form part of the self-help groups are required to first generate sufficient funds before they are able to get any assistance from the Revolving Fund on a matching basis. This is a difficult job for the rural poor. Most of these persons are engaged in earning their livelihood from daily wages and are not in a position to generate savings to get any contribution from revolving fund. Further, the money taken by them from the revolving fund has to be paid back. This puts them in a disadvantageous position, vis-à-vis the land owners. In view of their precarious living condition, there is little hope that they will be able to generate enough funds to make any use of this arrangement.

2.24 The Committee finds that there is some merit in the view that unequal treatment is given to the disadvantaged groups in the matter of availability of benefits from the watershed development. The committee feels that an amount Rs.1,000/- should be made available to a Self-help Group without requiring any matching contribution, so that some income-generating activities can be started without the pre-condition of saving funds for this purpose.

(d) Cost on Works

2.25 In the present schematic budget, an amount of Rs.3200 per hectare is available to meet the cost of works after deducting the expenditure on administration, training and community organization. The ceiling was fixed quite a few years back and

there has been a demand from various quarters that this ceiling should be revised so that the development works do not suffer an account of inadequate provision.

2.26 We have been given to understand that this issue was raised in the Conference of State Secretaries of Wastelands Development held in April 97 and the State Governments were requested to give concrete proposals in this regard. We recommend that in view of the increase in the cost due to inflation there is a need for revising the cost of development per hectare. We had requested the central Soil and Water Conservation Research and Training Institute (CSWCRTI), Dehradun to work out the cost per hectare for watershed development. The institute has worked out Rs.6335 as cost per hectare for watershed having less than 8% slope and Rs.7380 as cost per hectare for watersheds having more than 8% slope. We understand that in the National Watershed Development Programme for Rainfed Areas (NWDPR), a similar arrangements exists for differential funding on the basis of the slopes. The cost per hectare worked out by the CSWCRTI includes the expenditure to be incurred on community organization, training, administration and work. The project period has been taken as five years, and provides for an additional women WDT.

2.27 We have considered the estimates prepared by the CSWCRTI. An important reason for the enhancement in the cost per hectare has been the continuing increase in minimum wages. This programme is labour intensive, and therefore, periodic increase in minimum wages adds to the cost of implementation. Then, there is increase in the cost of materials. If a sufficient provision is not made, important items of work especially

related to the development of common property resources are either neglected or given up. The improvement in the lot of rural poor, landless and women depends on the regeneration of common property resources as fuel, fodder, etc., become available from such areas. We, therefore, feel that the cost per hectare should be revised to Rs.6000 for watershed having less than 8% slope and Rs.7000 for watersheds having more than 8% slope.

f) Preparatory Time for Development of Community Organizations:

2.28 It has been stated that there should be adequate preparatory time for building community organization before the actual implementation of the programme could be taken up. Activities on community organization include organize Self-help groups and user groups, conducting participatory rural appraisal, exercises, awareness camps, exposure, visits etc., No specific time limit has been indicated within which these activities have to be completed. However, the overall time given for the planning and implementation of the project is around four years. Organizing the community is an essential pre-requisite of the watershed development programme under the guidelines and therefore this activity has to be done before any other activity relating to works could be taken up in a meaningful manner. It is therefore expected that this activity should as far as possible be completed in the first year of the programme so that the remaining period could be spent in the planning and implementation of the watershed development programme. What would be the time spent for each activity relating to the

organization of community has been left to the PIA and we feel that there is no need to indicate the time frame for this purpose.

Duration of Project

2.29 A watershed development project is required to be completed in a period of four years. The schedule for the release of funds including the breakup of the activities for these is given in Annexure – IV of the common guidelines of watershed development. These include the time required for building of the community organization and the preparation of the watershed plan, including training, participatory rural appraisal etc., it has been observed that the building of community organization takes a long time, especially in areas where the Government Departments are acting as PIAs. Even where the services of good NGOs are available, the interaction and establishment of rapport with the watershed development community takes time. There is always the usual pressure from Government agencies for taking of development works and meeting the target set up the expenditure. This tends to defeat the very purpose of taking up of participatory watershed development programme at the microwatershed level. During our interaction at various levels it has been noticed that a good micro-watershed development programme does not get completed in four years and invariably the period of implementation has to be extended. It has been urged before us that the period for completion of watershed development projects under the Guidelines should be extended keeping in view the requirements of awareness generation, building of community

organization, preparation of watershed development plan by the community participatory rural appraisal requirements etc.

2.29 The type of works required to be undertaken in the watershed development programmes are of low cost technology and are expected to be easily replicable by the village community. These works do not require a long time to complete once the watershed development plan has been prepared after due consultation with the village community. The time required for these implementation should not be long. It should ordinarily be possible for these activities to be completed within a period of four years time. However, looking to the time taken for building community organization, training etc., we feel that another year may be permissible so that any of these activities are not hurried only because of the need for meeting targets. We therefore, feel that the period for implementation of the project should be increased to five years without involving any additional administrative expenditure.

Inter-Departmental Coordination

2.31 It has been stated that the inter-departmental coordination should be brought clearly since various departments like Forest, Agriculture, Animal Husbandry etc., are implementing the programmes of similar types. The technical advice of these departments is required from time to time for proper planning and implementation of this programme. There is also a need for avoiding overlapping of similar programmes in the same area. Under the guidelines the watershed development programmes has to be

implemented under the overall supervision and guidance of the Zilla Parishads (ZPs) / District Rural Development Agencies (DRDAs). In fact, these institutions have been made responsible for the implementation of the guidelines. The various line departments work either under the district supervision of the ZPs or DRDAs or the heads of these organizations have in some way been made responsible for the coordination of the activities of various developmental programmes at the district level. It should not therefore be difficult to get technical advice and ensure proper coordination of the different programmes at the district level and for the selected watershed area.

2.32 A point has come to our notice that in a few projects, the responsibility for implementation of the various components has been entrusted to various line departments working in the watershed development area. For example in some cases, afforestation work has been entrusted to Forest Department, the Soil Conservation work has been entrusted to Agriculture or Soil Conservation Department, Water Conservation or building check dams to Minor irrigation or similar departments. The budget has been placed with these Departments who undertake this activity at their convenience without any integrated approach at the watershed level. There is hardly any scope for any involvement of community either in the preparation of watershed development plan or its implementation. We would like to make it clear that this approach of placing funds with the line departments for undertaking any component of the watershed development activity is not envisaged in the guidelines and therefore this has to be stopped forthwith. What is required is that the programme has to be implemented by a PIA which could be one of the departments of the Government working in the district, but the department

which has been given the responsibility will also undertake the work in such a manner as to ensure coordinated inputs of the various departmental agencies, for integrated planning and implementation of the watershed development programme.

Use of Remote Sensing and Other Scientific Inputs

2.33 The National Remote Sensing Agency (NRSA) has already prepared the wastelands maps of 241 districts which are available with the District Collectors, Heads of Departments and the State Governments. The wastelands available in these districts have been clearly identified and have been shown in 13 categories. The NRSA has developed the technique for the preparation of Thematic Maps for watershed development giving information on various inputs required for this purpose. The NRSA is also implementing Integrated Mission for Sustainable Development (IMSD) which involves preparation of detailed thematic maps for 174 districts covered under the DPAP blocks. The scientific inputs available from the NRSA can help in the preparation of suitable watershed development plans at the project level. At present the maps are available at a scale of 1:50,000 but cadastral level maps can be generated wherever the PIAs need them for proper planning of the area. These facilities would be valuable, and the committee recommends that these may be suitably used.

2.34 The watershed development plan has necessarily to take into account the need for maintaining the water balance for enhanced biomass productivity in any area. Scientific study of the water balance factors as well as soil capabilities help in the proper land use planning and could prevent degradation of land. These inputs are

not ordinarily available at the village level and even with the PIAs. The committee feels that these scientific inputs would be necessary in any watershed development programme in order to ensure sustainable use and management of natural resources in the area.

2.35 Watershed development programmes have been taken up by a number of Ministries/Departments and external funding agencies. The emphasis is on the development of micro-watersheds comprising an area of about 500 hectares. The watershed Atlas has been prepared by the All India Soil and Land Use Survey Organization at a scale of 1:1 million. The Atlas delineates the watershed upto to the watershed level which does not go below that. These watersheds have been suitably codified. There is a need to develop a uniform system of codification of micro-watersheds. Some states have already taken the initiative, but most States have yet to make a beginning. The committee recommends that the Central Government should take up the codification of micro-watersheds. This codification of micro-watersheds will provide a valuable database and also help to avoid duplication and overlapping of investments by different agencies. It should be possible to computerize this information, which should be available to all user agencies indicating what work has been done and by which agency. This additional information could be updated from time to time after the basic codification work is completed.

2.36 There is a provision of basic surveys in Para 69 of the Guidelines. It has been observed that these surveys are not carried out before starting the work in any watershed

area. We recommend that the basic surveys should be made compulsory for every marked watershed which is taken up for development. This work should be completed before Participatory Rural Appraisal Exercises begin and watershed development plans are prepared and finalized. Further instalments for PRAs should only be given after this survey has been completed.

ACTION PLAN

2.37 The Guidelines, in paras 86 to 90 provide for preparation of a watershed development plan for watershed area. Each User Group is required to prepare an Action Plan in consultation with, and under the guidance of the members of the WDT and the Watershed Committee. On the basis of these Action Plans, an integrated Watershed Development Plan is to be prepared by the W.C. which in turn, is submitted to the Watershed Association.

2.38 There is no mention in the Guidelines about the manner in which the watershed development plan would be approved by the watershed association and then will be sent to Zila Parishad/DRDA for its final approval. The impression that one gathers, after reading the relevant paragraphs, is that the integrated Watershed Development Plan submitted by the WC would get the clearance from the watershed Association and will go to the DRDA/Zila Parishad for approval without any formal discussion or approval at that level.

2.39 It has been urged before us that there is a need to discuss the Plan in the Watershed Association so that all the members of the Association have an opportunity to express their views which could be incorporated in the Plan. We find that there is merit in this suggestion. We, therefore recommend that the Watershed Development Plan, before it is sent to DRDA/ZP for approval, should be discussed in the meeting of the watershed association. The members of the WDT and watershed committee should give due publicity to the Plan and then explain to the members of the watershed association should be duly considered and discussed and a view could be taken on each suggestion given in the meeting. After a final view is taken on each suggestion the accepted suggestion may be incorporated in the plan and then it should get the clearance of the watershed association. Differences of opinion should be sorted out in the meeting itself so that there is no cause of resentment for any individual or group and the works approved under the Plan give full support of the watershed community.

RELEASE OF FUNDS

2.40 The Guidelines provide in para 92-94 about the agencies to which the funds will be released for implementation of the programme. The Central Government releases funds directly to DRDAs/Zilla Parishads. DRDA/Zilla Parishad in turn makes available the funds to the Project Implementing Agency (PIA) in so far as these relate to administrative cost, training and community organization. The funds relating to works are released directly to the watershed project account on the watershed committee.

2.41 It has been urged before us that the Central Government releases huge accounts of money on account of the works component to the Watershed Committee but the basic responsibility and accountability for these funds continues to be with the DRDA and the project Implementing Agency. It has been suggested that the watershed committee may be released funds gradually in keeping with the pace of the implementation of works programme so that large funds are not allowed to remain with the watershed committee. We have considered this suggestion and endorse it. We recommend that the DRDAs/Zila Parishad may release the fund to the watershed committee in suitable instalments keeping in view the pace of implementation of the works. The DRDA/ZP will ensure that sufficient funds are always available with the WC for the implementation of the works programme and that at no point there is a stoppage of works only because the funds are not being released by the DRDA/ZP.

RESPONSIBILITY FOR THE EXECUTION OF WORKS

2.42 It has been stated before us that there are three basic organs involved in the planning and implementation of the watershed development programme at the micro-watershed development. These agencies are DRDA/ZP, Project implementing Agency (PIA), and the Watershed Committee. There is no clear cut demarcation of responsibilities in the matter of execution of works, thus creating some confusion.

2.43 A perusal of the Guidelines shows that the PIA has been given the entire responsibility for the execution of the project. The responsibility for overall supervision rests with the ZP/DRDAs. At the same time, it has been stated in the guidelines that the

user groups and the watershed committee will take up the execution of works. There is therefore, a need to clearly delineate the responsibility of the PIA, and the watershed committee in the matter of execution of works. Possibly a view could be taken that the WC may be entrusted with the responsibility for execution and supervision of works wherever outside agencies are not involved. However, where the execution of works requires the services of an outside agency, the responsibility for the direct supervision should be that of a PIA and the DRDA/ZP.

3. Review of existing training arrangements for watershed development

The watershed development programmes are implemented mainly by the Department of Agriculture and Cooperation in the Ministry of Agriculture and by the Department of Rural Employment and Poverty Alleviation, and the Department of Wastelands Development in the Ministry of Rural Areas and Employment. There are few other programmes in which the watershed approach has been adopted but these are small and therefore, the training components of these programmes are specific to the projects. The major programmes under implementation are the National Watershed Development Programme in the Rainfed Areas (NWDPR), and the watershed development programmes under the Common Guidelines for the implementation of DPAP, DDP, IWDP and the watershed component of EAS. A review of the training arrangements made under these programmes will give an idea of the status of training.

Training programme under NWDPR

3.02 The department of Agriculture and Cooperation formulated a detailed training manual for giving training to Mitra Kisans and Soil Conservation Inspectors/Sub-Inspectors/Agricultural Development Officers for block and watershed levels. The training manual is known as WARASA-7 published in 1994. The manual identifies the weakness in the implementation of the programme as follows:

- i) General lack of basic understanding by project implementing agencies at various levels about the project concepts, programme measures and overall strategies for rainfed farming systems, clearly underlined in the WARASA guidelines of NWDPR.
- ii) Valuable human resource in rainfed/watershed areas, especially the small and marginal farmers, landless labourers farm women, etc., have not been fully engaged in the mainstream of development by way of voluntary participation, shared concern and protection of common interests through training and demonstration and providing proper incentives.
- iii) The creation of vital social engineering links through self-help thrift group formation and community participation for looking into the possibility of development and maintenance of assets, mobilization of local resources (inclusive of biodiversity) and sharing of benefits from such activities as household production and management of common property resources (viz., Community pond, pasture, woodlot, etc.) have not been paid adequate during implementation of the project.

3.03 The manual envisaged a two-day intensive orientation course for the district level subject matter specialists on the project, strategy and various programme measures of NWDPR. The course could also be attended by State level subject matter specialists, nodal officers and staff attached to the State Level implementation cell of NWDPR. The two-day training programme would by and large include all the subjects on which training is required to be given to the project level functionaries. This programme is to

be followed by a six day training course for the Mitra Kisans, Soil Conservation Inspector/Sub Inspectors and Agricultural Development Officers at block/watershed level. It was envisaged in the manual that the training programme will be completed in 367 districts and about 2500 micro-watersheds in the country in a continuous but phased manner by December 1995. According to information made available by DAOC, 2223 project functionaries at State and district level have been trained under the two-day programme. Further, 20,000 field functionaries and MKM members have been given training under the 6-day training programme. After the initial massive programme, this training is now conducted between January and December every year. The detailed content/talking points about those programmes have been worked out and are given in the manual. The syllabus including the day-to-day programme is given at Annexure-I

3.04 In addition to the above, institutional training programmes for Self-help Groups and Gopals have been organized. Hamletwise and vocationwise trainings of self-help groups in group dynamics, technology, literacy, skill development etc., are conducted regularly under these programmes, according to DOAC. The NWDPR has introduced the concept of Gopal who is a trained paravet and is required to look into the livestock development component in a village. He is given three months training in Animal Husbandry in a veterinary institution. He is expected to acquire expertise in nutrition, castration and some preliminary knowledge and practices of animal health care. The villagers interested in household production activities are also sent to different institutions for gaining professional skills.

3.05 A three day course is organized at the district level for potential and willing Mahila Mitra Krishaks and women self help groups every month. The participants are trained in group dynamics, household production activities, agriculture, processing, food preservation, operational and accounting aspects. In addition, the Mahila Mitra Krishaks are also trained in marketing of products made by self help groups. These trained women, in turn train the other members of their groups once in every week to enable them to actively participate in various production, development and entrepreneurial ventures.

3.06 In the programme the people's participation is envisaged through the institution of Mitra Kisans, Mahila Mitra Kisans and the Gopal who by and large act as intermediates between the Government/project level functionaries and the village community. The department of Agriculture and Cooperation also has a system of institutional training for orientation on people's participation. Before taking any major project activity, a three day institutional training programme at Krishi Vigyan Kendras (KVKs), Farmers Training Centres and other training institutions for establishing contact between scientists and Mitra Kisans are organized twice a year before the rabi and Kharif seasons to reach micro-watershed. It is followed by revisits to the training centre for one day orientation-cum-feed back sessions, three times after the three day training session (once for sowing second time before harvesting and third time after harvesting). These trainings are regularly organized for the benefit and participation of Mitra Kisans and are meant to guide them on technology upgradation and farm management. This training serves as a

forerunner for ensuring active participation, proper sensitisation and provides conceptual clarity on various programme taken up under the project.

3.07 Non-Governmental Organizations (NGOs) are associated in undertaking the training programme for watershed development. The NGOs are also required to help in preparing the training materials for organizing farmers training. The Department also takes the help of an organization called Yuv Nirmal Located at Haridwar, Uttar Pradesh for stimulating and promoting people's participation so as to get the best results from the project. The agency has undertaken the responsibility to help organize, promote and initiate active participation of watershed community in the various programmes measures under NWDPRRA with the active cooperation of their volunteers and workers.

Training under the Watershed Development Programme implemented by CAPART

3.08 The Council for Advancement of People's Action and Rural Technology (CAPART) has been implementing the watershed development programme since 1995. It had issued detailed guidelines for water conservation and development programmes in November 1992. The training is an integral component of the project and 5% of the total cost of a project is permitted to be spent for this purpose. Training has to be provided to the watershed users, watershed secretaries and volunteers. A nodal cell has been established at CAPART Headquarter for coordinating and monitoring the watershed development programmes.

3.09 CAPART gives assistance for watershed development programme to Voluntary Agencies. It has divided the Voluntary Agencies in two categories – TRACK ‘A’ & TRACK ‘B’. Track ‘A’ Voluntary Agencies are those which have some experience in the implementation of the watershed development programme. Track ‘B’ Voluntary Agencies are those which have had experience in the community organization but have no experience in watershed development.

3.10 The standing committee of CAPART constituted a sub-committee for training which has submitted its report in 1996, a copy of the report is at Annexure – II. The sub-committee identified the target groups which could be provided training and the duration of the training and the course contents. It has also given some attention to the structure of the training units which could be entrusted with the training work.

3.11. The sub-committee has been of the view that the training has to be given at the PIA as well as at the village level. At the PIA level, all members of the PIA, members of the Water Conservation Team (WCT) and the local government officials have to be given training. At the village level, besides the awareness generation programme for the village community, training has been recommended for watershed development committee, user groups, self help groups, village watershed committee President, Secretary and Volunteers.

3.12 In regard to the training of WCT it has been envisaged that the WCT will be of two types – professionals having a degree in subject as prescribed in the guidelines, or Non-Professionals who have an experience of working in the village but do not have the technical or specialized knowledge. Two different guidelines for training have been recommended for professional WCT and the Non-professional WCT.

3.13 In the case of Professional WCT the training is to be provided in two parts – the first would consist of training on background of watershed scheme, familiarization of watershed through field visits community organization and participatory rural appraisal for planning and research, mapping treatment of the area, management and criteria of success. The duration of the training would be of 4 – 6 weeks depending on the subject and practical time required. The indicative syllabus is contained in at Annexure – II (a).

3.14 The specialized training would be in different subjects in accordance with the requirements of the area in which the PIA is working or is required by the PIA. This training would be of one week's duration and would be carried out only after gaining experience in implementation for three months. The specialized training will cover engineering, bio-mass (Agriculture, shrubs, grasses trees), community organizations (group dynamics, cost issues, gender issues ad sensitivity, conflict management, leadership, role of panchayat) communication and other special issues. The detailed syllabus has to be prepared by the institution itself.

3.15 In regard to the training content of Non professional WCT, the Committee has recommended that the duration of the training should be of 3 to 4 months. The indicative syllabus for training of Non professional WCT is given in Annexure – II(b).

3.16 In regard to the village level training, the committee has recommended that the training will be imparted by the PIA and the WCT. The training unit should be able to equip the PIA and the WCT with appropriate and relevant methodology for their training and orientation programme.

3.17 In regard to the orientation of the local governmental officials, the training objective will be achieved by associating them in the awareness generation programme, exposure visits and village meetings.

3.18 The Sub Committee has recommended that a training unit should have four full time trainers for training Professionals WCT members in the area of engineering, agriculture, social science/social work and plant science. If the same training unit has to provide training to Non Professional WCT, the training unit should have four additional trainers. In addition, a training programme would also require part time trainers or guest faculty to cover the subjects relating to Animal Husbandry, Ecology, Forestry, Hydrology, Communication, Economics, Geology and Soils.

3.19 CAPART has developed the concept of Support Voluntary Organizations (SVD). SVDs are selected from competent voluntary organizations which can be entrusted with

the responsibility of providing technical and managerial training liaison and trouble shooting support to voluntary organizations normally provided by the Government in the respective Departments. Financial assistance is provided by CAPART for this purpose. The role and function of these Support to Voluntary Organizations are given in the guidelines issued by CAPART on this subject.

3.20 CAPART has plans to assist at least one training unit in each state. So far, it has assisted the following six organizations namely:

1. People's Science Institute, Dehradun
2. AFARM, Pune
3. Development Support Centre, Ahmedabad
4. Agramee, Orissa
5. SPS, Dewas, MP
6. Peermade Development Society, Kerala

These organizations have also been given the responsibility of training the PIAs and the multi-disciplinary teams of other adjoining states also, till a suitable voluntary organization in the adjoining states is identified to take up the responsibility for training.

Training Programmes of ICAR on Watershed Management

3.21 The Indian Council of Agricultural Research (ICAR) initiated the watershed management projects in the late 70s after the success stories of Operational Research

projects at Sukhomajri (Haryana), Fakot (UP) and Chitradurga (Karnataka). Watershed management plans were developed for 47 model watersheds by the ICAR in the different States throughout the country. The ICAR Institutions provide specialized training in the field of Soil and Water Conservation and Watershed management. The prominent ICAR institutions working in this area are : Central Soil and Water Conservation Research and Training Institute (CSWCRTI), Dehradun, Central Research Institute for Dryland Agriculture (CRIDA), Hyderabad and Central Arid Zone Research institute (CAZRI), Jodhpur.

Central Soil & Water Conservation Research & Training Institute Dehradun

3.22 Central Soil and Water Conservation Research and Training Institute, Dehradun is the pioneering Institution in the country imparting training to the gazetted as well as non-gazetted officials of the State agencies right from its inception in 1954-55. The institute has a chain of regional centres in different agroclimatic zones of the country to cater to the needs of training of technical manpower of various state Governments and NGOs for implementing the Soil and water conservation programmes on watershed basis. Over the years, the Institute has been providing training to development functionaries under the RVP, DPAO, FPR, IWDP, NWDPR and Watershed Development.

3.23 The regular training programme of the Institute is of 5 ½ months duration and commences from 16th April and 8th October every year for the two batches. The training for the gazetted officers is imparted at the Headquarters in Dehradun and at the research

stations at Kota and Bellary. The graduate assistants are trained at the Ootacamund centre of the Institute and at DVC Hazaribagh. The institute has been coordinating the training programme at D.V.C. Hazaribagh till March 1994, after which it has got disassociated from the institute and is running its programme independently. In addition, the Institute also organizes tailor made short courses of varying duration from one to six weeks at the Hqrs. and the research centres depending upon the demand of the sponsoring agencies.

3.24 Till March, 1997, 2097 officers have been trained by the Institute with Dehradun as a leading centre (1883) followed by Bellary (149) and Kota (65) Annexure III shows the discipline wise participation in the gazetted officers regular courses. It also includes 41 foreign nationals sponsored by various international agencies. Similarly, the total number of graduate assistants trained in the regular courses conducted at Bellary, Kota, Ootacamund and DVC., Hazaribagh till March 1997 was 5264. Out of this, the maximum number of assistants were trained at Ootacamund (1603) followed by D.V.C. Hazaribagh (1588), Kota (1376) and Bellary (697). The disciplinewise break-up of the graduate assistants has been presented in Annexure IV.

3.25 Till March, 1997, 88 courses were organized at Dehradun and other research centres of the Institute which includes 67 courses for the officers and 21 courses for the assistants in which 1146 officers and 434 assistants participated. The institute organized three short courses of 18 days duration each for the officers of Rajiv Gandhi Mission, Government of Madhya Pradesh during 1996-97. Also a short course was sponsored by

the Government of Bihar during November 15-21, 1996 for the officers of Bihar Plateau Development project. The institute has been getting demands for organizing short courses from various state agencies including forest department, Andhra Pradesh and the department of rural areas and employment, Government of UP. The courses are designed to include the current changes in the concept of watershed management with greater emphasis on community organizations bio-physical aspects, PRA exercises village level institutions gender issues equity sustainability, development of common property resources and environmental issues. The courses are framed to cater to the specific needs of different states in view of the major soil and water conservation problems and the remedial measures being adopted along with socio-economic aspects.

Central Research Institute for Dryland Agriculture (CRIDA) Hyderabad

3.26 This institute of the ICAR is also playing a key role in training official of state agencies specifically in watershed management with specific emphasis on enhancing the productivity of drylands in the country, arrest soil erosion and improving the water resources. The training programmes at CRIDA started during 1978-79 and till Marh, 1997, 2717 personnel have been trained on different aspects of watershed management through 158 training courses. The yearwise break-up of the training programme is given in Annexure-V. the curriculum for the training course is prepared on the basis of needs of the client and the level of participation. The institute is well equipped for undertaking training programmes of various levels of officers involved in the watershed development programmes.

Training under Intergrated Mission for Sustainable Development (IMSD) by National Remote Sensing Agency (NRSA)

3.27 The Integrated Mission for Sustainable Development (IMSD) is a project sponsored by the Department of Space. The objective of the project is to address the needs of development of rural areas through application of remote sensing technology integrated with conventional methods. The information gathered through remote sensing and other sources indicates that large areas in the country are undergoing land degradation resulting in wastelands. Large quantities of top soil are being lost every year due to soil erosion rendering the lands unproductive. Due to indiscriminate use of groundwater, the water table is decreasing rapidly. It is in this background that a need was felt to approach the development of such degraded land resources through a systematic and scientific approach in a holistic manner using the methodology of integrating natural resources and socio-economic data. The IMSD project was conceived to meet this need. The project aims at generating site specific action plans for soils and water conservation, reclamation and degraded and under utilized lands and recommending alternate landuse plans for improving the level of productivity.

3.28 The technique employs the satellite from Indian Remote Sensing Satellites (IRS) from which information can be extracted various resources namely, land use/land cover, ground water prospect zones, soil resources, water bodies etc. The information on cultural aspects as well as topographic details derived from Survey of India toposheets, and socio-economic and climatic information of the region are then integrated using Geographic Information System (GIS). Ultimately the study generates site specific action

plans for soil and water conservation methods and optimal or alternate land use plan where the current land use practice needs change.

3.29 The action plan maps are finally prepared based on the recommendations emerging out of the discussions with the line department officials in the district, the local people and progressive farmers, extension workers, NGOs and various resource scientists. The action plan map indicates watershed boundaries upto 500 ha. in addition to administrative boundaries upto village level. Although the mapping is done on 1:50,000 scale for the convenience of understanding by local officials, cadastral boundaries are overlaid on the maps wherever required to enable action plans to be implemented on site specific basis.

3.30 The study was initially taken up in 1987 starting with 21 drought prone districts in the country. On the recommendations from Planning commission in 1991 the study was extended to another 153 DPAP, DDP and some problem districts a block or watershed to be taken on priority and to cover the entire district eventually. Additionally at the request of Ministry of Rural Areas and Employment (MRA&E) 92 blocks falling in one or the other 174 districts which were drought prone were also studied using IMSD methodology and completed during 1995-97. All the completed study reports and maps have been furnished to the District Collectors or Project Directors of DRDAs concerned. The balance work is expected to be completed by the middle of 1998.

3.31 The experience of using the IMSD action plans maps in implementation in some of the watersheds in Anantapur (AP) Dharmapuri (TN) Ahmednagar (Maharashtra), Bhiwani (Haryana) to name a few districts has shown after two years of implementation that there is an increase in the area of green cover rise in ground water table, reduction in the soil erosion and increase in the surface water bodies due to construction of check dam etc., Post implementation analysis of satellite data has enabled monitoring of positive changes in the watersheds.

3.32 It is proposed to digitize maps generated under IMSD in GIS format under the National Resources Information System (NRIS) programme of the Department of Space. This data base can be used by District Administrations for decision-making. IRS-IC PAN Images can be generated 1:12,500 scale. Overlaying cadastral boundaries on the large scale satellite data enables identification of each farm boundary on the image, rendering, implementation process easier.

3.33 Various theme maps under IMSD, namely land use/land cover soils, ground water prospects action plan maps etc., have been prepared by theme experts using remote sensing techniques. Training for the specialization is imparted at Indian of Remote Sensing (IIRS). Dehradun which is a training institute of NRSA/Department of Space. Courses of long duration of 10 months as well as short duration of 8 to 12 weeks in Remote Sensing, and GIS courses of 4 months are conducted at IIRS. Additionally training modules of 4 days duration for decision makers are also available. Training is also imparted at NRSA, Hyderabad for 10 weeks duration.

3.34 NRSA, Hyderabad is the focal organization for the IMSD project. However, this work is done not only at NRSA but also at Space Applications Centre (SAC) Ahmedabad and Regional Remote Sensing Service Centre (RRSSC) of Department of Space at Dehradun, Nagpur, Bangalore, Jodhpur and Kharagpur and at the States Remote Sensing Applications Centres which are located in almost every state. The experts in the State Centres were given orientation training at NRSA and other centres of Department of Space. These orientation courses are of short duration i.e. 2-3 days. All these institutions have necessary infrastructure for training.

3.35 For the purpose of using the IMSD maps for implementation there is a need for imparting training to various members of WDTs, PIAs, Was, WCs and also the members of NGOs who are active in this field. Training can be provided at State Remote Sensing Application Centres, and special courses can be conducted at district headquarters or at the SIRDS. NIRD can take a lead in this programme. This training should aim to explaining the basic advantages of using satellite imagery and along with action plan and other theme maps field identification and implementation of action plans can be done effectively. The cost involved on the training should be provided separately as the funds released for the watershed development may not be adequate.

Training for watershed development in the Area Development Programme under the Ministry of Rural Areas and Employment

3.36 The Hanumantha Rao Committee has emphasized the need for capability building for undertaking watershed development programmes. The committee reported that during the field visit it found that the concept of watershed development in the programme implementation – DPAP, DDP, was unknown in many States. As projects are required to be sanctioned on the basis of detailed plan prepared on watershed basis, the committee emphasized that training at various levels for the preparation of watershed plans would be a critical input for the successful implementation of the programme. The ministry of rural development (now Ministry of Rural Areas and Employment) has to play a pivotal role in organizing such training by way of selecting the appropriate institutions, funding, development of course modules, and monitoring. The committee further stated that the MANAGE, NIRD and some other voluntary agencies as also the ICAR institutions may be used for this purpose.

3.37 The Guidelines for watershed Development under which the Area Development Programmes of DPAP,, DDP, IWDP and the watershed component of EAS are implemented provide for capability building at various levels for the successful implementation of the programme. An amount of 5% of the total project cost as indicated in the schematic budget has necessarily to be spent on training. These funds cannot be diverted for any other activity. This clearly shows the intention of the Government to ensure proper training for all the functionaries : Watershed Users,

Watershed Secretaries and the volunteers. The watershed users have to be imparted training in the technical aspects of insitu soil and moisture conservation techniques, operation and maintenance of community / individual civil works, agriculture/horticulture/social forestry/plantation techniques raising community/individual nurseries, dairy and livestock management fodder and pasture management, pisciculture, and other land uses etc., For the paid staff the training should include, in addition to the items indicated above, record and conduct of meetings, administration and accounting procedures etc.,

3.38 An important components of the training programme under the watershed development is the Training of Trainers (TOT) who could take up the training programme for different level of functionaries. The MANAGE was identified by the Ministry of Rural Development as the Resource Centre for Organizing Trainers Training programme. The institution was further required to produce trainers Training Manual which could be useful for conducting training of members of WDT at the State Institutes of Rural Development (SIRD). It was envisaged that the expenditure on the Training of Trainers programme and the production of training manuals would be borne by the Ministry of Rural Development.

3.39 In accordance with the instruction given to the guidelines prepared, a manual for the training of WDT has been prepared by the MANAGE. The manual gives the programme objectives and structure, day wise programme and the details of the session guide. The entire programme has to be conducted in 34 sessions spread over four weeks.

Though the training manual has been prepared for the training of WDT by the SIRD little use seems to have been made of this manual by these institutions for this purpose.

3.40 MANAGE was entrusted with the task of conducting courses for participatory watershed development for the Project Directors/Collectors of the Districts and also for trainers. The programme is reported to be successful initially with the require number of participants reporting for the Trainers Training and the Project Directors/Collectors Training Programmes. These programmes were conducted at selected places in different States in the Country. But after initial attendance, the response from the State Government declined. Either the concerned persons did not report or persons who were not in any way connected with watershed development were sent as substitutes for attending the training course, leading to a situation where the programme did not achieve the desired objective. Of the 12 courses to be organized for the District Collectors/Project Directors of DRDA's only 6 could be organized. In each course, 24 persons were expected to participate and therefore, it was expected that 144 persons would be trained for a period of two weeks under the programme. Only 49 participants for training indicating the participation of less than 39%.

3.41 The programme for the trainers was decentralized and was organized in different centres. In some centres, the programme was exclusively for the trainers of the State as in Rajasthan, Andhra Pradesh and Tamil Nadu, while in some other centres, the trainers from two or more States were invited for the training. The training was to be for a period of four weeks and the total number of participants required to be trained were 377. Of

these only 315 attended. These were nominated by the State Governments but whether any identification of the training institution for the training of WDT was done before nominating the trainers for training is not clear.

3.42 The programme for Project Directors, DRDA/District Collectors was given up because of the poor response as also due to the fact that in many cases, the collectors/Project Directors sent a second or third level officer for the training who had little to do with the actual watershed development programme. In the case of the trainers training, the response was certainly much better because firstly, the training was organized in different institutions spread over all over the country and secondly the institution in which the trainers were trained had an interest in ensuring the success of the programme, as ultimately these institutions were likely to be given the basic responsibility for training under the programme at the State level.

3.43 According to information made available by NIRD, 18 SIRDs out of 23 conducted programmes on watershed development from their existing faculty and infrastructure. Most of these programmes were of a general nature. A list of course conducted by the SIRDs is given at Annexure – VI. The programmes for training of WDTs were organized only in Assam, Andhra Praesh, Haryana and West Bengal, according to this information.

3.44 Despite the initial efforts made for the training of the district level officers responsible for the watershed development programme and creating a core group of

trainers at the State Level for imparting training, nothing further seems to have happened. No programmes were later organized, nor any effort in this direction was made, though it was expected that the State Governments would take care of the training needs of those involved in the watershed development programme.

Review of status of training for Watershed Development under the Common Guidelines

3.45 The watershed development programme has been under implementation for more than two years. It was expected that the programme would get stabilized and the guidelines formulated for the implementation of the programme will be well understood at the project level, district level and the state level. While in the few states, the guidelines are understood and every effort is made to translate them into practice, at the same there are projects and districts where there is a complete lack of awareness of the programme at the project and official level.

3.46 The committee sought information from the State Government on the arrangements of training made for the project level and district level functionaries on the watershed development programme. Information was also sought about the duration of the training, the institutions which are involved in the training and the frequency of training. Only 12 states have responded and the position indicated by them has been given at Annexure – VII. There is no arrangement for training of Chairman or Project Directors in a few states. However, some arrangements have been made for the training at the state level institutions or National Institute for Rural Development or MANAGE.

In Andhra Pradesh, Gujarat and Rajasthan, it is for a period of three to four weeks while in West Bengal, Tamilnadu and Nagaland, it is for a period of 15 days. In West Bengal it is divided into two parts. In the first part training is imparted for 10-12 days. Another course is organized for three to four days as a refresher course. In all other places it is for a period of 3-5 days except in Madhya Praesh where the frequency of the training is 3-4 times. In regard to the other project level functionary/members including members of watershed development committees, User Groups and Self-Help Groups the position differs from State to State and there is no system for providing organized training in watershed development.

3.47 Training is an important competent of the watershed development programme and there is a need for developing a system for organizing training for different level of functionaries. There has to be a clarity about the functionaries at the project. District or the State level who require the training the duration and frequency of training for each level of functionary and the institutions where these people could be given training. Once a project is sanctioned, the project implementation agency (PIA) should know what are the various tasks to be done in the matter of training and which institution has to be approached for this purpose. These requires detailed guidelines which needs to be prepared at the state level for this purpose. Since the implementation of the programme on the basis of the common guidelines is not confident merely to IWDP and has to be followed in the other area development programmes of the Ministry, the preparation of suitable guidelines / instructions giving details on these issues would help greatly in ensuring that proper inputs are available.

Another problem which arises in this area is that in some states, there have been frequent changes in the officials and every new person has to be trained and given orientation about the programme. There would be a need for developing the incumbent.

4. Identification of Trainees & training modules

The watershed development programme envisages an integrated approach in the development of land and water resources in an area. A number of local level government officials belonging to different functional departments are required to help in devising watershed specific programmes for implementation. Invariably, the strategy is dependent on supportive action from related departments. In the absence of such a multidisciplinary approach, mere technical interventions do not lead to a sustained regeneration of natural resources. For example soil conservation programmes, vegetation programmes and water management strategy are all inter-dependent. The community requires not only sustainable and economically viable soil and water conservation measures but also increase in farm production and availability of fuel wood, fodder, small timber, etc., and drinking water. Every department has its own programme of development and funds are provided in its budget to support them. But there are hardly any interaction with the other concerned departments which are required to develop supportive programmes in the area of watershed development. The watershed development programme envisages simultaneous action by various departments in the project area for planning and implementation of land and water related programmes as a part of a common strategy. This is not an easy task and therefore, training of officials is required for bringing out attitudinal changes and skill upgradation based on area-specific agro-climatic conditions endowment the condition of the resources etc.,

4.02 Watershed community is an integral part of the programme. Without the support of every member of the community man and women, no sustainable regeneration of natural resources is possible. The interest of the community has to be generated not merely as immediate or ultimate beneficiary, but as one whose fate is intrinsically linked to the ability of the land and its environment to support them. The leadership of the community can play a crucial role if it is suitably communicated to them that it is not one of the routine programmes in which the departments are required to spend money on projects prepared elsewhere but has to be suitably used in the programmes devised by the community. Once it is designed by the community as its own programme and has general acceptance, the chances of sustainability increase during the past project period. Training of members of the community on different aspects of the programme is therefore, essential.

4.03 The guidelines formulated for this programme did pay some attention to the aspect of training and indicated that the watershed users, watershed secretary and volunteers of project have to be given training. Further, it was indicated that the members of the watershed Development Team have to be given four weeks training as soon as possible after they are appointed. The training should consist of four modules of one week each. The first module could be on the watershed treatment technologies and alternate land uses with emphasis on low cost structure vegetative barriers farmers innovations and production technologies. The second module may be on Participatory Rural Appraisal Methods and Community Organization Techniques, group behaviour and convergence of services. The third module could be on project management tools and

techniques such as work breakdown structures and activity analysis, PERT CPM coordination negotiations and time management etc., the fourth module could be on administration of various Rural Development programmes, Zila Parishad/DRDA administrative and accounting procedures, engineering works, measurement and recording procedures, inspection and audit, computerization and report writing etc.,

4.04 It was expected that each State Government would organise training programmes of one month's duration for 25 to 30 participants during 1994-95. The State Institutes of Rural Development were expected to play the role of nodal agency but other State level training institutions, agricultural Universities, important NGOs were executed to provide support and run these training programmes. The guidelines provided flexibility in organizing these programmes as these could be organized on-campus or off-campus with guest faculty. However the training institutions were expected to select guest faculty from persons who had requisite experience in watershed development programme. The training was to be participatory and interactive with the people of the project area.

4.05.1 Detailed instructions about the trainer's training have also been given in the Guidelines. The initial programmes for the Trainers' Training were to be organized by the MANAGE.

4.06 It would be seen that the guidelines have provided for the training of the Watershed Secretaries, the Watershed Users, the Volunteers and the Watershed Development Team(WDT) as a focal point for training at the project level. The trainer's

training programme is oriented towards the training at the project level. The trainer's training Programme is oriented towards the training of Watershed Development Team. A detailed training manual has been prepared by the MANAGE for the training of WDT. However, the other functionaries closely involved in the watershed development programme have not been identified nor any guidelines have been provided for their training. The watershed development programme is multi-disciplinary, and, therefore, has to get support of the Government officers down the line for guidelines in the implementation of the programme.

4.07 A number of suggestions were received by the committee on the issue of training in general in the papers sent to it. A few papers presented in the Workshop on Training have addressed themselves to the identification of persons who need to be trained. This issue was also discussed in the Workshop on Training for Watershed Development under the Common Guidelines, and a group was constituted to discuss this specific subject. The committee has been of the view that before designing any programme for training it is essential that the persons who need to be trained have to be identified so that suitable programmes could be evolved for different types of functionaries associated with the programme. Based on the various suggestions received on this subject, the committee has come to the view that the personnel who require training can be divided into four groups, keeping in view the level at which they have to operate, and the roles and responsibility assigned to them in the watershed community.

(1) Micro-Watershed.

4.08 A watershed is a geo-hydrological unit or an area that drains at a common point. A micro watershed of approximately 500 hectares is to be identified and selected for the purpose of development under the Common Guidelines. It may comprise a village or a part of a village, and in rare cases, it may extend beyond the boundaries of a village or of a gram panchayat of the area. Accordingly, at the micro-watershed level training may be imparted to the following.

(a) Members of Gram Panchayat

4.09 The Gram Panchayat has been assigned an important role in the watershed development programme. At the time of selection of a village, the Gram Panchayat has to undertake, by passing a resolution, that it will take over, operate and maintain the physical assets created under the watershed development programme. Further, it has to ensure that the benefits from common property resources like fisheries, tanks, common pasture lands, community forests/ development under the project would be shared with the weaker sections of society like SCs/STs, women and other persons below the poverty line. Further, it has to be fully involved in the implementation of the programme specially community organization. It can use its administrative authority and financial resources to ensure equitable sharing of benefits and management of assets. It can also ensure that funds made available from other developmental programme are used to supplement and complement the watershed development programme. It has also been given the power and responsibility to maintain and review the programme to see that the

prescribed norms are strictly adhered to by the watershed association and watershed committee. The Gram Panchayat may also undertake the implementation of a cluster of watershed projects as project as project implementation Agency (PIA).

4.10 In view of the above, it is necessary to give training to members of the Gram panchayat. This training may concentrate on issues relating to land degradation –under cultivation or lying fallow / barren- the need for regeneration and proper management of the natural resources for improving, productivity and sustainability. They have also to be trained on equity issues and share in of the usufructs from the management of village common lands.. the need for building up village level institutions for ensuring sustainability has to be highlighted and issue relating to community organization, conflict resolution and interdependence of various groups and persons have to be emphasized. As Gram Panchayat are required to review and monitor the programme, the panchayat members may also be given an idea of the parameters which should form the basis of review and monitoring.

4.11 The training could be for a duration of three days and could be given in an institution so that it has a proper focus. The module of training could be developed on the following lines:

- Why watershed development
- Needs and Rationale of watershed
- Interdependence of PPR and CPRs Management
- How one person's activity may affect others
- Land degradation

- Soil and Water Conservation
- Natural Resources Management
- Management of Common Property Resource including village common land, ponds, streams etc.
- Community Organisation
 - Formation of Groups
 - Interdependence of watershed community
 - Conflict resolution
- Sustainability – need for and manner
- Equity issues
- Involvement of women
- Control and Regulation of Grazing and Social Fencing
- Parameters for review and monitoring
- Need for convergence of other development programme with watershed development programme

(b) Village Level Government Functionaries

4.12 All village level governments functionaries wield considerable power and prestige in the area of their operations, and could mould opinion as they have day-to-day contact and interaction with the members of the community. They can, therefore, be helpful in organizing the village-level informal groups and institutions. If a village level officer is ignored or is not involved in the development programme, whether it falls in the sphere of his functional responsibility or not, he can cause a great set-back to the entire programme. In particular, the Patwari, the Gram Sevak, Secretary to Gram Panchayat, he Anganwadi worker, the School Teacher, the Samiti Sewek , the Forest Guard etc., can be useful in building a congenial environment for taking up the programme. The

Anganwadi worker would be useful in organizing women and getting their support for the programme. These functionaries could be given a broad idea of the watershed development programme, the need for community organization and conflict resolution and the role that they have can play in making the programme a success. The idea is to sensitise these person and enlist their support. A one day workshop at the Block headquarters to discuss the various issues and components of the prgramme would be useful. It can be organised by DRDA/PIAs with the support of concerned district official.

The workshop may cover the following issues:

- Sensitisation to enlist their support/involvement in watershed development
- Concept and importance of Watershed Development Programme
- Support for community organisation, foramtion of Group and Village level institutions

(c) User Groups

4.13 The User Groups generally comprise of different categories of farmers affected by the work/activity taken up under the watershed development programme. These may also be formed of persons dependent on common property resources, or from persons likely to be adversely affected by the developmental progamme or o person who would be working as labour in the works taken up. These groups have to be made familiar with the concept of watershed development and the benefits that would accrue to them in terms of productivity and sustainability. For example, issues like need for maintaining a proper soil moisture balance by adopting suitable cropping patterns could be highlighted, as this would ensure availability of moisture in the soil during subnormal years. As

economic and social interests of various user groups may not be in harmony, the need for conflict resolution has to be emphasized to get the maximum benefits from the programme. The need for developing common property resources, their upkeep and maintenance, and a system of sharing especially with persons belonging to economically weaker sections, has to be driven home. Issues relating to grazing, improved cattle etc. could be highlighted in this programme.

4.14 The programme could be of a duration of a few hours, and the training cum interaction could be organized at a time when the day-to-day farm activities are over. These programme could be held once in a week or fortnight and may be repeated as many number of times as may be necessary. The training material including projections, VCPs, Video and Audio devices etc. could be provided from the nearby training institutions for this purpose. The subjects which could be discussed are listed below.

- Land Degradation – various aspects
- Concept of Watershed Development
- Need for integrated approach
- Interdependence of the Land use with Natural Resource Generation and Productivity
- Management of CPR including village common land, common ponds, stream and rivulets
- Soil and Water conservation measures including need for maintaining moisture balance
- Optimal land use planning
- Grazing and Social Fencing
- Animal Husbandry and Pasture Development

- Integrated Approach
- Community Organisation and Development of Village Level institutions
- Cropping intensity and Cropping pattern
- Horticulture, Farm Forestry
- Sharing of benefits

(d) Self-Help Groups

4.15 Self-Help Groups (SHGs) are required to be organized either on the basis of activity/purpose or a common interest. Necessary support to the various artisan classes is provided by the WDT from a revolving fund created for this purpose.

4.16 Since land is scarce and any regeneration will not carry direct benefit to the non-land owning class, the emphasis in the training should be for equipping the various groups for taking up any non-farm activity for which they have natural inclination skills. These activities could be supported from the scheme of the Development of women and children in Rural Areas (DWACRA), Integrated Rural Development Programme (IRDP), Training of Rural Youth for Self-Employment (TRYSEM) a also from the watershed development programme. The need for maintaining common property resources, prevention of grazing and sharing of usufructs from the common lands and other resources could be emphasized and their role in maintaining village ecology and environment could be highlighted. The training should emphasize that SHGs are an integral part of the watershed community and stand to benefit by the watershed development programme in terms of regeneration of natural resources, sharing of

usufructs and the financial support and the benefit they derive from the revolving fund and other programmes.

4.17 The programme could be organized in the village for a few hours once in a fortnight. The members of WDT/PIA can organize and discuss issues related to the Group.

- Thrift and Saving
- Skill upgradation
- Marketing and linkages
- Dependence and sustenance on watershed development for fuel and fodder, and for agricultural raw material for agro-based activities.

(e) Women

4.18 Women can be great source for changing opinion and developing support for the watershed development programme. There is, therefore, a need to organize them and provide them training for undertaking activities on their own. The training to women should as far as possible be imparted by a women member of WDT, a women member of PIA of a Government Department/training institution. Training should focus on the problems faced by them due to degradation of land and consequential degradation of the natural resource endowment resulting in paucity of drinking water facilities, availability of fodder and fuel for their daily use. The concept of watershed development should be explained to them stating that if properly implemented, it would lead to availability of greater amount of ground and surface water, regeneration of natural resources, availability of fodder and fuel, drinking water, etc. They may also be trained in non-farm

related activities like nursery raising and watershed related activities which would not require large investment but may lead to income generation for them.

4.19 The training programme could be organized at a time when women are free from household chores, and are in a position to attend it. It could be for a few hours once every fortnight. The subjects for discussion could be as follows:

- Concept of Watershed Development
- Watershed Development can help in increased availability of fuel, fodder and drinking water
- Animal Husbandry, and utility of using animal waste for developing secondary source of energy.
- Skill upgradation
- Income generation activities
- Convergence of other women development programme
- Community Organisation and development of Women's groups

(f) Watershed Association

4.20 The guidelines provide that a Watershed Association would ordinarily consist of the members of the Gram Sabha in a Gram Panchayat area but there may be cases where the area of a watershed may extend beyond the limits of a Gram Panchayat or fall in the administrative boundary of more than one Gram Panchayat. In such a case, Watershed Association has to be registered. The provision for training for the User Groups, SHGs, Women and members of the panchayat should be ordinarily cover almost all the members of the watershed community. But there is a need to bring different interest groups at a

forum in the form of members of watershed association or gram sabha and have interactions with them on various aspects of the watershed programme. This forum will also provide opportunity to members of the community to air their views freely. Different interest groups put up their ideas and resolve them in the interest of the community. Video films and other audio-visual material could be used to give an idea of the benefits that would accrue from such a programme. The training programme could be for a few hours and could be repeated under the general supervision of the members of the PIA and WDT. The topics which could be taken up, may be as follows:

- Concept of Watershed Development Organisation
- Need for regeneration of Natural Resources
- Interdependence of watershed community
- Need for community organisation and development of village institutions
- Management of Common Pool Resource
- Prevention of Grazing and Social Fencing
- Animal Husbandry Programme
- Soil and Water Conservation
- Need for making contribution to WDF for maintenance
- Need for paying for usufructs derived from Common Pool Resource
- Various types of technical infrastructure required for soil and water conservation and vegetation
- Need for maintaining moisture balance, and developing area specific cropping pattern, horticulture and pasture development
- Need for providing for resource poor and disadvantaged section of society.

(g) Members of the Watershed Committee

4.21 A watershed committee consists of 10 to 12 members nominated by the watershed Association from the User Groups, the SHG, the Gram Panchayat and the members of

WDT. There is a provision for nomination from the representatives of women, scheduled castes, scheduled tribes etc. The Watershed Committee has to play a key role in the planning and implementation of the watershed development in a micro-watershed. There is therefore, a need to give wider exposure to different aspects of the watershed development programme to the members of the community so that they can appreciate the integral nature of different interventions and guide the watershed community in adopting them. These members may be given training on different aspects of the programme for two days at a time. The training could be repeated after a few months so that they are able to absorb it. The training should, as far as possible, be issue related and should address to the issue which is pertinent at the stage of development of the programme. Members should also be exposed to administration accounts and financial management. The topics which could be taken for discussion may be as follows:

- All points listed for training for members of WA, and in, addition,
 - Administration
 - Finance and Accounts.

(h) Watershed Secretary

4.22 The Watershed Secretary is a full time paid employee of the watershed association. He is required to work under the Chairman, Watershed Committee. He is responsible for day-to-day administrative work, maintenance of accounts and coordinating the activities of volunteers. He is required to record the proceedings.

4.23 The watershed Secretary is a key functionary in the micro-watershed area. He should have a very good knowledge of various components of the programme of watershed development, in addition to acquiring a degree of professional expertise in the area of his responsibility. He could be given professional training for two weeks – one week could be devoted to accounts and administration and the other week could be devoted to technical aspects of watershed and natural resources management. Since he is required to be from the watershed area, he would be useful for project maintenance. The training may cover the following topics:

- Administration
- Finance and Accounts
- Maintenance of records and proceedings of WA and WC
- All other aspects of training of members of WDT

(2) Project Level

4.24 At the project level the following categories of persons / institutions need to be provided training.

(a) Project Implementing Agency

4.25 In the Guidelines, a project has to be implemented by a Project Implementing Agency. The PIA could take up the development project of 10 to 12 watershed covering an area of 5000 to 6000 hectares. PIA could be a voluntary agency, (VA), a University, an Agricultural Research & Training Institution, a Cooperative Society, Bank, Public

and Private Commercial Organization, Panchayati Raj Institution or a Government Department. It is expected that the PIAs would be good in motivating the gram panchayat to pass the necessary resolutions as envisaged in Para-25 of the Guidelines, conduct Participatory Rural Appraisal exercises for preparation of development plan for each watershed, undertake community organization and training for village community, provide technical guidance and supervision of watershed development activities, manage project implementation, inspect and authenticate project accounts, build on indigenous technical knowledge etc., There is no provision for the training of the members of PIAs it is assumed that the PIA would have the requisite experience in this area.

4.26 The Committee feels that as a PIA could be from any background, it cannot be expected that the members would be well versed in different aspects of technical, administrative, financial and social aspects of watershed development programmes especially about the mutual interdependence of different types of interventions and the need for integrated approach. Each institution or agency has the functional expertise in the area of operation but generally lacks it in other area which are crucial for watershed development programme. A PIA has also to build up community organization and village level institutions. Even if one is able to identify a good PIA, it is too much to expect that it will have the requisite expertise in the watershed programme, in addition to its ability to mobilize the community. The committee, therefore recommends that members of the PIA, should be given training in watershed development programme in general and also on the technical aspects of the programme. This programme could be of

a weeks duration and could be in an institution where focus may be given to all these aspects. The following subjects may be covered in the training programme.

- Concept of Watershed Development
- Need for Natural Resource Management
- Community organization
- Formation of User/Self Help Group
- Development of Village Level Institutions
- Coordination with Panchayati Raj Institution
- Technical aspects of Watershed Development
- Development of Watershed Development Plan
- Participatory Rural Appraisal Exercise
- Management of Common Pool Resources
- Sustainability
- Equity Issues
- Involvement of Women
- Monitoring
- Finance and Accounts
- Role of Panchayati Raj Institutions.

(b) Watershed Development Team (WDT)

4.27 Members of WDT are the key functionaries on the planning and implementation of the programme. They have to provide guidance to the community on different aspects of the programmes. The Guidelines provide for a four week training for the WDT. State level institutions could impart this training to the members of the team. MANAGE has developed a detailed manual on the subject of training for WDT. In our view a programme of four week duration is a bit too long and does not sustain the interest of participants. It could be reduced to three weeks and may cover all aspects of training for integrated wastelands development. Apart from the training module designed by MANAGE, the following topics may also be added.

- In addition to the subjects, indicated in the Manual prepared by MANAGE, the following subjects may be included.
- Sustainability Issues
- Programmes for Self-Help Groups
- Management of Common Pool Resources and sharing of usufructs.
- Equity issues
- Role of Panchayati Raj Institutions
- Role of Remote Sensing and other Scientific Inputs for Watershed Planning

The success of the programme depends, to a great extent, on the management and technical ability of the members of WDT. It is therefore, recommended that members of the WDT be sent for a refresher course of a duration of one week once in a year for updating their knowledge.

(3) Block and District Level Functionaries

(a) Block and District Level Officers

4.28 The watershed development programme is implemented along with many other programmes of the State/Central Government in different areas from the regular budget. A number of line departments are implementing them at the district and block level. Most programmes implemented in the rural area have a bearing on the watershed development programme in the project area. There is a lot of inter-dependence and therefore, there is a need for the block level and district level functionaries, not only to be acquainted with the programme, but they should also support, oversee and guide the implementation. The Committee, therefore, recommends that the district and block level functionaries in the Agriculture, Soil Conservation, Ground Water, Public Health Engineering, Forest, Animal Husbandry, Panchayat and other related departments should be given an initial three day training on the watershed development programme. The training should concentrate on the need for building up community organization, technical aspects and sustainability issues. The topics for training could be as follows:

- Concept of Watershed Development
- Components of Watershed
- Integrated approach and inter-departmental coordination
- New Guidelines for Watershed Development

- Community Organization and Building Village Level Institutions
- Sustainability and Equity issues
- Development and Management of Common Property Resources
- Involvement of Women
- Role of Panchayati Raj Institutions

(b) Members of Block Panchayat and Zila Parishad

4.29 The responsibility for the implementation of the guidelines has been entrusted to Zilla Parishad (ZP), and wherever Zilla Parishads are not in existence, the responsibility has to be borne by the DRDAs. The Panchayati Raj Institutions have to see the implementation of the programme. The members of the block and ZP are therefore to be given adequate training on the same lines as the block and district government functionaries. Support to members of the Panchayati Raj Institutions is essential for the success of the programme. A one week programme could be organized for members of Block/Zila Panchayat covering the same subjects as have been suggested for Block and district level officers.

(c) District Rural Development Agency (DRDA)

4.30 The DRDA has been made responsible for the implementation of the programme alongwith the Zila Parishads. The project proposals are prepared by the DRDA, and funds are routed through them.

4.31 There is no uniformity in the set up of the DRDA; officers from different departments are posted in the DRDAs. In some places, Collector acts as Chairman of the DRDA, and there is another senior officer who works as a full time Project Director or Executive Director. Generally, none of these persons has any prior exposure to watershed development. A three day intensive training on the various aspects of the programme is considered essential for these officials. This training module may be the same as suggested per Block/District level officers.

(4) State Level Functionaries

4.32 The committee has noted that apart from the Department which has been entrusted with the responsibility for the implementation of watershed development programme, other departments which have a significant role to play in the planning and implementation at the project level are not aware of or are involved in this programme. There is a provision for the constitution of State Watershed Implementation and Review Committee, consisting of Secretaries and Heads of concerned line departments. But there is little awareness of the programme and therefore, the committee feels that there is a need for organizing one or two days training cum awareness generation programme on the subject of watershed development for these officers at the state level. This programme could be organized once in a year and could also include the major voluntary

organizations associated with this programme so that this awareness generation programme could also be an occasion to exchange notes and discuss future strategies. The committee, therefore recommends that a two, day workshop should invariably be organized every year to cover all the points indicated for the block and districts level officers.

5. Training Institutions

An idea about the different types of personnel required to be trained for the purpose of the watershed development programme has been given in the previous two chapters. Our terms of reference require us to report on the capability of the institutions engaged in training for watershed development and to lay down the criteria for selection of institutions for training. At the outset, we would like to say that it has not been possible for us to assess the capability of training institutions. This would have required us to visit all institutions – Government and Non-Government-engaged in this area. We feel that the identification of institutions and the assessment of capability of institutions is not a onetime job. New institutions will continue to come up in this area, and some of the existing institutions may lose their interest on their capabilities over a period of time. It

is therefore, considered necessary to lay down the criteria for identification of institutions, rather than engage in the preparation of a list.

5.02 In the previous chapter, an outline of the modules for training of different functionaries has been given. These are only indicative, the details will have to be worked out, and suitably modified keeping in view the local conditions, requirements and experience of watershed development work in the field. However, they can be useful in laying down the criteria for identification and selection of institutions. But therefore we do so, it would be necessary to get a rough estimate of the number of persons who would require to be trained under the programme and the facilities which would be needed to meet the training requirements.

5.03 MANAGE had worked out the training requirements for the watershed development programme under DPAP, DDP, IWDP and IJRY, for the year 1995-96 on the basis of allocation of funds under these schemes. It was estimated that an investment of Rs.1500 crores would be made in 1995-96 alone and around 3,000 projects each consisting of 10 micro watersheds or villages would be taken up for development. To provide support to these projects under the Guidelines, 12,000 WDT members would be recruited. Arrangements for their training will have to be organized. Ordinarily, about 25-30 participants are accommodated in one training course, and as the training will be for a duration of four weeks, a training institution will be able to conduct 6-8 training programmes in a year. It will require at least 6 faculty / resource persons fully dedicated to the watershed development programme. MANAGE had worked the Statewise

distribution of allocation of funds on these programme, and had accordingly calculated the State-wise requirements of training institutions for training of WDTs as given in Annexure – VIII. According to these estimates 56 institutions would be required for training of WDTs alone. For training of the faculty/resource persons, separate courses of about two weeks duration were required to be organized. MANAGE work out a requirement of 336 trainers for running these institutions. A total of 14 courses were required to be organized for the training of trainers.

5.04 In these year 1995-96 the availability of funds under the Employment Assurance Schemes (EAS) was Rs.1570 crores. In addition the total availability of funds under the Drought Prone Area Programme (DPAP) and the Desert Development Programme (DDP) was 225 crores. If we add the allocations made under the Integrated Wastelands Development Programme, would be estimated to have been Rs.1060 crores in 1995-96 assuming that 50% of the allocations made under EAS were actually spent for the watershed development programme. Under the same assumption for EAS the availability of funds was Rs.1260 crores in 1996-97. In 1997-98 the availability of funds would be Rs.1245 crores. In the light of the allocations available for the current year 1997-98, it can be safely assumed that about 2500 projects each comprising about 10 micro-watersheds can be taken up for implementation during 1997-98. Depending on the allocations made to each State the number of institutions required for training would be proportionately less than what has been estimated by the MANAGE at Annexure – IX, during the current financial year. As the allocations are always less in the first year of a five year plan, it is expected these would go up in subsequent years and therefore in our

view it would be reasonably safe to work on a figure of about 3000 new projects to be taken up every year as estimated by MANAGE. Identification and selection of training institutions and building up of necessary infrastructure itself is a time it is completed, adequate funds for taking up about 3000 projects are expected to be available in the subsequent years. The committee is therefore of the view that the requirement of training institutions should be worked out on the basis of an average 3000 projects to be taken up every year during the Ninth Five Year Plan under all the area development programmes of the Ministry of Rural Areas and Employment.

5.05 MANAGE had only worked out the institutional arrangements required for the training of members of WDT. MANAGE had not worked out the training requirements of the other active functionaries associated with the watershed development programme. We have already indicated the categories of persons who need to provided training and the duration of each training course. We have also worked out the institutional training requirements of other persons / officials associated with watershed development programme. This has been given in Annexure – IX.

5.06 A critical weakness in the implementation of watershed development programme has been that very few people are aware about the basics of the programme and the mechanism for planning and implementing it. Like any other programme of the Government and the various components of the programme are entrusted to different line departments by allocating a part of the budget to them without clearly identifying the local needs based on as assessment of the level of land degradation and the type of

treatments required to regenerate it. The community is still treated as a beneficiary and not as a partner in the system devising its own strategy and implementing it. A beneficiary oriented relationship leaves little choice to the watershed community, as it has either to take what is given by the giver or leave it. So long as investments do not require any amount to be repaid by the members of the community, the community does not interfere in whatever is done by the Government Departments. The line departments assume the role of know all and do all and this gap between the community and Government official has continued to widen. In some cases consultations are held with the important persons of the watershed community but by and large the community is ignored. The common guidelines postulate a change in this position. The responsibility for the development of a watershed area has to be shared by the members of the community by involving them as members of User Groups, Self help groups and watershed associations. It is for the first time that in any programme of the Government, money is required to be spent on the development strategy devised by the community itself. This is a new approach, and therefore officials of the block, district and State level have to be suitably trained for adopting it and implementing it by assuming the role of a facilitator. A part of the training has to be devoted the sensitisation towards this approach, the another part has to deal with the integrated nature of interventions and familiarization with the type of technology which is workable and which can be adapted by the village community so that the watershed community is able to maintain it from its own resource once the project has been completed.

5.07 The training programme has thus been divided into two distinct parts – formal and informal. The informal training has to be provided at the watershed area by the WDT during the informal discussions on a weekly or fortnightly basis with the various groups. No institutional arrangements are required for these programmes except that an identified nearby institution should be able to provide the institutional support by making available the multi media and other audio and video facilities.

5.08 The formal training has to be given in the institutions. This again can be divided into two parts. Some functionaries could be given training at the district level or at best at a regional level by combining three or four districts. The other group like members of WDT, members of PIA, District Collectors, district level officials members of Zilla Panchayat, members of block Panchayat, Block level officers could officers could be provided training at the district level/region level. It would be useful to organize training workshops at the State and district for members of Zilla Parishad, District level officer and at the block headquarters for members of Block Panchayat and block level officers. The workshops should be common for the elected representatives and officers so that there is a sense of participation in the common programme. The exchange of ideas, would not only inform the participants about the basics of the programme but would also help in taking correction measures. In our view, one such workshop should be organized every year in a district.

5.09 In a watershed development programme, one project would require the training to be given atleast 25 village level functionaries 24 gram Panchayat members assuming the

project extends over three Gram Panchayats, 10 Watershed Secretaries and about 4 members from the PIA, apart from the members of WDT. If a district is implementing on average about six projects it would generate enough work for any training institution at district level. If a suitable training institution is not available in the district it should be possible to combine three or four districts for the purpose of training and link between them with the nearest available training institution. The members of Gram Panchayat Block, Village and block level officers could be trained in these institutions. The district level officers, Project Directors, Collectors, Members of Zilla Panchayat could be provided training in the State level institutions. Members of the programme implementing Agencies and WDT could also be provided training at the state level institutions. The requirement of training institutions at the state level has been worked out by MANAGE. Since the training for the other functionaries would be for a short duration it should be possible to accommodate the training requirements of these functionaries in the number of institutions worked out by MANAGE.

5.10 During the course of last few decades a number of institutions have come up at the State level – Government and Non-Government which have specialized in giving training to Government and Non-Government officials. Most states have the State Institutes of Rural Development (SIRD) which have specialized in giving training on various rural development programmes. In our view, the state government should identify suitable institutions which have experience in organizing training programme in watershed development programmes as nodal agency. Preference should be given to SIRD. Where SIRD or any other institution is nominated as a nodal agency it should

coordinate the training activities of other State level training institutions engaged in watershed development. Further, it should oversee the training given in the district / division level institution under this programmes. It should ensure quality and provide necessary support to these institutions. The nodal institution should be able to locate other state level institutions wherever necessary for sharing the responsibility for training of personnel at the State level. The state institutes of public administration could organize short term training programme in their vacant slots for the district level functionaries by drawing the faculty from SIRD and other national level institutions. A number of non-Governmental organizations have developed expertise for providing training under the watershed development programme. These could be identified, and persuaded to organize training courses – for example, the institutions identified by CAPART. Where appropriate they can provide the necessary support. In large States, the responsibility for training could be divided and shared by State level training institutions – each institution supporting other institutions rather than competing with each other. A few districts could be allocated to each institution. The institution may be given the responsibility for overseeing the implementation of the programme and reporting on performance for training imparted to project and block level functionaries.

5.11 The identification of district / division level institution should not be difficult. A number of division level training institutions Panchayat, Co-operation, Agriculture, Soil Conservation and similar other Departments are providing training to officials and others. Some of these institutions do not have the capacity to take up work relating to watershed development training. These institutions can be identified and supported. Faculty should

be identified and trained in the watershed development programmes. Some NGOs also have good training facilities for providing training at the project/block. Wherever these facilities are available, these could be used and supported.

5.12 There would be a need for a massive trainers training programme to train the faculty members of the State level institutions as well as district/divisional level institutions. The responsibility for providing trainers training has to be borne in large measure by the national level training institutions like the NIRD, MANAGE Central Soil and Water Conservation Research and Training Institute (CSWCRTI), Dehradun, UP, etc., and other similar ICAR institutions which show willingness and have the wherewithal for taking up the responsibility for the trainers training. For the division / regional level training the trainers training may be engaged at the SIRD and other selected institutions at the State level. Appropriate NGOs with the capabilities and experience should also be enlisted for the training efforts at State and lower levels.

5.13 The identification and selection of institutions within the State is a difficult task. In order to ensure that an institution of appropriate capability is given the responsibility for training, it should have:-

- i) Practical experiences in the implementation of watershed development project as a PIA

- ii) Availability and access to faculty from relevant disciplines i.e, soil conservation water conservation and management, community organization, animal husbandry, forestry, agriculture etc.,
- iii) Capacity to use a mix of appropriate teaching and training technology and aids such as case studies, field visits, audio-visual aids, etc.,
- iv) Reasonably good basic infrastructure including well equipped class rooms, furnished hostels, well-stocked library etc.,
- v) Required to send faculty for updating the knowledge and skill at the National Level Institutions from time to time.
- vi) Ability to provide post training follow up support to the trainees
- vii) Linkages to with other Governmental and Non-Governmental organizations engaged in similar work, academic and research institutions
- viii) To develop ability to handle gender issues involved in watershed development and management.

5.14 These criteria would apply to the identification and selection of institutions, other than the SIRD, since SIRDs are already engaged in organizing training in rural development, and, in some states in watershed development programme also. The identified institution should have a long term commitment to watershed development, as development of appropriate capability and infrastructure itself takes time. It should be able to draw on the resources of other institutions as it may not be fully equipped for providing training in all the aspects of watershed development programme.

5.15 It should be left to the State Governments to identify the training institutions, keeping in mind the desirable criteria indicated above. The committee feels that for this purpose each state government should set up a committee, including a representation of the Ministry of Rural Areas and Employment.

6. Support to Training

While training is essential for the proper implementation of any programme, little attention is paid towards supporting it on a sustained basis. The principal persons implementing the programme are sometimes sent to State and National Institutions for training and the expenditure is borne from the project or by the Government. No systematic action has so far been taken to identify suitable training institutions, develop a system of supporting them, and ensure that there is a calendar of programme for those involved in the watershed development programme. Further as no institution has devoted itself exclusively to organizing training for watershed and as institutions have other programme, the requisite expertise for providing training for watershed development has been lacking. There is a need to develop expertise in the training institutions and providing them adequate support.

6.01 The State Institutes of Rural Development (SIRDs) or any other institution identified by the State Government as nodal agency for watershed development programme are expected to play the role of a nodal agency for providing training to certain categories of persons at state level. The nodal institution will be required to identify State level institutions to share this responsibility wherever more than one institution is required to organize training. Even though we did not have any opportunity to visit any of the state institutes of Rural Development as a Committee, we have had the occasion to go through the Status Report on SIRDs prepared for the Colloquium organized in April 1996 by NIRD. We noticed that some of the SIRDs are very well equipped both in terms of infrastructure and faculty and have been organizing a large number of training courses and workshops related to various aspects of rural development. According to the information made available by National Institute of Rural Development (NIRD) 18 SIRDs have been organizing courses on different aspects of watershed development also. The faculty in these institutes are either drawn from officers on deputation from the state governments or from other institutions. A few members of faculty are also directly recruited but this position differs from state to state. In most places, the Director of SIRD is an officer on deputation from the state government and has an uncertain tenure. The same applies to other members of the faculty drawn from the various departments of the state government. As officers are not generally happy when they posted to a training institution, they tend to look for ways and means for returning to their department as soon as possible rather than devoting themselves to training programme. Needless to say such an arrangement is hardly

conducive to the development of a proper training institution, or proper training of trainees under any programme.

6.02 Watershed management is an important developing discipline and, as we have mentioned earlier, heavy investments are going to be made from the programmes of the Ministry of Rural Areas and Employment alone during the Ninth Five Year Plan in this sector. There is a need to develop suitable faculty and infrastructure in the SIRD for developing training programme. In fact, the institutes themselves will require an orientation to this programme so that they are able to translate the spirit of the guidelines into action while conducting the programme. The present system of drawing people on a short term deputation will need modification and the committee therefore recommends that SIRDs in order to be dynamic and forward looking institution, should have a full time Director who has considerable experience in the development and implementation of rural development programmes and who has a fixed tenure of a minimum of 3-5 years. He should be selected from outside the government on a contract assignment. He should be able to do proper planning for the development of the institution and the programme. In other words, he should not only be capable and experienced but he should also be willing to shoulder the responsibility for a reasonable period of time. We do feel that this arrangement will help in building up the SIRDs into first rate institutions so that they can become premier institutions for training under the watershed development programme in the states.

6.03 In the present system the faculty consists of persons drawn from the departments like Panchayat, Cooperation, Agriculture, Rural Development, Forestry, etc., Considering the number of programmes organized by the SIRDs and the burden that would be additional for training WDTs, members of PIAs and other District level officers, there would be a need for strengthening the faculty to meet the training requirements of the programmes. In fact, one major constraint in the way of giving due emphasis to training on watershed development by SIRDs has been stated to be non availability of suitable faculty on this subject as there is no such recognized discipline in the SIRDs, and consequently no post has been created for this purpose. This subject is now emerging as a separate discipline and involves technical, managerial and participatory aspects. A faculty at the level of Professor specially devoted to this area would be necessary. The committee is therefore, of the view that at least one additional faculty member would be necessary to take up the programme of training in the area of watershed development on a whole time basis in the SIRDs, if they have to work as training institution under the watershed development programme.

6.04 The additionality of the training courses to be organized will put an extra burden on the existing infrastructure available in the SIRDs. The available infrastructure is meant for running short term courses / training workshop. The infrastructure facilities are designed to meet the needs of training courses for different rural development programmes. There would be therefore a need for additional infrastructural facilities for running additional course. Suitable adjustments in the existing training schedules would also be required. A trainee needs to be trained in other areas of rural development and

some of these needs can be met by a suitable modification and adjustments in the ongoing programmes. We feel that in the light of the requirements indicated by us, a sum of Rs.15 lakhs may be provided on ad-hoc basis to SIRDs for meeting the infrastructure requirements. This could be used for the development of training aids, training material, preparation of case studies. This should be in the nature of a one time grant and should not be used for purchasing vehicles or construction of any building.

6.05 The training of project level functionaries is to be conducted in institutions located in a district or near by districts. The approach should be to have an identified institution for a cluster of districts. The extension training centres (ETC) may be supported and used for this purpose. Wherever the facility of ETC is not available, training institution of other Government Departments / Non-Government Organizations may also be utilized. Some of these institutions may not be under intensive use for the last many years because of the shift in the emphasis on training and the perceptions of the department which had earlier set up the institution. They have become more or less dormant and need to be revamped. These institutions would also require support. What we have stated about the Director and the members of the faculty in respect of an Asst. Professor may have to be provided for taking up watershed development programme. The institution will also require financial support for developing training aids, training material, surveying equipment, projectors etc., These institutions will provide support to watershed projects at the field by making available audio visual aids and other training input. While an ad-hoc amount of Rs.5 lakhs for each institution may be necessary to reactivate them, there should be a provision for giving additional financial assistance if it

is so required to enable them to equip themselves for undertaking training for watershed development.

6.06 In the Guidelines for watershed development there is already a provision for spending 5% of the project amount on training. This amount has been set apart for meeting the training requirements of the project level functionaries. This should include expenditure on training – formal and informal of all the functionaries identified at the micro watershed level requiring training as well as members of PIAs and WDTs. The DRDAs will have to take the initiative and make available the money required for training of the members of WDT/PIAs to the state level institutions as soon as the project is sanctioned. This will enable the State level institution to get information about the programmes to be organized for projects/districts and prepare a calendar of programme accordingly. There is no additional expenditure required on TA/DA, boarding and lodging and other expenses associated with the training of WDT/PIA as this would be met from the sanctioned project.

6.07 There is no provision for the training of Block and District Level Officers or the members of Block Panchayat and Zila Panchayat in the Guidelines for watershed development. Expenditure on the training of these persons will have to be provided separately, as this cannot be met from the sanctioned project. The block and district level officers and members of the Block/Zilla Panchayat have the responsibility of supporting the programme they are not directly involved either in the planning or implementing of any specific project except ensuring that the programme gets all the support and is

implemented properly. The area of their operation or responsibility is not limited to a project. The expenditure on their training, therefore, cannot be met from project funds which are sanctioned from time to time in a Block or a District. It would be appropriate that provision for expenditure on their training is made separately by making allocations for this purpose. These allocations could be placed at the disposal of the District/Regional level institutions or State level institutions where the training has to be organized. This would also help the institutions in taking the initiative for organizing the training programme and getting the right type of persons for this programme.

6.08 In states, where more than one state level institution has to be identified to meet the training requirements envisaged under the guidelines, the same support may be provided for developing training infrastructure and faculty as to the SIRDs. Where the NGOs have been associated with the training programmes, they may also be given the same level of financial assistance. The only point which need to be considered is that where other State Level institutions or NGOs are associated with programme, the assistance for infrastructure and faculty would have to keep in view the extent of time these institutions are required to devote on the training of watershed functionaries. If these institutions have to devote and conduct training round the year the level of assistance should be the same as recommended for SIRDs, but if they are required to conduct only a few courses, to that extent it may need to be reduced.

6.09 This takes us to the sharing of expenditure on training. The Guidelines already provide that in the case of trainers training programme, the expenditure should be borne

by the Ministry of Rural Development. The Ministry had already funded the trainers training programme organized by MANAGE and we are informed that 14 such programmes were organized. More programmes would require to be organized for the trainers training at the State and National level institutions. We are of the view that the expenditure on trainers training programme should be borne by the Government of India.

6.10 As regards the expenditure on faculty and infrastructure at the State Level and District or Regional level institutions, expenditure on them may be borne on 80:20 basis, 80% being borne by the Government of India. This would be necessary to ensure that States take adequate interest in the development of training infrastructure and programmes. Looking to the importance of the watershed development programme for the regeneration of the land and for the overall development of rural areas, even 100% expenditure on training could be borne by the Government of India but it is often seen that when expenditure is borne fully by the central Government, the State Governments are very eager to take the financial assistance but take very little interest, thereafter, in supervising and implementing programme properly. Sharing on 80:20 basis would ensure that the State Government send the right officers for training at the State Level and District level institutions and also purchase only the necessary equipment for infrastructure and development.

7. Some Concluding Remarks

7.01 Different issues related to the training for watershed development programmes have been discussed in the preceding chapters. The committee has made these recommendations after considerable deliberation and hopes that they will be taken up for early consideration by the Government and the process for their implementation will be initiated. The committee is quite conscious of the fact that collaborative efforts are required on the part of the elected representatives of the Panchayati Raj Institutions, the District administration, the programme Implementation Agencies, State Governments and the Central Government for the implementation of the recommendations that we have made for the training of various levels of functionaries, identification of suitable institutions and the financial and administrative support. It is not an easy tasks and it will not be out of place to make some observations about the mechanism which may be adopted to ensure that effective action is taken in this area. The committee therefore would like to make the following suggestions.

- (a) The development of our rural areas is closely linked with the successful planning and implementation of the watershed development programmes which are funded by the Ministry of Rural Areas and Employment under its various schemes. There is a need to constitute a National Standing Committee for watershed development, a consisting of representative of various departments of the Government of India funding the watershed development programme under the common guidelines or under other schemes, the representatives of the State

Governments, prominent NGOs engaged in watershed development and the experts, including the representatives of training and the research institutions. The committee should meet atleast once in a year to review the implementation of the programmes – not just the progress but also the experience and to make suggestions on all aspects including matters relating to training.

- (b) The National Committee should constitute a Sub-Committee on Training. This will outline a National Training Action Plan. It will also review the arrangements for training for watershed development at the District and State level to ensure that proper facilities and infrastructure are available, ad different aspects of the programme, technical managerial, administrative and participatory – are given due emphasis. The National Level Sub-Committee may convene conferences / workshops periodically in this connection, at which national-level training institutions could play appropriate lead roles or facilitating roles.
- (c) Each State Government may be requested to prepare the State Plan following the common guidelines for watershed development. The plan should incorporate a plan of action for training, including the number of personnel to be trained in various categories, the outlines of the training courses, the identification of institutions and the support that is required to be given.
- (d) The State Governments may be suitably advised that training being a crucial component of the programme, and persons engaged in the programme and

nominated for the training should be made to attend the programme wherever these are held, and that employees engaged in the implementation of a watershed development project in any area should not as far as possible, be transferred to any other place until the project is completed.

8. Acknowledgements

8.1 The Chairman and the Members of the Committee place on record their thanks to the Member-Secretary Shri Kuldip Rai for his work including the efficient management of the logistics and support services for the Committee's work. Thanks of the Committee are also due to those in the Department of Wastelands Development who helped in the Committee's work behind the scenes.

8.2 The Committee specially acknowledges the inputs it received from Shri T.N. Srivastava, then Additional Secretary in the Department, in the Committee's deliberations and in the drafting of the Report. His participation in its work has been of invaluable assistance to the committee, and also to the Chairman.

(V.B. ESWARAN)
Chairman
Committee on Training
for Watershed Development

New Delhi

27th November 1997

SYLLABUS FOR SIX-DAY TRAINING COURSE UNDER NWDRPA

Organizing a day training course for Mitra Kisans Soil Conservation Inspectors/Sub-Inspectors/Agri Development Officers etc., on the programme measures of NWDPRA

Day –1

- Inauguration not more than one hour
- Watershed Approach
Background genesis and importance of watershed management in rainfed areas
- Definition of watershed
- Conventional Watershed-ridge valley
- Hill eco-system watershed-lateral serial watershed
- Desert eco-system watershed-Index catchment concept
- Waterlogged eco-system-drainage congestion areas
- Coastal eco-system-demarcable by creeks and paths

Understanding NWDPRA

- Approach and strategy – the twin concepts of Integrated Watershed Management and Sustainable Farming Systems
- People's participation-promotion of local initiative and self-help culture.

- Brief audio-visual presentation highlighting some of the success stories.

Lunch Break

Afternoon

Survey and Projectisation

- (a) Procurement of equipment, instruments, cartographic materials, map and document storage system etc.,
- (b) Conducting land water vegetation, livestock surveys to inventorize natural and biological resources base in consultation with the local people.
- (c) Conducting socio-economic surveys by local educated youth, women, experienced farmers etc., to map out socio-economic potentials, opportunities, limitations etc.,
- (d) Any specialized survey if necessary to be conducted by experts/specialized institutions.

The project report would contain the following details.

Introduction & background, objectives, strategy and approach, brief description of surveys and fundings of the investigations, treatment, details, their phasing with physical targets and financial implications cost benefit ratio, self-sustainability etc., (pp 37-45 of WARASA Guidelines refers)

Composite Nurseries

Role of composite nurseries in promoting in-situ moisture conservation by extending support to eco-friendly production system on arable lands and in developing

three-tier appropriate vegetational conservation resources consisting of grasses, shrubs and multipurpose trees for fuel, fodder timber and fruits on non-arable lands. Scope of participation of landless labourers, self-help thrift groups. NGOs farmwomen etc., for raising composite nurseries may be highlighted. Details of various measures/steps for composite nursery establishment and nursery techniques be explained (for details, WARASA-5 Guidelines may be consulted).

Day-2

Forenoon

Training, Orientation and People's Participation

1. Training and Orientation

3-day Institutional Training programme. Concepts and contents of three-day Institutional training programmes for establishing contact between scientists and Mitra Kisans (contract farmers) twice a year i.e. before Kharif and Rabi seasons for each micro watershed followed by revisit to the training centre for a one day orientation-cum-feedback session, three times after three-day training (once after sowing, second time before harvesting and third time after harvesting) Broad parameters of three-day institutional training are as follows (page 29, WARASA Guidelines) which will be explained briefly highlighting significance and relevance.

1st day : Concept of integrated farming systems approach analysing interdependence of private and common property resources, problem encountered in micro watershed

development as a whole. Interdependence of agriculture, animal husbandry, forestry, fishery etc.,

2nd Day : Management of cultivated lands to optimise/stabilise production-both in terms of crop husbandry and allied/subsidiary agricultural activities.

3rd Day : Optimal Management of common lands, including village forests, agro/farm forestry, pasture, grazing lands etc., together with other activities like animal husbandry, dairy, poultry, fisheries.

2. Promotion of people's participation through NGO, MKM and Self-help Thrift Groups:

One of the more important features of NWDPRAs has been the involvement of local farmers with multifaceted project activities so that the short term as well as long term problems of watershed communities could be addressed and resolved effectively. It has therefore been considered appropriate that people should be trained, encouraged and organized to undertake watershed development programmes by themselves in which government and Non-Government Organizations synergistically work as facilitators.

The role of NGOs will include (a) organizing farmers training and preparation of training material for farmers : (b) help in project preparation in consultation with beneficiary groups (c) evaluation and projection of peoples point of view (d) organizing Hamlet-wise self-help thrift groups in order to institutionalize management of project by

beneficiary groups (e) enhance and strengthen the role of farm of women, particularly their leadership in decision making for watershed development. A joint management system envisaged to operationalize these basic objectives will work through a project committee in accordance with various contained in the MOU for enabling peoples, participation by taking up projects proposed by NGOs (Ministry DO letter No.1582/55(P)/93, dated 30.09.1993 refers)

This part of training module should also explain the mechanics of formation, constitution role an functions of watershed community of Mitra Krishak Mandal, (MKM). The specific role of Mitra Krishak Mandal in the sphere of operation of Bank Accounts (initially for a sum of Rs.10,000), training project formulation, project reviewing conflict resolution formation, of self-help thrift groups market survey for agri-business etc., has been explained clearly in Ministry's DO letter No.27-23/94 NWDPRA dt.11.05.1994.

Acknowledging that Mahila Mitra Kisans can play a significant role to improve the economy of households if properly organized and trained on activities included under household production systems (mushrooms, sericulture, bee-keeping etc.,) a two-tier training programme one at the district level, the other at the watershed/village, is being envisaged with the objective of promoting formation of self help thrift groups of women under NWDRPA and their training through Mitra Krishak Mandal (MKM). Details about the modalities of self-help thrift group formation, their training aspects and various

roles the group can play the overall supervision and guidance of Mitra Krishak Mandal are given in the Ministry" D.O. letter No.27-23/94-NWDPRA dt.11.07.1994.

Afternoon

Project Review, Monitoring and Training on NICNET Reporting System:

For ensuring effective implementation of NWDPRA a standard system has been evolved which includes systematic and periodical evaluation of the progress made in terms of physical and financial achievements by conducting State Level Reviews, followed by Regional and National Level Reviews. Incidentally, the State Level Reviews are conducted both the Senior Officials of the Rainfed Farming Systems Division of Agriculture Ministry accompanied by State level officers. ICAR/SAU Scientists and independently by the state governments. For this purpose standard guidelines for intensive state level review of the national watershed development projects for rainfed areas (NWDPRA) have been developed together with prescribed format for monitoring and review of the physical and financial progress. The state government also have to conduct inspections/reviews as per the standard guidelines prescribed for which too this format could be used.

Periodical (quarterly, annual etc.) reporting of the physical and financial progress of implementation of NWDPRA through NICNET system has also been found to be a potent and useful tool to monitor and review the progress in achievement vis-à-vis shortfalls in the project. In this context, details of data entry cum training of NICNET

system on the following relevant items may be highlighted while explaining the importance of Project Review and Monitoring system.

- (a) Methods of filling up of 4 prescribed input proforma designed for NWDPRA by NIC.
- (b) Description and explanation of detailed activity codes, unit cost etc.,
- (c) Identification and explanation of common errors, discrepancies etc., and ways and means to overcome them for correct reporting.
- (d) Explaining the need and importance of adhering to time schedule for data entry, compilation and transmission thereof through proper coordination at watershed district and state levels.
- (e) Need for extending training to WDT leaders for data generation, collection, collation, entry and transmission in which trained soil conservation inspectors/sub inspectors would have to act like a resource person-cum-organizer.
- (f) New codes viz., C.104, C.105 and also D.204 that have been introduced on demands by the fields staff of various state governments.

Establishment and Management:

Appropriate organizational structure holds the key to successful planning and implementation of multi sectoral watershed development programmes consisting of following three main functions:

Policy Support : This may be provided by a committee of Ministers under the Chairmanship of Chief Minister with Ministers Incharge of Agriculture, Forestry, Animal

Husbandry, Horticulture etc., as Members Secretary (Agriculture) would be the Member Secretary.

Direction : Direction for implementation of the policies decided by the committee of Ministers would be the function of the committee of senior level officers in the State Government headed by Chief Secretary or APC. In some states this committee is also giving policy support.

Planning and Implementation : This will be accomplished by a multi-disciplinary watershed Development Team (WDT) for each micro-watershed in consultation with farmers training in each village and also the general body of the beneficiaries project area. At the block level, there will be a supervisory committee headed by the block Pramukh with Pradhans of participating villages as members as B D O as Vice Chairman. The leader of the WDT would be the convener of this committee.

Under NWDPRRA, 10% fund is allocated towards establishment and management cost only for full time project workers. The remaining overhead, must therefore be borne by the concerned state government. For details NWDPRRA guidelines p-47-69 and p54 may kindly be referred to:

Day 3

Forenoon

Farming Systems Approach & Role of Research Input

Since an element of risk pervades in the land-based production system in the rainfed areas, integrated farming system involving a mix of diversified and mixed farming, consisting of the components of crop, husbandry, agro-forestry, dry-land horticulture, pisciculture (including integrated fish farming), livestock and fodder development etc., may be discussed under the Farming Systems Approach.

Many progressive farmers farming communities voluntary organizations self help groups etc., have innovative ideas, who given opportunities research inputs and technical support, can help develop and/or improve upon the traditional technologies and overall farm management systems in a locale-specific manner in micro-watersheds.

While approving the model micro-watershed development plans for different agro-climatic zones in the country, out of the total amount of 5% allocated for research, 2.5% is earmarked for informal research, 125% is supposed to be utilized by the States/UT Governments for conducting innovative studies/research, connected with socio-economy, soil and water conservation, transfer for appropriate technologies and other aspect of farming systems development by institutions outside the purview of ICAR systems.

With a view to extending research support to the integrated farming system development in micro-watersheds under NWDPRRA, a large number of farming investigation oriented projects proposals have since been approved by the Government of India for different states in the country which could be seen at Annexure IV. This is cited as an illustration of the roles which research components can play in improving prevailing farming systems in the micro-watershed developments projects in the country. In order to check the tendency to go in for cement and brick structures, it has now been decided to scrutinize expenditure incurred in purchase of cement and bricks.

Reserve has been provided for innovative activities, public participation, support to NGOs and other programmes suggested by the people. NGOs to be associated in training, preparation of training material, awareness generation and monitoring & evaluation. For the purpose 2.5% of the project budget is provided.

Management of Arable Land

Organic Farming – Integrated Nutrient and Pest Management

Organic farming essentially involves the use of bulky organic manures, crops and farm waste recycling through composting. Use of oil cakes bio-gas slurry green manures, bio-fertilizers etc., Integrated nutrients management involves judicious and balanced use of a combination of organic manures and biofertilizers together with the use of leguminous crops in crop rotation of optimize nutrient supply, maximise economy and ensure environmental conservation under rainfed dry farming conditions. Integrated pest

management may be done by using natural repellents, bio-insecticides/pesticides and evading pest and disease attack by scientific crop management techniques such as weeding, crop rotation etc., in spite of this approach being stressed instances have come to notice that in some places the field staff still continue to use chemical fertilizers and pesticides for crop demonstrations. It has therefore, been decided to scrutinize expenditure incurred in chemical inputs.

Day – 4

Forenoon

House-hold Production Systems:

Resource persons for house hold production system activities should be drawn from different line disciplines. However, if it is felt necessary that field functionaries of concerned line departments need training for understanding principles, strategies etc., of NWDPPRA they may be involved as trainees also. The training module for this topic should address the following two aspects of training.

- (a) Importance production, economic consideration and brief description of low cost technologies related to some of the important household production opportunities like sericulture, apiculture, mushroom cultivation, floriculture, basket making carpentry, pottery, weaving, rope making etc.,
- (b) Role and involvement of Mahila Mitra Kisans in household production systems through training organized in the following manner:

In the first instance, organize district level item specific 3-day intensive training courses involving participation of all Mahila Mitra Kisans of a district to expose them to the details of technologies packages together with one the spot demonstration followed by hands on practical experiences (reference Ministry's D O letter No.27-23/94-NWDPRA dt.11.07.1994).

Subsequently, the trained Mahila Mitra Kisans would take lead as resource persons in organizing watershed level training courses for farm women on different items of household production with the help of direct assistance rendered by locally available skilled trainers professionally involved or intimately associated with the down to earth technical expertise needed for practical demonstration of household oriented production technologies. Watershed level training course may be of one day duration at a time once a week to facilitate effective demonstration of technologies for adoption by farmwomen. The ceiling of maximum benefit upto Rs.5000 would operate in case of household production systems for small and marginal farmers and landless labourers also. Normally one kind of activity would be sanctioned for equipment etc., costing upto Rs.1,000 for a particular family. However, if the family develops the first unit in a successful manner a second unit of the same activity or another activity may also be given to that particular family. For example, if someone has developed a household poultry of about 25 birds, a second unit of 25 birds can also be given to the same family. Alternatively, one unit of goat or sheep can be given to the family as per their choice. The household production units should be given to participating families according to their needs and capabilities.

Afternoon

Treatment of Non-Arable Lands & Management of common property resources

This item of training module should attempt to elaborate with suitable examples/illustrations the philosophy principles and method of seeking peoples voluntary participation, role of leadership, non cash incentives, ways and means of organizing watershed communities (MKM) for participation in the management of common property resources such as silvi-pasture village woodlots, community grazing and community fish ponds, etc, giving the due consideration to conflict resolution cost and benefit sharing leading to development, protection of interests of the landless labourers maintenance of assets created and mobilization of local resources in addition to resource allocated under the programme.

Day-5

Forenoon

Drainage-Line Treatment and Rain-Water Management

Clearance of drainage congestion by deepening water bodies and creating a network of ponds to help promote fisheries and development of aquatic farming systems in lower areas (Refer WARASA guidelines pp 57-58).

Stabilization of nala banks primarily with vegetative measures viz., Trees, grasses, and shrubs according to soil depth and moisture regime. In the upper and middle reaches, drainage line and/or gullies should be treated using vegetative barriers, brushwood check dams, loose boulders, checks gabion structures, earthen dug out ponds fortified with vegetation. At the lower reaches, construction of dug out ponds and small

run off management structures be advocated to ensure effective soil and rain water conservation also allowing higher ground water recharge.

Livestock Development:

For facilitating promotion of livestock development component provided under NWDPRRA a detailed guideline on the subject was prepared by Rainfed Farming Systems, Division of the Department of Agriculture and Cooperation and circulated to all the concerned State / UTs with the request to draw up suitable programmes. On this component, adequate financial provisions have been made in the project budget.

Afternoon

Energy Conservation and Renewable Energy Development

For proper and effective planning of energy conservation and checking on deforestation stress should be given on fuelwood plantation in non-arable lands, agro/farm forestry involving fast growing preferably of multi-purpose tree species, promotion and use of bio-gas plants (in plains), low cost solar thermal device for farming operations and use of smokeless chulha. This apart from energy conservation economy and environmental conservation, will reduce the drudgery of farming communities inhabiting the watersheds. The basic principle would be that to avoid duplication the items and activities which are included in NWDPRRA would not be funded from other central state sector schemes. Also, the activities which are contradictory to the approach of NWDPRRA like heading type, dam type of structures in the project would not be supported, even if funds are available form other sources but the complementary and

supplementary activities/items should be dovetailed and integrated to create synergic effect, if such schemes are available in State or Central Sector.

Media Support

For information flow and dissemination of technology to farmers, the traditional system as well as electronic media, should be effectively used. The details with regard to scope of various application of electronic media as a support to promotion and development of different programmes covered under NWDPPRA has been given in WARASA-VII.

Use of Sumangal Dairy (Farmers Pass Book)

Discuss concept of introduction, promotion and popularization of Sumangal Dairy (Farmer's Pass Book) both as an identify card and bench mark record and using this as potent tool to serve as a blue print of micro watershed plan for the participating farmers. Sumangal Dairy is also a device for project monitoring by people themselves. This will also ensure that not more than an assistance of Rs.5,000 in the entire period as subsidy/project benefit be provided for each family. However, it should be ensured that every family should possess a Sumangal Dairy. As a matter of fact, a Sumangal Dairy is a micro-project for an individual farmers family. Training on this aspect should highlight the importance of recording the observations of the inspecting officials/project staff when they should also discuss the details recorded in the diary with farmers. The details of several entries to be made in Sumangal Diaries with suitable examples may also be explained.

Day – 6

Forenoon

Field visit to a model watershed showing various project activities in a selected manner with emphasis on items covered under the 6-day training programme viz., composite nursery, soil and water conservation measure with emphasis on vegetative technique, drainage-line treatment, horticulture, plantations silvi-pastoral development, household production systems evolved through formation of self help thrift groups. This may follow presentation of slides, documentaries, video films, etc., highlighting the success stories of micro-watersheds under NWDPPRA of the concerned states.

Suggestion should be trained from participants to improve training content, methodology etc., for incorporating into subsequent project activities to enhance the full worthiness of the training programme.

- Open House Discussion
- Plenary Session

Afternoon

Site-seeing

At the end of the six-day training programme the participants are expected to evaluate the course in the evaluation proforma appended at Annexure – I (A).

Annexure –I(a)

Comprehensive combined training course on various programme measures under NWDPRRA for Mitra Kisans and Soil Conservation Inspectors/Sub-Inspectors/Agriculture Development Officers at Block/Watershed Levels.

EVALUATION PROFORMA

Name of Participant :

Designation :

Education Qualifications :

Concerned Training attended in the past :

- | | | |
|----|--|--------------------------|
| 1. | How did you find the course? | a) Very good () |
| | | b) Good () |
| | | c) Average () |
| | | d) Not good () |
| | | |
| 2. | To what extent this course helped you? | a) More than expected() |
| | | b) To a great extent () |
| | | c) To some extent () |
| | | d) Not at all () |

REPORT OF THE SUB-COMMITTEE ON TRAINING CONSTITUTED BY CAPART

To support the watershed development programme of the Ministry of Rural Development Government of India. CAPART considering the needs and the participatory approach decided to formulate its own guidelines, to promote the programme through voluntary organizations who had proven their capabilities to work with the people. A committee under the chairmanship of Padmashri Annasahed Hajare, eminent pioneer in the field drafted the guidelines and placed due emphasis on the training of various actors of the programme for the successful and effective implementation. The National Standing Committee on Watershed Development – CAPART consistent with the guidelines also stressed on the training aspects and constituted a sub committee to finalize the training issues vide its resolution No.3 of the NSC meeting date 13th December 1995.

Resolution

It is resolved that a five member committee headed by Dr. M.A. Ghare, with Dr. Ravi Chopra, Shri Ail C. Shah, Dr. Subrato Sinha and Shri T.S.S.Chauhan advisor (Member Convenor) be constituted for the purpose. Apart from finalization of the training content this committee would also identify rural based training institutions in the states. The report of the committee was requested before the next meeting of NSC. Travelling and incidental charges for the meetings of the committee would be borne by CAPART.

The committee met at Development Support Centre, Ahmedabad on 9th and 10th January 1996.

Following members attended the meeting on both the days:

1.	Dr. M.A. Ghare	Chairman
2.	Dr. Ravi Chopra	Member
3.	Shri Anil C Shah	Member
4.	Dr. Subrato Sinha	Member
5.	Shri T S S Chauhan	Member
6.	Ms. Suhasini Mulay	Spl. Invitee

At the outset, Dr. Ghare welcomed the members and explained the areas which the sub committee is to address. Then the committee discussed the agenda for 2 days and it was decided that the agenda be covered in 4 sessions as follows:

Date	Timings	Subject
9 th Dec.95	10 to 1 pm	1. Target groups for training 2. WCT teams 3. Village level tr.
	2.30 to 6.30 pm	4. Structure of training units 5. Training Schedules
10 th Dec.95	9.00 to 12.30pm	6. Financial requirements
	1.30 to 3.30pm	7. SVO Structure and support
	3.30 to 4.30	8. WDP media strategy

Following are the recommendations of the committee based on the various materials made available and the guidelines given by CAPART.

I. Target groups for training

Committee feels that the training is required at the PIA as well as the village level.

At the PIA level the following trainings needs to be given.

1. PIA office bearers orientation
2. WCT training
3. Local Govt. officers training

At the village level besides awareness of the total village community training is recommended for

1. WSD committee
2. User's group
3. Self-help groups
4. WWC president, Secretary and volunteers

II WCT Terms

The WCT's will necessarily be of 2 types, some PIAs may have WCT made up of 4 professionals, i.e. graduate or degree holders in subject as prescribed in RDD, DPAP guidelines. However many PIAs will have workers from their own area of operation experience of working in villages. But not the technical knowledge required.

A. Training content for professional WCT

This training will be of 2 types basic and specialized subjects. The basic training will cover

1. Background of WS Scheme
2. Familiarization of watershed through field visit.
3. Community organization and Participatory Rural Appraisal for planning and resource mapping
4. Treatment / Technical
5. Management (Project Planning, Accounting, Reporting, Monitoring Evaluation)
6. Values and Criteria of success

The duration of such training will be a 4 to 6 weeks depending on the subjects and practical time required. The indicative syllabus is given in annexure – II(a).

The specialized training will be on different subjects as per the requirement of the area in which the PIA is working or as requirement of the PIA itself.

The specialized training will cover,

1. Engineering
2. Biomass (agriculture, shrubs, grasses, trees)

3. Community organizing (Group dynamics, caste issues, gender issues and sensitivity, conflict management leadership, Role of Panchayat)
4. Communication
5. Special issues

Detailed syllabi will be prepared by institutes, individuals who have knowledge and experience of the subject. This will be decided at a latter date according to requirement of PIA such training programmes will be of 1 week duration and should be carried out only after 3 months of implementation experience.

B. Training content for non professional WCTs

Giving due considerations to paragraphs 29 to 45 of CAPART guidelines it was felt necessary that such non-specialized field level workers will need training of longer duration and must include adequate field work. It is recommended that such training be of duration of 3 to 4 month. Indicative syllabus is given as annexure-II(b).

III. Village level training

Training the village level functionaries will be the responsibility of PIA and WCT. However it will be the responsibility of training unit to demonstrate appropriate and locally relevant methodology so that, members of PIA and WCT give right orientation and achieve desired quality and effectiveness amongst the community involved.

Orientation of local govt. officials will be achieved by associating them in the awareness programmes, exposure visits and village meetings.

IV Structure of training units:

The committee felt that the training unit will need atleast four full time trainers for training professional WCT members. These trainers should cover following disciplines.

Engineering

Agriculture

Social-Science / Social Work

Plant Science

In case the same training unit is also going to undertake training for non specialized WCTs then additional 4 trainers will be necessary. In addition to the above, the training unit will also need part time trainers or guest faculty to cover following subjects.

Animal Husbandry

Communication

Ecology

Economics

Forestry

Geology

Hydrology

Soils

IV. Training Schedule

On an average 1 WCT will have 3 members and 20 PIAs will have 60 members. On training unit can trained 20 to 25 members during one course for professional WCTs in 4 to 6 weeks. As such 1 training unit will be able to conduct 4 to 5 such training courses during year.

Similarly 8 courses of specialized training programmes of 1 week duration each will require 3 months / year of training unit. However, such training will be taken up after 3 months of implementing in the field, follow up of such work and demonstrating of the village level training. Assuming this, 1 training unit will be able to cater for training requirement of 20 WCTs. Training unit will have to continue training relationship with the same WCTs in the 2nd year as well, but with more focus and emphasis on field requirements. In the 2nd year, the training unit will devote 6 months for special subjects for trainees of previous year. Consequentially will conduct only 4 special training programmes for trainees of 2nd year WCTs. Under these circumstances, the training unit will require 2 additional training faculties with increasing training load.

Thus 1 training unit can take care of 20 WCTs in 1st year additional 20 WCTs in the 2nd year and subsequent. As such from the 2nd year onwards the training unit will provided training support to 2 new and 20 established WCTs every year.

A) Professional WCT Members

Basic training courses	4-6 w/c	4-6 w/c	6 months
Spl. Training course	8 c/yr	1 w/c	3 months
Follow up and Admn At the village level			3 months

B) Non-specialized WCT Members

Basic training under attachment	4 m/c	2 /yr	8 months
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VI Financial requirements

The committee deliberated on the financial requirements for different types of training programmes, giving due considerations to varied conditions prevailing in the country such as distances, accessibility, availability, of infra-structural facilities like electricity, halls, audio-systems, etc., the calculations are based on 6,560 trainee days per year as under,

No. of participant days : WCT Basic Training $6 \times 25 \times 40 = 6,000$

Special training $4 \times 20 \times 7 = 560$

Total Participants days per year = 6,560

The financial requirement for such a training unit will be tabulated below:

S.No.	Item No.	Unit	Rupees	Requirement
Non – Recurring				
1.	Furnitures & Fixtures		2.00.000	
2.	Phones & Extension	2	10.000	
3.	Vehicles	1	3.50.000	
4.	Computer with software & Printer	1	1.50.000	
5.	Copying Machine	1	1.50,000	
6.	Fax and Modem	1	30.000	
7.	Colour TV and VCR & Multi Media Pr.	1	70,000	
8.	Overhead Projector	1	15,000	
9.	Slide Projector	1	20,000	
10.	Laboratory Equipment (Optional)	1	2,50,000	
Sub Total				12,45,000
Recurring				
11.	Rent for premises	@25,000/month		3,00,000
12.	# Salary for 4 members	@ 5,000/month		2,40,000
13.	Accountant/Office ADM	@ 3,000/month		36,000
14.	Salary of Caretakar (1 person)	@ 2,000/month		24,000

15.	Messenger /Driver (2 persons)	@ 2,000/month	48,000
16.	\$ Honorarium t Guest faculty for 2 persons	@ 500/week for 30 weeks	30,000
17.	Vehicle Maintenance	@ 4,000/month	48,000
18.	Boarding	@ 100/day	6,56,000
19.	Training Material	@10,000/course	1,00,000
			<hr/>
			14,81,200
20.	Contingencies (of Recurring Cost) @ 5%		74,060
21.	@ Overheads cost (of Recurring cost) @ 15%		2,22,180
	Sub Total		17,77,440

4 Additional trainers may be required if the training unit conducting training programmes for non specialized WCTs.

\$ It is expected that 2 guest faculty will be required per week additional use of guest faculty may be made when there are training programmes for non specialized WCT members.

- Cost of Boarding and Training Material of PIAs is to be met from their own training budget of PIAs amounting to Rs.7,56,000

@ CAPART assistance will be 90% of Recurring cost. The remaining being contribution of the training unit.

SUMMARY OF FINAICL REQUIREMENT

	CAPART	SVO	PIA	TOTAL
Non-Recurring	9,96,000	2,49,000	-	12,45,000
Recurring	8,43,696	1,77,744	7,56,000	17,77,440
Grand-Total	18,39,696	4,26,744	7,56,000	30,22,440

Support to Voluntary Organizations

With high stake in promoting Voluntary effort to ensure the success of this programme. CAPART has taken a pragmatic step to support some competent voluntary organizations that are capable of functioning as Support Voluntary Organizations. The expectation in that such SVO's should provide all the technical, managerial training liasioning and trouble shooting which normally available to a Government PIA through the respective department. It is for this reason that clause (26) of the CAPART Guidelines elaborates on the role and functions of SVOs alongwith the assistance by CAPART to such SVOs for successfully assisting voluntary organizations to become PIAs.

Various functions assigned are:

1. Training : Institutional or in the field
2. Hand-holding Operation in participatory planning
3. Preparing proposals
4. Community organizing

5. Record – keeping and reporting
6. Liasoning with Government Agencies
7. Assistance in mobilizing bridge loans through financial institutions to overcome temporary cash flow problems.
8. Building capability of the watershed community in managing the own resources
9. Others, according to local situation and ground realities.

The committee gave a considerable thought to the role of SVOs identified following possibilities.

1. Support Voluntary Organization undertaking training alongwith support during the implementation.
2. Support voluntary organization undertaking training but not providing support during implementation.
3. Support voluntary organization providing only the support during implementation but not training. However, such agency may have some training as part of its support either on field or in the institution.

The committee deliberated on the Role of the Support voluntary organization and identified following 4 major areas through which it achieve the

2. Development Support : This activity can be carried out employing following personnel.

Agriculturist / Agronomist	1 Person
Agricultural Engineer	1 Person
Civil Engineer	1 Person
Forestry/plant Sciences	1 Person
Community Organizers	2 Persons

These persons will be providing on job support to the PIAs. During implementation, organize necessary training where the PIA find necessary.

3. Research

This will be the continuous activity of the support voluntary organization. It will undertake different kinds of Research Project necessary for the support of this programme. This will be carried out in both the disciplines technical as well as social disciplines personnel required will be a Hydrogeologist an Agromist an Economist. Here only the salary of the personnel sanctioned is supported by CAPART while cost of the research, projects is sought from other funding institutions like CSIR, DST, CAPART.

4. Communications:

This is an important area through which the PIAs will be reaching the target groups and community at large. This needs specialized personnel one each of

- a) Rural communication techniques
- b) Artist
- c) Writer / editor

The committee worked out implications both of training programme of funds requirements for

1. Support Voluntary Organizations without training unit
2. Support Voluntary Organization only training unit.

This would mean that when the same Voluntary Organizations takes on the responsibility of SVO and running a training unit, there will be some saving on expenditure particularly on equipment. This will depend upon the composition of the staff/faculty and also on the location of SVO and training unit and the distance between the two while considering its suggestions and estimates, the committee recommend that.

1. The SVO/Training unit should be sanctioned for 5 years, with review of a performance at the end of the 1st and 3rd year. When necessary CAPART should encourage and support setting up of a campus with open land and building space not exceeding 3 acres. It will include buildings for hostel lecture, rooms, library, office quarter for warden, driver, and messenger, laboratory etc., details of estimate is annexed.

2. The estimate is given for 1st year when it is to be sanctioned for a period longer than 1 year escalation will have to be provided at 10 per year.

The training committee gave considerable thought and deliberated upon the financial assistance that should be provided by CAPART for the VOs that would take up the responsibility of SVO/Training. The committee thought it advisable that the VO should also make contribution towards these costs. This would require the VO to raise some funds from other resources so that it does not depend entirely on CPART for its activities. It is good for the voluntary section to have broad base of its funding and for its self respect. The committee has therefore recommended VOs contribution as follows:

1. For recurring expenses 10%
2. For Non-recurring expenses 20%
3. When a campus is set up

The financial requirement for such VOs will be tabulated below:

S.No.	Item	Requirement (Rs.)
	Non-recurring	
	Vehicle	3`50,000
	Furniture	300,000
	Office Equip.	700,000

Computer/Softwares Fax		
Copier/Tele System		
Audio – Visuals Equipment		
TV/VCR, Camera, OHP Slide Pr	150.00	
Bridge Financing	200,00	
	<hr/>	
Sub Total		1,700,000

Recurring

A. Programmes

Training	400.000
Workshop/Seminars @ 4 per year	200.000
Communication Mat (Video, charts)	250.000
Info. Services / Softwares	75,000
Library/Literature	75,000
Research/Reports	50,000
Assistance to field support units	350,000
Pilot/innovative projects	100,000
Consultancies	250,000
	<hr/>
	1,750,000

B. Office Operations

Rent for Office Premises @20,000 Per month, telephone/fax/postage Stationery /C Postage etc. Local conveyance, Repair & Maint. Electricity, Insurance, Computer Maint. Pantry Consum	450.00
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C.	Salary		
	Programme staff @ 5000x12x12	720.000	
	Support staff	288.000	
		<hr/>	
	Total Salary	1008.000	1,008.000
D.	Travel and Vehicle Operations		160.000
E.	Contingencies @ 5% of (A+B+C+D)		168.400
	Sub-total		3,368.000

Summary of Financial Recruitment:

	SVO	CAPART	TOTAL
Non-Recurring	340.000	13,60.000	17,00.000
Recurring	336.000	30,31,200	33,68,000
Grand Total	676.800	43,91,200	50,68,000

Acknowledgements:

The Chairman and the members are thankful to National Standing Committee on watershed development, CAPART for the opportunity to study such an important topic. Committee is also thankful to Shri Anil Shah and his colleagues at Development Support Centre for untiring and relentless assistance during the two days of committee deliberations. Committee also records its thanks to Shri T.S. S. Chauhan, Convenor and Ms. Suhasini Mulay, Media Advisor, CAPART for meaningful participation.

(DR. M.A. GHARE)
CHAIRMAN – TRAINING COMMITTEE

INDICATIVE SYLLABUS FOR TRAINING OF PROFESSIONAL WOT UNDER CAPART PROGRAMME FOR WATERSHED

I WORKSHOP ON WATERSHED AWARENESS

1. Watershed Development concept and necessity
2. Economical Balance on Earth and its
3. Involvement of women and landless in Watershed Development
4. Problems and Solutions in Watershed Development
5. Involvement of villagers, watershed committee local agency, government functionaries in watershed development projects.
6. Media's used for awareness of watershed project
7. Preparation of awareness programme by participants and its demonstration in village.

II WORKSHOP ON PARTICIPATORY RURAL APPRAISAL

1. PRA and RRA methods, concept and methodology
2. Concept of Resource map and social map
3. To draw resource map and social map with the help of villagers (Practical)
4. Concept of seasonality and wealth ranking
5. Preparation of tabular form of seasonality and wealth ranking with the help of villagers (practical)
6. Concept of time line and social organization and its practical with the help of villagers
7. Transect walk
8. Presentation of information in village

III. WORKSHOP ON SOCIO-ECONOMIC SURVEY

1. Population, Social Involvement people's activities
2. Purpose of planning of social survey
3. Various types of social survey
4. Evaluation of social survey
5. Hypothesis
6. Necessity of planning

DETAILS

What is mean by science and its characteristics, various types of science, social structure, science base study systems in social science

Relationship between social and economic survey

Questionary, various types of questionaries and its sequence, advantages and disadvantages of questionaries.

Interview and its various types and its advantages and disadvantages, limitation of interview, process of interview condition of observation, various types of observations

Data collection, various types of data collection analysis of data importance of data analysis editing of data and its process, coding of data, tabulation of data, various types of tables, results of analysis and its use of planning.

IV WORKSHOP ON TECHNICAL SURVEY

1. Defination and importance of technical survey .. i) Background of Subject, ii) Defination and types of survey, iii) importance of survey, iv) principles of survey, v) use of engineering survey in watershed development.

2) Introduction to survey instruments.. i) Types of survey instruments, their use and importance a. Chain, b. Tape, c. Ranging rod, d. Optical Square, e. cross staff, f. plain table set, g. dumpy level, h. meter staff, i. Theodolite, j. prismatic compass, k. abney level, l. planimeter, m. pantograph, n. level tube, o. ghat traicer, p. telescopic allidade.

3. Map Reading : - i) defination of map, ii) basic parts of map, iii) types of maps, iv) scales of maps and types, v) methods of topological representation of land, vi) map reading.

4. Direction, distance and its measurements: - i) defination of direction and distance and its scale, ii) types of direction and distance and scale iii) instruments are required for measuring distance, iv) conversion of scale, v) various mistakes and errors in the measurement of distances, vi) types of mistakes and errors in measurement of distance, vii) measures adopting for reducing errors and avoiding mistakes, viii) inducing various counter maps for inducing their shapes.

5. Types of engineering survey : - i) types of chain survey and its use, ii) principal of chain survey and its use, iii) precaution during engineering survey, iv) method of chain survey, v) Practical of chain survey, vi) compass survey and its practical.

6. Plain Table Survey : - i) introduction, ii) materials and instruments used in plain table survey, iii) general procedure of plain table survey, iv) types of plan table survey.

7. Levelling : - i) introduction, ii) terminology used in levelling, iii) types of levelling, iv) levelling instruments, v) terminology used in process of levelling, vi) level adjustments, vii) levelling, viii) methods of calculation of level, ix) classification of levelling, x) problems in levelling, xi) errors in levelling, xii) neatness of levelling measurements.

8. Counter survey by Dumpy Level : i) aim of countour survey, ii) characteristics of counter line, iii) uses of countour line, iv) methods of countour drawing.. a) A frame b) watertube level, vi) preparation of countour map.

9. People's Participation in Technical Survey : - i) basic concept, ii) important paramters to follow during survey, iii) effect of people's participation.

V. WORKSHOP ON SOIL SURVEY AND CLASSIFICATION

1. Soil, Gensis and its Development : - i) types of rock, ii) process of soil genesis.. a) physical erosion, b) chemical erosion, iii) agents responsible for soil genesis, iv) background of soil development, v) basic concept of soil development.. a) improvement in productivity and physical state of soil, b) soil and water conservation measures (engineering, biological and fertilizers)

2. Characteristics of Soil and its Classification : - i) defination of soil, ii) physical characteristics of soil a) texture, b) slope, c) depth, d) structure, e) porosity, f) density, g)

dynamic contraction ability, h) colour of soil, i) specific heat of soil, j) field capacity etc.,
iii) chemical characteristics of soil.. a) pH b) electrical conductivity, c) organic matter, d)
measure and micro nutrients availability, iv) classification of soil on the basis of physical
and chemical characteristics.

3. Soil Profile : i) background, ii) different layers and its composition, iii) use of
different nutrients found at different level.

4. Land and Land Classification : - i) land classification, ii) Indian soils, a) types of
Indian Soils, iii) Maharashtra soils, a) types of Maharashtra soils

5. Soil survey and Land Capability Classification : - i) definition of soil survey and
its types, ii) aims of soil survey, iii) land capability classification, a) capability class I, b)
capability class II, c) capability class III, d) capability class IV, e) capability class V, f)
capability class VI, g) capability class VII, h) capability class VIII.

6. Practical of Soil Characteristics

7. Types of Water in Soil

8. Waterholding Capacity of Land : - i) background, ii) waterholding capacity on the
basis of texture, iii) waterholding capacity on the basis of depth of soil, iv) available
water in soil, v) soil structure, vi) types of water in soil, vii) dry soil, viii) available water,
ix) measurement of available water, x) measurement of soil water in laboratory, xi) field
level soil water measurement, xii) limitations of field measurements.

9. Soil Testing and Methods of Soil Sampling : - i) necessity of soil testing, ii) importance of soil testing, iii) types testing, iv) types of sample collections

10. Preparation of soil Map (practical)

VI WORKSHOP ON HYDROLOGY

1. Hydrological Cycle, water and its characteristics : - i) Hydrological Cycle, ii) characteristics of Water, a) physical characteristics 1. latent heat, 2. Viscosity, 3. Density, 4. Colour, 5. Odour, 6. Taste, 7. boiling point, 8. melting point, 9. solubility etc., b) chemical characteristics, 1. PH, 2. electrical conductivity, 3. hardness etc., iii) effect of increased concentration of different chemicals in water, iv) comparison of surface water and ground water v) salient features of water.

2. Geohydrology : - i) background, ii) coverings of earth, iii) continental crust, iv) hydrology, v) factors controlling ground water, vi) types of ground water based on characteristics, vii) water management.

3. Water availability and its Measurement : - i) uses of water, ii) rainfall, its type, iii) infiltration, iv) evaporation, v) transpiration, vi) evapotranspiration, vii) runoff, viii) types of water on earth, ix) available water in India.

4. Effect of Human Activities on Hydrological Cycle : i) hydrological cycle, ii) attempts of artificial rainfall, iii) treatments to decrease evaporation from soil, iv) problems due to irrigation, v) forest and its relation to evaporation, vi) greenhouse effect, vii) Atomic energy.

5. Rainfall : - i) introduction, ii) types of rain, iii) raingauge, iv) methods to calculate the rainfall, v) rainfall intensity, vi) duration, vii) recurrence interval, viii) areal extent

6. Runoff : i) introduction, ii) types of runoff, iii) factors affecting runoff, iv) calculation of runoff, v) peak rate runoff.

7. Use of Hydrology in Watershed Development: - i) uses of hydrology.. a) urban areas, b) industries, c) communications, d) flood control, e) Pollution control, ii) Hydrology in WSD, iii) shape and size of watershed, iv) graded at contour bunds and trenches, v) diversion weirs, vi) soil conservation measures.

8. Evaporation : i) rate of evaporation, ii) vapour pressure, iii) factors controlling, iv) temperature, v) wind, vi) atmospheric pressure, vii) tds, viii) measurement of evaporation, ix) evapotranspiration

VII WATERSHED ON LAND TREATMENT

1. Geomorphology of Watershed:- i) introduction, ii) basic concept of Geomorphology, iii) types of drainage pattern.

2. Land Erosion : - i) definition and types of erosion on the basis of erosion agents, ii) types of erosion due to water and its effects, iii) valley and gully information, iv) factors affecting erosion.

3. Types of Land Treatments : - i) introduction, ii) basic information required for land treatment, iii) principal and aim of land treatment, iv) types of land treatments.

4. Gully Plug and Trenching : - i) background, ii) planning of gully control, iii) brush wood dam, loose boulder check dam with vegetative bund, earthen structure etc., iv) permanent construction for gully control, v) contour trenching and afforestation.. a) types of contour trenching, vi) terracing.. a) types of terracing, b) run off from terrace, vii) terrace lay out, viii) terrace construction and maintenance, ix) bench terrace, its types and constructions, x) vegetative outlets and water course, xi) bunding.. a) definition its types and use and its planning.

5. Farm Pond and Diversion Drain: - i) site selection for farm pond, ii) planning and structure of farm pond, iii) diversion drain and its construction method and use.

6. Biological Methods of Soil and Water Conservation : i) contour vegetative hedges, ii) repairs of soil conservation structures, iii) types of biological methods and soil and water conservation a) soil classification and its use in crop planning, b) dry land crop management c) contour cultivation, d) proper irrigation, e) inter cropping, f) agro forestry etc.,

7. Land Classification and its Relationship : - I) basic concept, ii) criteria or classification, iii) land classification and its relationship.

8. Problems in Development Work and People's Participation: - i) importance of People's participation, ii) work of Government, iii) Problems in developmental work, iv) types of people's participation.

VIII. DRAINAGE LINE TREATMENT

Planning for water conservation:-

- Requirement of water for Agriculture, drinking water and for other purposes
- Availability of runoff, water balance study
- 50% dependability, 75% dependability etc.,

Drainage Analysis:

- Types characters, drainage density, factors affecting on drainage pattern.

Various types of treatment:-

- Brush wood dam, live check dam, loose bolder structures with vegetative support.
- Dry rubble, nala plugs, small earthen structures, gabien structures
- Diversion, bandara, K.T. Were, masonry check dam, earthen check dam, underground bandhara

- Various considerations for site selection
- Foundation strata
- Structural design of the various structures
- Hydraulic design of the various structures
- Design criteria, used, technical norms, cost norms etc.,
- Construction of the structures
- Various levels of the check dams
- Various terms used in dams
- Water management and selection of crops

IX SUPERVISION AND MONITORING

A) Land Treatment

Gully plugs, contour bunding, Trenching etc., and skill of supervision, line out and marking

How to dig foundation, slope maintaining, matching both banks of gullies. How to find vertical and Horizontal interval on land.

Surplus Arrangement, Keying etc.,

Appropriate utilization of various materials

b) Drainage Line Treatment

- Line out & marking at selected site.
- Foundation digging upto hard strata

- Keying on both ranks
- Filling the foundation with impersion material
- Bed concrete ratio
- U.C.R. masonry in various ratio of cement mortar, header, interlocking, copping in cement concrete
- Spillway constructions
- Construction of whole structure as per the provided / sanctioned
- Approved drawing and within the sanctioned amount.
- Labour muster, stock register, measurement book.

Monitoring

- Speed / Progress of the work
- If excess, expenditure, why? Justification
- Change in the schedule if any
- Expenditure in various activities
- construction of various measurement proper sites, if any change why dimensions, slopes foundation, construction etc.
- material used
- change in site if any
- reporting to funding agency
- Timely reporting on technical, social and accounts matter (monthly, quarterly, annually)

Financial Aspects

- Whether all the receipts are accounted
- Whether all the receipts and utilizations their form are chanzalized from prescribed format
- reporting to MHA, Income Tax Society, Public Trust, Donar etc.,
- Indexing the ledger as per the approved budget head of accounts
- whether the projects are keeping properly the vouchers supporting
- they are including all administrative expenses, all necessary registers, and records are maintain

Chief functionary of the project is regularly looking into the books of accounts and records.

Whether the bank account is operating joint signatory.

Resolution of the executive committee regarding accounts.

Social Aspects.

Awareness and motivation of the villages regarding programme

Involvement of the community in planning implementation etc.,

Formation of WSD committee and their roles and responsibilities

Involvement of weaker sections of the community

Beneficiaries, benefits, direct, indirect

Peoples participation and their contribution in terms of cash or kind

X CROP PLANNING

Concept of sustainable agriculture

Agroclimatic zones of Maharashtra and India

Importance of soil survey in Agriculture (soil analysis, land classification on the basis of soil texture and depth)

Selection of crop according to agroclimatic zone

Factors affecting selection on crop type

Crop water requirement

Crop rotation

Existing cropping pattern

Importance, species, selection,
fertilizers doses, mulching, weeding

Energy
Silvipasture systems
Grass land development

POST DEVELOPMENT ACTIVITIES

Role of Watershed committee post completions

- a) for maintenance
- b) for non farm activities
- c) for rural industries

Rural Industries

- a) Service in villages
- b) Raw material available
- c) Possible processing
- d) Preservation / dehydration
- e) Marketing

XIII WORKSHOP ON IMPACT ASSESSMENT & MAINTENANCE

Impact Assessment

Review on bench work survey – Socio – Economic Studies

Areas of Impact Assessment – Natural Resource potential, socio economic

Parameters for Impact Assessment – crop yields, Seasonal, Water Levels, Fodders etc.,

Method of Impact Assessment – Records and information

Objectives & Achievements – Short term & long term – a diagnosis.

Maintenance

Importance of Maintenance – in built mechanism

Systems for Maintenance – Feasible, sustainable & viable

Maintenance on private lands & community lands

Roles and Responsibilities in Maintenance – Communities Role

Factors influencing maintenance – technological, economic socio cultural & eco systemic

XIV WORKSHOP ON ACCOUNTS WRITING & NGO MANAGEMENT

Registration – Society & public trust

Importance of Memorandum, Rules and its purpose

Procedure – Meetings, Reports, Statements

Rules related to Voluntary Organizations

Court procedures and Sundry Acts

Preparation of proposal

Objects of Accounts Keeping, Accounts Keeping & Writing

Preparation of Budgets

Bank transactions & Audit

INDICATIVE SYLLABUS FOR TRAINING OF NON-PROFESSIONAL WCT
UNDER CAPART PROGRAMME FOR WATERSHED DEVELOPMENT

I) WATERSHED AWARENESS

1. Watershed Development concept and necessity
2. Economical Balance on Earth and its
3. Involvement of women and landless in watershed development
4. Problems and Solutions in Watershed Development
5. Involvement of Villagers, Watershed Committee, Local Agency, Government Functionaries in watershed development project
6. Media's used for Awareness of Watershed project
7. Preparation of Awareness Programme by Participants and its Demonstration in Village.

II. PARTICIPATORY RURAL APPRAISAL

1. PRA & RRA methods, concept and methodology
2. Concept of Resource Map and Social Map
3. To draw Resource Map and Social Map with the help of villagers (Practical)
4. Concept of seasonality and wealth ranking
5. Preparation of tabular form of seasonality and wealth ranking with the help of villagers (Practical)
6. Concept of time line and social organization and its practical with the help of villagers
7. Transect Walk
8. Presentation of information in village

III. SOCIO-ECONOMIC SURVEY

Population, Social Involvement People's Activities

Purpose of Planning of Social Survey

Various types of Social Survey

Evaluation of Social Survey

Hypothesis

Necessity of Planning

DETAILS

That is mean by science and its characteristics, various types of science, social structure, science base s study systems in social sciences

Relationship between social and economic survey

Lestionary, various types of questionaries and its sequence advantages and disadvantages of questionaries.

Interview and its various types, and its advantages and disadvantages, limitation of interview, process of interview, condition of observation, various types of observations.

Data collection, various types of data collection, analysis of data, importance of data analysis, editing of data and its process, coding data, tabulation of data, various types of tables results of analysis and its use in planning.

IV TECHNICAL SURVEY

Defination and importance of technical survey : i) Background of subject, ii) Defination and types of survey, iii) importance of survey, iv) principles of survey, v) use of engineering survey in watershed development

Introduction to survey instruments .. 1) Types of survey instruments their use and importance. a. Chain, b. Tape, c. Ranging road., d. Optical square, e. cross staff, f. plain table set, g. dumpy level, h. meter staff ., i.Theodolite, j. prismatic compass, k. abney level, l. planimeter, m. kpanograph, n. level tube, o. ghat traicer, p. telescopic allidade.

Map Reading :- I) defination of map, 11) basic parts of map, 111) tykkpes of maps, iv) scales of maps and types, v) methods of topological represantation of land, vi) map reading.

Direction, distance and its measurement:- I) defination of direcstion and distance and its scale,. ii) types of direction and distance and scale iii) instruments required for measuring distance, iv) conversion of scale, v) various mistakes and errors in the measurement of distances, vi) types of mistakes and errors in measurement of distance, vii) measures adopting for reducing errors and avoiding mistakes, viii) inducing various countour maps for inducing their shapes.

Types of engineering survey:- I) types of chain survey and its use ii) principal of chain survey and its use iii) precaution during engineering survey iv) method of chain survey, v) practical of chain survey, vi) compass survey ..a) introduction, b) Method of use of prismatic compass and its practical.

Levelling:- I) introductions ii) terminology used in levelling, iii) types of levelling, iv) levelling instruments, v) terminology used in process of levelling, vi) level adjustments, vii) levelling, viii) methods of calculation of level, ix) classification of levelling, x) problems in levelling, xi) errors in levelling, xii) neatness of levelling measurements

Countour, survey:- I) aim of countour survey, ii) characteristics of countour line, iii) uses or countour line, iv) methods of countour drawing.. a) A frame, b) watertube level,

People's participation in Technical Survey:- I) basic concept, ii) important parameters to follow during survey, iii) effect of

5) SOIL SURVEY AND CLASSIFICATION

Soil Genesis and its Development:- I) types of rock, ii) proced of soil genesis.. Soil profile:- I) background, ii) different layers and its composition, iii) use of different nutrients found of different level iv) agents responsible for soil genesis, iv) background of soil development, v) basic concept of soil development.. b) soil and water conservation measures engineering, biological and fertilizers)

Characteristics of soil and its Classification:- I) definition of soil, ii) physical characteristics of soil.. a) texture, b) slope, c) depth, d) structure, e) porosity, f) density, g) dynamic, contraction ability, h) colour of soil, I) specific heat of soil, j) field capacity etc. iii) Chemical characteristics of soil.. a) PH, b) electrical conductivity, c) organic matter, -d) measure and micro nutrients availability, iv) classification of Soil on the basis of physical and chemical characteristics.

Soil Survey and Land Capability Classification:- I) definition of soil survey and its types, ii) aims of soil survey iii) land capability classification.. a) capability class I, b) capability class II, c) capability class III, d) capability class IV, e) capability class V, f) capability class VI, g) capability class VII, h) capability class VIII.

Practical of Soil Characteristics

Types of Water in Soil,

Waterholding Capacity of Land:- I) background, ii) waterholding capacity on the basis of texture, iii) waterholding capacity on the basis of depth of soil, iv) available water in soil, v) soil structure,

Soil Testing and Methods of Soil Sampling:- I) necessity of soil testing ii) importance of soil testing, iii) types of soil testing, iv) types of sample collection methods eg. a) pit method, b) with the help of auger etc., preparation of Soil Map (Practical)

Practical of Soil Sampling

6. HYDROLOGY

Hydrological Cycle, Water and its characteristics:- I) Hydrological cycle, ii) characteristics of water.. a) Physical characteristics I. Colour, 2. Odour, 3. Taste, 4. Boiling point, 5. Melting-point, iii) effect of increased concentration of different chemicals in water, iv) comparison of surface water and ground water, v) salient features of water.

Geohydrology:- I) hydrology, ii) factors controlling ground water, iii) types of ground water based on rock characteristics, iv) water management.

Water availability and its Measurement:- I) uses of water, ii) rainfall, its type, iii) infiltration, iv) evaporation, v) transpiration, vi) evapotranspiration, vii) runoff, viii) types of water on earth, ix) available water in India.

Effect of Human Activities on Hydrological Cycle:- I) hydrological cycle, ii) treatments to decrease evaporation from soil, iv) problems due to irrigation, v) forest and its relation to evaporation,

Rainfall:- I) introduction, ii) ranges, iii) methods to calculate the rainfall,

Runoff:- I) introduction, ii) types of runoff, iii) factors affecting runoff, iv) calculation of runoff

Use of Hydrology in Watershed Development:- a) urban areas, b) industries, c) communications, d) flood control, e) pollution control. ii) Hydrology in WSD, iii) shape

and size of watershed, iv) graded at contour bunds and trenches, v) diversion weirs, vi) Soil conservation measures, vii) Evaporation.

7. LAND TREATMENT

Land Erosion:- i) definition and types of erosion on the basis of erosion agents, ii) types of erosion due to water and its effect, iii) valley and gully formation, iv) factors affecting erosion

Types of Land Treatments:- i) introduction, ii) basic information required for land treatment, iii) principal and aim of land treatment, iv) types of land treatments

Gully plug and Trenching:- i) background, ii) planning of gully control, iii) brush wood dam, loose boulder check dam vegetative bund, earthen structure etc., iv) permanent construction for gully control, v) contour trenching and afforestation.. a) types of contour trenching, vi) terracing.. a) types of terracing, b) run off from terrace, vii) terrace layout, viii) terrace construction and maintenance, ix) bench terrace, its types and constructions, x) vegetative outlets and water course, xi) bunding.. a) definition, its types and use and its planning

Farm pond and Diversion Drain:- i) site selection for farm pond, ii) planning and structure of farm pond, iii) diversion drain its construction method and use

Biological Methods of soil and water conservation: i) contour vegetative hedges, ii) repairs of soil conservation structures, iii) types of biological methods of soil and water conservation.. a) soil classification and its use in cropping planning, b) dry land crop management, c) contour cultivation, d) proper irrigation, e) inter cropping, f) agro forestry etc.,

Problems in Development Work and People's Participation in land treatment :- i) importance of people's participation, ii) work of Government, iii) problems in development work, iv) types of people's participation.

8. DRAINAGE LINE TREATMENT

scanning for water conservation

Requirement of water for Agriculture, drinking water and for other purposes

Availability of runoff, water balance study

50% dependability, 75% dependability etc.,

Various types of treatment:-

Brush wood dam, live check dam loose, boulder structures with vegetative support.

Dry rubble nala, plugs, small earthen structures, gabien structures

Diversion bandara, K.T. Were, Masonary check dam, earthen check dam, underground bandhara.

Various considerations for site selection

Foundation strata

Structural design of the various structures

Hydrolic design of the various structures

Design criteria used, technical norms cost norms etc.,

Construction of the structures

Various levels of the check dams

Various terms used in dams

Water management and selection of crops

9. SUPERVISION AND MONITORING

SUPERVISION

Precautions during line out : I) accuracy of location, ii) accuracy of measurements,

Foundation : I) Strata and depth, ii) Lateral Keying, (Lat. Founds) iii) verticality of sides of offsets, iv) materials and proportions.

Superstructures : - I) interlocking, ii) hor & verticle, iii) marker proportions & types, iv) impervious layers, v) material quality, vi) finishing, vii) slopes for earthquake, viii) stability pitching etc.,

Special: I) Measurement and precautions during it, ii) Record keeping, muster roll.

10. CROP PLANNING

Concept of sustainable agriculture

Importance of soil survey in Agriculture (Soil analysis land classification on basis of soil texture and depth)

Factors affecting selection on crop type

Crop water requirement

Crop rotation

Existing cropping pattern

Recommended cropping pattern

Organic farming, chemical fertilizers

Vermiculture

Involvement of villagers in planning of cropping pattern.

11. LAND USE PLANNING

Need and importance of land use planning

Land use capability classification (I-VIII)

Existing land use pattern

a) Culturable land

1) Rainfed Agriculture

2) Perennial crops

3) Seasonal crops

b) Culturable waste land

c) Waste land

d) Community land

Agriculture - Dry land agriculture
- irrigated agriculture
- Crop selection
- crop water requirement

- Conjunctive use of water
 - Crop rotation
 - methods of irrigation
- Dry land horticulture
- Management of various dry land horticultural trees, selection of trees
 - Species methods of planting, watering system etc.,
 - methods of irrigation
 - importance, species, selection fertilizer doses, mulching, weeding

Energy

Silvipasture Systems

Grass Land Development

POST DEVELOPMENT ACTIVITIES

Role of watershed committee post completions

- Funds
- a) for maintenance
 - b) for non farm activities
 - c) for rural industries

Rural Industries

- a) Services in villages
- b) Raw materials available
- c) Possible processing
- d) Preservation/dehydration
- e) marketing

13. IMPACT ASSESSMENT & MAINTENANCE

Impact Assessment

Review of bench work survey – Socio – Economic studies

SCHEDULE OF BUILT UP SPACE REQUIRED FOR SVO / TRAINING UNIT

		Rs.
1.	Land - 3 acres	
2.	Development of Training Centre Campus (Fencing, Roads, Plantation etc.,)	2,00,000
3.	Schedule of Built up space required for SVO/ Training unit	sq.ft.
	a) Training Hall – 2 Nos. 30' x 20' x 20' Nos.	1200
	b) Soil & Water Testing Lab 20' x 20' x 1 Nos.	400
	c) Residential Rooms with sanitary facilities – 20 Nos. 20' x 12' x 20 Nos.	4800
	d) Mess – Kitchen, Store room 15' x 20' x 2 Nos.	600
	e) Dining Hall 30' x 20' x 1 No.	600
	f) Office and Library 15' x 20' x 2 Nos.	600
	g) Garage, Watchmen's room 15' x 20' x 2 Nos.	600
	h) 2 bed room flat	750
	i) Communi. Room	180

	Total	9730
	Say	10,000sq.ft.
	10,000sq.ft. @ Rs.450/-	45,00,000
	Grand Total	----- 47,00,000 -----

**GAZETTED OFFICERS TRAINED UPTO MARCH 1997 BY CSWCRTI,
DEHRADUN AND ITS REGIONAL RESEARCH CENTRES**

Discipline	Dehradun	Bellary	Kota	Total
Agriculture	1310	114	52	1476
Forestry	278	3	-	281
Engineering	204	4	4	212
Others	91	28	9	128
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	1883	149	65	2097
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**GRADUATES ASSISTANTS TRAINED UPTO MARCH 1997 BY CSWCRTI
THROUGH ITS REGIONAL RESEARCH CENTRES**

Discipline	Bellary	Kota	Ootacamud	Hazaribagh	Total
Agriculture	564	1280	1184	1144	4172
Forestry	71	69	187	80	407
Engineering	15	17	168	13	213
Others	47	10	64	351	472
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	697	1376	1603	1588	5264
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**List of yearwise training programmes conducted at CRIDA during April 1978 to
March 1997**

Sl.No.	Year	No. of Training Programmes	No. of Participants
1.	1978-79	1	15
2.	1979-80	6	125
3.	1980-81	12	225
4.	1981-82	10	201
5.	1982-83	15	225
6.	1983-84	9	170
7.	1984-85	6	114
8.	1985-86	12	232
9.	1986-87	5	93
10.	1987-88	5	111
11.	1988-89	4	77
12.	1989-90	9	175
13.	1990-91	7	116
14.	1991-92	13	216
15.	1992-93	11	195
16.	1993-94	6	130
17.	1994-95	7	76
18.	1995-96	14	145
19.	1996-97	6	76
Grand Total		158	2717

Training of Persons/Officials associated with Watershed Development as estimated by MANAGE, Hyderabad

<u>Level</u>	Name of Functional		No. of Days	No. of Persons required to be trained in a Project	Average No. of Project in a District	Total No. of Persons to be trained	No. of Courses to be organized
Micro Water-shed Level	1. Members of Gram Panchayat	District Level	3 days	24	3	72	3
	2. Village Level Functionaries	District Level	2 days	25	3	75	3
	3. Watershed Secretary	District Level	Two Weeks	10	3	60	3
Project Level	4. Members of PIA	State Level	One Week	4	3	12	1
	5. WDT	State Level	Four Weeks	4	3	12	1
Block Level	6. Members of Block Panchayat	District Level	3 days	8	3	24	1
	7. Block Level Officers	District Level	3 days	8	3	24	1
District Level	8. Members of Zilla Parishad	State Level	3 days	8	3	24	1
	9. District Level officers	State Level	3 days	12	3	36	2
State Level	10. State Level Officers	State Level	Two day Workshop				

