

WARASA – JAN SAHBHAGITA

GUIDELINES FOR NATIONAL WATERSHED DEVELOPMENT PROJECT FOR RAINFED AREAS (NWDPRA)



**GOVERNMENT OF INDIA
MINISTRY OF AGRICULTURE
DEPARTMENT OF AGRICULTURE &
COOPERATION**

WARASA – JAN SAHBHAGITA
GUIDELINES FOR
NATIONAL WATERSHED DEVELOPMENT
PROJECT FOR RAINFED AREAS
(NWDPRA)



GOVERNMENT OF INDIA
MINISTRY OF AGRICULTURE
DEPARTMENT OF AGRICULTURE & COOPERATION
RAINFED FARMING SYSTEMS DIVISION

Watershed
Areas'
Rainfed
Agricultural
Systems
Approach

***“What of thee I dig out,
let that quickly grow over,
Let me not hit thy vitals,
or thy heart”***

Atharva Veda, 1000
B.C.

PREFACE

Today, as we engage in perhaps one of the greatest challenges of our times to meet the imperative of increasing agricultural production in a sustainable way, we are more acutely aware than ever before that all of us are “*member(s) of the vast commonwealth of nature*”. And as we continue our search for “*paths to human progress that meet the needs and aspirations of the present generation without compromising the ability of future generations to meet their needs*”, wise stewardship of our natural resources, namely, land, water and bio-diversity becomes one of our foremost objectives.

The Green Revolution was the principal instrument in imparting dynamism to agricultural growth. Modern agricultural technologies developed and extended over the past three decades have contributed to unprecedented growth in the country’s food production. Without the fruits of the Green Revolution, there would be large food deficits and food security itself might have been jeopardized. But now there is a growing concern that these mainstream technologies, which have benefits as well as costs, might not be sustainable. Rapid depletion of groundwater tables on the one hand together with water-logging and occurrence of salinity on the other, could shut down “thirsty” production practices in the decades ahead. It is estimated that about 175 million hectares, nearly half the country’s land area suffers from varying degrees of degradation such as water erosion, wind erosion, ravines, salt affected areas, waterlogging, shifting cultivation and degraded forests.

Agriculture being the largest user of soil and water resources is critical to sustainable development. Watershed Development Approach to rainfed farming encompassed in the *WARASA Jan Sahbhagita Guidelines* is a vehicle for achieving the twin objectives of enhancing production while simultaneously preserving the natural resource base. The thrust in the Watershed Approach is on low-cost, location specific technologies which are more knowledge based and give room to local innovation rather than capital and chemical intensive.

WARASA Jan Sahbhagita as the very name suggests ensures that the Watershed Community remains at the centre of the watershed development project who plan and implement the project in their watersheds. The role of official agencies is more that of facilitators and coordinators. We believe that these new Guidelines will help in making the National Watershed Development Project for Rainfed Areas into a people’s movement and the watershed slogan

*“ Khet ki mitti khet mein, khet ka pani khet mein;
Gaon ki mitti gaon mein, gaon ka pani gaon mein.”*

a reality in the rainfed areas of the country.

Dr. Rita Sharma
Joint Secretary & Land Resources Commissioner
Government of India, Ministry of Agriculture
Department of Agriculture & Cooperation

**GUIDELINES FOR NATIONAL WATERSHED DEVELOPMENT PROJECT
FOR RAINFED AREAS (NWDPR)**

C O N T E N T S		
S.No.		Page No
	Chapter-I	
1.	Introduction	1
2.	Objectives	4
3.	Guiding Principles	4
	Chapter-II	
4.	Project Activities – Preparatory Phase	6
	Chapter-III	
5.	Capacity Building	16
	Chapter-IV	
6.	Community Organisation	22
	Chapter-V	
7.	Planning Phase	30
	Chapter-VI	
8.	Implementation phase	59
	Chapter-VII	
9.	Monitoring and Evaluation	69
	Chapter-VIII	
10.	Success Criteria	73
	Chapter-IX	
11.	Post-Project Activities – Withdrawal Phase	79
Appendices		
I.	Annual allocation of funds for each type of watershed (Ia to Ic)	83-85
II.	Tentative list of items to be considered for taking resolution from the community/Panchayat before final selection of the village	86
III.	Capacity Building and Training	87-90
IV.	Tentative grouping of states for identification of training institutions for the programme	91
V.	Roles and responsibilities of office bearers and others associated with watershed committee and Watershed Association.	92-94
VI.	Salient organizational and management aspects for efficient functioning of new institutional set up at the watershed level	95
VII.	Type of records to be maintained by the watershed committee & PIA	96
VIII(a).	Memorandum of Understanding between Watershed Association and District Nodal Agency	97-100
VIII(b).	Memorandum of Understanding between District Nodal Agency and Project Implementing Agency	101-104
IX.	Proforma under NWDPR scheme for reporting Physical and Financial Progress	105-107
X.	Time-frame for carrying out various activities under restructured NWDPR during IX Plan	108-109
XI.	Outline of Integrated Watershed Development Plan	110-112
XII.	List of Acronyms	113-115

**GUIDELINES FOR
NATIONAL WATERSHED DEVELOPMENT
PROJECT FOR RAINFED AREAS
(NWDpra)**

CHAPTER-I

INTRODUCTION

1. Foodgrain production in the country crossed 200 million tons in 1998-99. This production accrues from 142 million hectares of cultivated land in the country. It is estimated that 37 percent of the cultivated area which is irrigated, i.e. 53 million hectares, contributes 55 percent of total foodgrain production, whereas 63 percent of rainfed area, i.e. 89 million hectares, accounts for only 45 percent of the output. Going by past trends the average spread of irrigation is around four million hectares every five years. Extrapolating this trend it is projected that another 20 million additional hectares are likely to be brought under irrigation in the next 25 years. This will still leave 69 million hectares, nearly half the cultivated area, under rainfed conditions.

2. Rainfed agriculture is complex, diverse and risk-prone and is characterized by low levels of productivity and low input usage. Variability in rainfall results in wide variation and instability in yields. The bulk of the rural poor live in the rainfed regions. The challenge before Indian agriculture is to transform rainfed farming into more sustainable and productive systems and to better support the population dependent upon it.

3. At present very high priority has been accorded by the government of India to the holistic and sustainable development of rainfed areas based on the Watershed Approach. Indeed, the watershed approach represents the principal vehicle for transfer of rainfed agricultural technology. A watershed (or catchment) is a geographic area that drains to a common point, which makes it an ideal planning unit for conservation of soil and water. A

watershed may comprise one or several villages, contain both arable and non-arable lands, various categories of land-holdings and farmers whose actions may impact on each others' interests. The watershed approach enables a holistic development of agriculture and allied activities in the area taking into account various kinds of land-use based on crops, horticulture, agro-forestry, silvi-pasture and forests. This system based approach is the special feature that distinguishes watershed development from earlier plot/field based approach to soil and water management.

4. A large number of projects for productivity enhancement are being implemented based on the watershed approach. This is being done both through centrally sponsored schemes of the government, externally aided projects and private initiatives of local communities and NGOs. The largest project in terms of scope and extent is the National Watershed Development Project for Rainfed Areas (NWDpra), being implemented by the Ministry of Agriculture. Impact evaluation studies both on the ground and through remote sensing techniques have shown that watershed-based interventions have led to increases in groundwater recharge, increase in number of wells and water bodies, enhancement of cropping intensity, changes in cropping pattern, higher yields of crops and reduction in soil losses. While there were major visible gains, the problem of sustainability continued to plague the first generation watershed development projects as evidenced by the unwillingness of local communities to operate and maintain completed structures and plantations on community property. The beneficiaries were too often merely passive recipients rather than active participants in the development of their watersheds. The restructured, second generation, watershed projects have kept people's participation at centre-stage.

5. The NWDpra has been restructured by retaining the technical strengths of the older programme and incorporating the lessons learnt from successful projects, especially on community participation. It is now mandatory for the "watershed development" to be planned, implemented, monitored and maintained by the watershed community themselves. Moreover, to bring about uniformity in approach between the watershed-

based programmes being implemented by various agencies, the revised Guidelines of NWDPRAs are in conformity with the Common Approach for Watershed Development, jointly formulated and adopted by the Ministries of Agriculture and Rural Development. It is expected that the revised NWDPRAs will truly become a people's movement for development of land and water resources, and for enhancing productivity in rainfed areas on a sustainable basis.

6. Management of land resources under the watershed programme includes both cultivated rainfed land as well as uncultivated land under ownership of private land owners, panchayat, revenue department etc. This is being done with a view to increasing food production as well as diversifying the existing farming system particularly of small and marginal farmers through sustainable enhancement of productivity of various commodities. Hence special focus is proposed on aspects such as, Integrated Pest Management (IPM), Integrated Nutrient Management (INM), Farming Systems Approach (FSA), Low External Input Sustainable Agriculture (LEISA), agro-forestry, agri-horticulture, silvi-pasture, animal husbandry etc. The watershed approach would result in improving the productivity of not only agriculture and allied commodities but also the overall production of bio-mass for enhancement of self-employment opportunities and thus the overall income of the rural household.

7. Conservation and management of rainwater holds the key for sustainable agriculture in rainfed areas. In the case of water resource management the focus is not merely on development of new water resource but also on efficient utilization of already developed resource particularly based on indigenous systems. This is to be attempted through substitution of high water requiring crops with low water requiring crops and also through adoption of efficient methods of irrigation (eg. micro-irrigation systems).

8. A "Common Approach for Watershed Development" was jointly formulated and adopted by the Ministry of Agriculture and the Ministry of Rural Development (MoRD), Government of India incorporating the strength

of their earlier first generation-based watershed programmes. These Guidelines have been developed for implementing the National Watershed Development Project for Rainfed Areas (NWDPR) programme of the Ministry of Agriculture. The restructured NWDPR provides for decentralization of procedures, flexibility in choice of technology and provisions for active involvement of the watershed community in planning, execution and evaluation of the programme so that the programme becomes sustainable.

OBJECTIVES

9. The NWDPR was launched in 1990-91 in 25 States and two Union Territories and continues to be implemented during IX plan. During the IX Plan it is proposed to treat an area of 2.25 million hectares at an estimated cost of Rs. 1030.00 crores. The broad objectives of the NWDPR are as follows:

- ❖ Conservation, development and sustainable management of natural resources including their use.
- ❖ Enhancement of agricultural productivity and production in a sustainable manner.
- ❖ Restoration of ecological balance in the degraded and fragile rainfed ecosystems by greening these areas through appropriate mix of trees, shrubs and grasses.
- ❖ Reduction in regional disparity between irrigated and rainfed areas.
- ❖ Creation of sustained employment opportunities for the rural community including the landless.

GUIDING PRINCIPLES

10. Sequence of activities and their operational modalities would vary from situation to situation. Hence, the Guidelines are flexible so that the desired modification could be considered at different levels. The main elements of the guiding principles are as follows: conservation of natural resources, integrated development of natural as well as social resources, in-

situ moisture conservation, sustainable farming system, adoption of ridge to valley approach, due emphasis on production enhancement activities for land owners and livelihood support for landless families, democratic decentralization in decision making, transparency in transactions, mobilization of community at the village level, direct funding to the community, emphasis on “Government” participation in “Community’s” plans, contributory approach to empower the community, building upon indigenous innovations, initiatives and ideas; equity for resource-poor families and empowerment of women, moving away from subsidy oriented development to self-reliant development, convergence of activities / schemes of government and non-governmental organizations etc.

CHAPTER-II

PROJECT ACTIVITIES – PREPARATORY PHASE

11. **Transitional Phase:** These Guidelines will come into effect from 14th November, 2000 and new projects under the scheme in the remaining period of the IX Plan will be sanctioned as per the new Guidelines and revised cost norms. The state governments shall immediately review the situation in each on-going project in the following manner :

- (i) Watersheds, where implementation started during VIII Plan and on which work is still continuing in IX Plan will be completed in the remaining period of IX Plan according to the VIII Plan cost norms and the existing WARASA guidelines (ceiling of Rs.3500 per ha. for slopes below 8 percent and Rs.5000 per ha. for slopes above 8 percent).
- (ii) Watersheds, where implementation started in the first three years of the IX Plan, namely, 1997-98, 1998-99 and 1999-2000 are required to be saturated within balance period of IX Plan in accordance with existing WARASA guidelines but revised cost norms.
- (iii) Watersheds, where implementation started only in the fourth year of the IX Plan, namely, 2000-2001, will be recast as per the new Guidelines and the revised cost norms.
- (iv) Each State will identify new watershed on a pilot basis, about 10 percent of the total watersheds of IX Plan period (including iii above), where the capacity building or pre-project activities in the Preliminary Phase will be carried out in the remaining period of the IX Plan as per the new Guidelines and revised cost norms.

12. New watersheds on pilot basis will be identified expeditiously as per new Guidelines for the purpose of Capacity Building of Project Implementation Agency (PIA)/Watershed Development Team (WDT) and

watershed communities. The selected watersheds should be so distributed, as to be representative of the agro-climatic/agro ecological zone of each of the state. The required fund for these pilot watersheds will be set apart from the current year's allocation by the State Governments.

13. The funds provided to the State Government during 2000-2001 and 2000-2002 shall be judiciously used to achieve above objective.

14. **Awareness Generation and Publicity:** The institutional arrangements require identification and selection of a large number of Project Implementation Agencies. Wide publicity is, therefore, required to be given to these Guidelines amongst different Line Departments, Non Government Organisations (NGOs), Panchayat Raj Institutions, Research and Training Institutions, Krishi Vigyan Kendras (KVKs) and other prospective Institutions for PIA. The State Government, regional / district heads of agriculture department, soil and water conservation department, watershed department etc., should conduct special meetings periodically with the prospective PIAs and the Gram Panchayats to explain the features of these guidelines and clarify any doubts. Copies of these Guidelines should be printed in the local language in adequate numbers and circulated amongst all concerned during these meetings. Expenditure incurred on publicity may be met out of the 3 percent amount from training programme under management component retained at the district level (Appendix – I).

15. **District Nodal Agency:** At present different states are implementing the NWDPRRA programme through different departments namely department of agriculture; department of watershed development; soil conservation department; land development corporation; etc. Likewise these departments are having their respective offices at the district level. In some districts where the technology dissemination component of National Agriculture Technology Project (NATP) is operating, an autonomous agency namely Agriculture Technology Management Agency (ATMA) has also been established, recently. Each state may accordingly identify a nodal department at the

district level to carry out over all management and supervision of the programme.

For this purpose, a Committee shall be constituted under the Chairmanship of District Head of the Nodal Department. The Committee will consist of the following members:

- ❖ 4 representatives from major line departments in the district.
- ❖ 1 representative from the NGO (to be rotated on annual basis).
- ❖ 1 representative from District Rural Development Agency (DRDA).
- ❖ 1 representative from nearby research organization / KVK.
- ❖ 1 representative from rural engineering department/Public Works Department (PWD)/irrigation department etc.

This Committee is a sub-committee of the District Watershed Committee and will be known as District Nodal Agency. This committee will meet once in a month.

The very purpose of constituting a Committee (District Nodal Agency) under the District head of the Nodal Department is to broad base the decision making process at the level of District Head and also to carry out necessary preparatory work for those decisions which are required to be taken by District Watershed Committee.

16. The District Nodal Agency will carryout overall management and supervision of the programme including activities like identification of eligible PIAs, selection of new watersheds, approval of strategic plan of watershed, coordination of training activities for PIA, WDT, office bearers of Watershed Committee (WC)/ Watershed Association (WA), coordination of exposure visits to successful watersheds, approval of Standard Schedule of Rates (SSR) for preparation of budget estimate (including preparation of any new SSR), administrative and financial approval of annual action plan, release of funds to PIA and WC, convergence of other schemes of different departments, taking vigilance actions against defaulters, monitoring and

evaluation of programme etc. However, approval of District Watershed Committee will be taken regarding final selection of PIAs and selection of new watersheds.

17. ***District Watershed Committee:*** This Committee may be chaired by District Collector or Chairman of District Panchayat/Zilla Parishad. The committee will meet on a quarterly basis. Its members would be drawn from concerned district line departments, KVK, Autonomous Support Organization (ASO) in the district, selected PIAs from Government Organizations, Non-Government Organizations and peoples organizations; chairmen of selected Watershed Associations etc. The committee would review the progress of the watershed project, assist in resolving management and administrative problems, guide in implementation, identify policy issues, if any, for reference to state and national committees. The Head of District Nodal Agency shall be the convenor of this meeting. As discussed above this committee shall also accord approval regarding selection of PIA and watersheds.

18. ***Territorial Delineation between the Projects:*** Wherever new watershed projects are to be taken up the following criteria will be used for the territorial delineation.

- ❖ All watersheds located in blocks identified as DDP blocks by the MoRD will be saturated under the Desert Development Programme(DDP).
- ❖ All watersheds located in blocks identified as DPAP blocks by the MoRD will be saturated under the Drought Prone Areas Programme(DPAP).
- ❖ In the remaining Blocks either of NWDPRAs and (Integrated Wastelands Development Programme (IWDP) would operate.
- ❖ Reports of Land Degradation Mapping prepared by National Remote Sensing Agency (NRSA) and All India Soil and Land Use Survey (AISLUS) should be utilized by the state and district levels agencies for identification of watersheds to be taken up under the watershed programmes.

For the purpose of approval of new watershed projects in a block, necessary certificate will have to be obtained from the competent district level authority, namely, the District Collector indicating therein that no other watershed projects will be taken up in the same watershed.

19. **Block Selection Criteria under NWDPRA:** The present approach of blocks having less than 30 percent assured means of irrigation in the arable land would continue. Exception may, however, be made in the case of A&N Islands where micro-watersheds on island basis instead of block basis may be allowed. For new watershed projects to be taken up the territorial delineation principles stated in preceding para will be followed. Request for exceptions if any, may be considered based on merits by the National Level Watershed Committee.

20. **Demarcation and Prioritization of Watersheds:** To begin with major drainage courses (consisting of rivers, rivulets, other drainage lines etc) may be marked on the district map. Afterwards macro-watersheds each having an area of about 25000 to 30000 ha. may be demarcated on above map. The above demarcation may be done with the help of topography maps available with the regional office of survey of India. Each of these macro-watersheds may then be divided into sub-watersheds each having an area of about 5000 to 6000 ha. This shall become a unit for each PIA. Prioritization of these sub-watersheds may be carried out on the basis of sediment yield, runoff potential index, degree of land degradation, underground water status, etc. This may be done with the help of information available with regional centers of All India Soil and Land Use Survey, state and national level remote sensing agencies, etc. Each of the prioritized sub-watershed may then be sub-divided into micro-watersheds each having an area of about 500 ha. Each micro-watershed shall become a unit for the Watershed Association. Prioritization of these micro-watersheds may also be done on the basis of similar parameters indicated above.

21. **Identification of Villages having Prioritized Watersheds:** After identification of priority micro-watersheds the name of the villages occupying

the major portion of the area under each one of them may be identified. This would be done by superimposing the topography map (having the prioritized micro-watersheds) on the cadastral map of the village. Usually each micro-watershed would be co-terminus with an average size of the village. However, in situations where the area of the identified village is very large, more than one micro-watersheds may be considered in the given village. On the other hand if the identified village is small more than one village may be considered under each micro-watershed.

22. **Criteria for Eligibility of Watershed Villages:** Final selection of villages may be conducted in an objective manner by using a combination of the above scientific parameters for the micro-watersheds and also the following additional parameters for the watershed village.

- ❖ Severity of land degradation.
- ❖ Location in upper reaches of watershed.
- ❖ Lack of earlier investment through any other watershed development project, in the village.
- ❖ Significant proportion of arable land under private cultivation(preferably 50% or more).
- ❖ Pre-ponderance of resource poor, SC/ST.
- ❖ Willingness of community to participate and contribute in the programme and take up responsibility of post project maintenance of the created assets.

23. **Prioritization of Eligible Villages:** District Nodal Agency head may prepare a list of all eligible villages in each block which could be considered under the watershed programme on the basis of various parameters indicated above. Afterwards prioritization of eligible villages may be done on the basis of objective weightage for each of the above parameters as approved by the District Watershed Committees (DWC). At a given time the names of required number of prioritized villages (as per the available budget) may be announced through different channels so that interested PIA or village panchayats may respond accordingly.

24. **Selection of PIA:** The District Watershed Committee(DWC) shall be the authority competent to decide on the suitability or otherwise of the PIA for taking up the watershed development projects. However, DWC can in turn delegate this power to its sub-committee, i.e. District Nodal Agency but final selection would be made by DWC.

25. Various organizations including line departments of the state government (agriculture, soil and water conservation, forest, watershed development), public sector undertakings such as Gujarat State Land Development Corporation Ltd. (GSLDC), Uttar Pradesh Land Development Corporation (UPLDC) etc., non-government organisations, Panchayat Raj Institutions, research and training institutions, autonomous organizations created under NATP namely SAMETI, ATMA, etc. are eligible to become PIAs. In NE States District Autonomous Councils may also be considered as prospective PIAs. Organization-specific parameters may specifically be kept in view while selecting the PIAs. In the case of NGOs, only those organizations should be considered which have a good track record besides a minimum of 4 to 5 years field experience in facilitating participatory approaches in rural areas. In the case of PIAs with Government, Panchayat Raj or Research/Training Institutes, it may be ensured that they are willing to provide or hire a full time 4 member WDT for the project period with headquarters at the watershed site. If these organizations are willing to nominate some or all members from their own cadre of staff, they may do so provided these members are spared to work on a full-time basis for the identified watersheds and have the required qualification. PIA shall be selected for each cluster of 2 to 10 watersheds.

26. The selection of PIA would be carried out through a process by which potential PIA's would be required to prepare project reports / feasibility studies of identified watersheds. The project reports / feasibility studies would also include assessment of the responsiveness of the community. These project reports and the PIAs would be assessed / evaluated for strengths based on fixed criteria and the final selection would be made by the District Watershed Committee. The following additional criteria may also be

considered while selecting a NGO as PIA: a minimum of 4 to 5 years field experience in participatory management of natural resources, ability to motivate community members regarding contributory approach for private as well as community works (as evident from their past record or willingness to demonstrate in the proposed villages on trial basis by encouraging *shramdan* for community activities), experience in organization of Self Help Groups (SHG) through credit and thrift activity, sensitivity towards group action, conflict resolution and equity for poor and women, willingness to identify full time WDT members for the project with head quarters at the village level, willingness to provide additional facilities to the WDT over and above the provision under the project particularly towards transport, maintenance of accounts, use of computer facilities, access to qualified resource persons etc.

27. The eligible PIAs shall apply giving all relevant information to satisfy the conditions laid down in the selection criteria. They may indicate their preferences of the villages where they would like to work or leave the final decision to the District Watershed Committee.

28. Based on DWC's recommendations the head of the District Nodal Agency shall link the PIAs and the villages giving due weightage to factors such as proximity, contiguity, previous linkages and preferences given by the PIAs and the villages. The District Watershed Committee have the authority to cancel or modify these orders in the light of any changed circumstances.

29. **Deployment of WDTs:** On receipt of approval of its nomination, the PIA shall take immediate steps for appointment of project leader and other members of Watershed Development Team (WDT) with the approval of the district head. Each PIA shall be eligible to engage (from the administrative funds provided) on a purely temporary basis / contractual basis four persons to work on a full time basis as Watershed Development Team. At least one of the WDT members should be a woman. A Sociologist should always be included in every WDT. The other three members should be at least graduates in subject disciplines of relevance to the watershed e.g.

civil/agricultural engineering, agriculture, forestry, animal sciences or related basic sciences, etc. Retired government officials with requisite experience in the area may also be considered. If requisite number of graduates of the aforesaid qualification are not available, the District Watershed Committee may relax the qualifications. The latter may be done only in rare circumstances and only when the search for qualified graduates, as mentioned above, has not brought forth the desired result. The head quarter of WDT members shall be kept at one of the watershed villages and they will be encouraged to stay in these villages to enable them to work closely with the watershed community.

30. **Resolution from the Watershed Community for Participation in Watershed Programme:** The Watershed Development Team will contact the gram panchayats belonging to the prioritized villages and conduct 2 to 3 meetings of the *gramsabha* to orient the community about the objectives and the participatory approach to be followed under the watershed programme. It will facilitate the Panchayat to pass the resolutions with regard to the proposed participatory approach to be adopted in the planning, implementation and post-project management of the programme. (Refer Appendix-II regarding tentative list of items for written resolution to be taken from Committee/Panchayat).

31. WDT/PIA will forward the resolution confirming willingness of the village community and this will facilitate final selection of village under the programme.

32. **Project Commencement Date:** The appointment of WDT must be completed within a period of two months from the date of nomination of PIA, failing which the District Nodal Agency shall have the right to cancel the nomination and attach the villages to some other PIA. All the members of the WDT must be in position within a maximum of three months from the date of nomination of the PIA. Accordingly, a date three months from the date of nomination of PIA shall be deemed to be the date of commencement of the watershed project for the selected villages attached to the PIA. This date

shall be notified by the PIA to the district head and the selected villages. The PIA and the WDT will be eligible to draw the first instalment of management component fund under the project (as per Appendix – 1) with effect from this date. The duration of the project will be 5 years.

33. ***Demarcation of Watershed Boundaries at the Field Level:*** Once the village is selected, the boundary of the micro-watershed may be demarcated through focussed transect on the ridge line along with local farmers. The list of farmers whose lands are located in the micro-watershed may be prepared using the village level land records.

CHAPTER-III

CAPACITY BUILDING

34. **Categories of Personnel:** There are three main categories of personnel associated with the watershed programme namely : (i) administrators and managers; (ii) implementers; and (iii) trainers. They may be located and functioning at different levels namely national, state, district and micro watershed.

- (i) Administrators and managers include officers from various organizations namely Ministry of Agriculture at national level, Departments of Agriculture, Soil and Water Conservation etc., at state and district levels, heads of PIA and heads of the registered societies at micro-watershed level.
- (ii) Implementers include WDT members belonging to respective PIAs, office bearers of registered societies as well as para-professionals at the micro-watershed level, other participating members including land owners and land-less families in the micro-watersheds.
- (iii) Trainers include full time existing faculty members of the identified training organizations in the public and NGO sector and also part-time external resource persons who are identified as trainers (as per need) to assist the above organizations.

35. **Courses for Various Personnel:** Different category of persons would be required to perform separate tasks and assume responsibilities which are likely to be different from their roles in the first generation watershed projects. Some functionaries may require skill in technological aspect while others in management and social aspects. Still others may need only orientation and sensitization through short duration courses while others would require enhancement of skills through medium to long duration

courses. An indicative list of items to be included in capacity building modules of various categories of personnel may be seen at Appendix III.

36. **Preparation of a Short and Long-term Training Plan:** For preparation of a cost effective training plan, the total programme may be arranged in the following three phases keeping in view the requirement of time for travel, level of participants, availability of competent training organization, etc.

37. **Phase –I (Orientation and Training of national and state level participants):** During this phase two types of courses may be arranged : (i) short-duration orientation course for nodal officers at the national as well as state levels; and (ii) long-duration skill enhancement course for internal and external trainers. The training courses during this phase may be carried out in a decentralized manner by regional and state level experienced training institutions. While identifying the above training institutions, preference may be given to those which have requisite experience of conducting such courses. These organizations may belong to government sector or non-government sector.

38. **Phase-II (Orientation and Training of district level participants):** During this phase participants for short-duration orientation courses may include: nodal officers from departments of agriculture and soil and water conservation from district level; heads of identified PIA from the concerned micro-watershed etc. The participants for skill enhancement course may include WDT members from each PIA. The courses may be organized by the training organizations at state level / regional level or by Autonomous Support Organizations to be created under the project. Wherever required, these organizations may take the assistance of external resource persons for this purpose.

39. **Phase – III (Orientation and Training of Watershed level participants):** During this phase short-duration orientation courses may be arranged for honorary office bearers of the registered societies established

under the project at the micro-watershed level. Long-duration courses for enhancement of job related skills may be arranged for paid members of the above societies (namely Secretary and Volunteers of Watershed Committee (WC), book-keeper of Self Help Group (SHG), User Group(UG) etc.) and also para-professionals from the same or nearby villages. Training of paid members of the society may be carried out largely on management aspects including maintenance of records etc., whereas training of para-professionals may be carried out on technological aspects. Training of such persons may be carried out by WDT members preferably within the micro-watershed village in order to save time and resources. These training programmes may be carried out for 1 to 2 days at a time as per the immediate needs. Much of the learning may come during the period where the trainees shall apply new skills in the specific jobs environment under the guidance of the WDT. Under this phase training of general community members may be organized preferably by the para-professionals with need based assistance from WDT.

40. A comprehensive time-bound action plan for capacity building of different categories of personnel shall be prepared keeping in view the sequence of activities and availability of training organizations. Such plans on a long-term as well as annual basis shall be prepared by each District Nodal Agency. Afterwards these may be consolidated by the State Nodal Agency so that coordination and facilitation could be undertaken in consultation with the identified training institutions.

41. ***Separation of Capacity Building Phase from the Main Implementation Phase:*** It is widely recognized that a few weeks of training input at initial stages of the project is not adequate for building the capacity of the PIA and for preparing the community for participatory management of watershed programme. Field experience has indicated that training input, particularly to WDT, watershed secretary, volunteers, community organizers, etc. should include not only learning of skills through structured courses but also a regular follow up support for application of skills. This would require a longer period of association between the trainers and trainees. During this

period physical and financial progress in the conventional sense is likely to be slow which may generate a negative pressure on the implementing agencies. It is therefore essential to separate out the capacity building phase from the main implementation phase so that their progress can be reviewed with phase specific parameters.

42. During the capacity building phase which may be extended to about one year, the PIA/WDT should facilitate the following activities at the village level: Orientation of watershed community about the proposed strategy and approach, skill enhancement of office-bearers of the Watershed Committee and other concerned persons on organization of community into credit and thrift groups, use of PRA tools for preparation of action plan, record keeping and supervision of quality of works during implementation phase etc. The WDT, office bearers and community organizers may use the above skills in such a way as: to carryout organization of at least four SHG/UG; preparation of strategic plan of watershed for the project period; preparation of detailed action plan of a portion of watershed area to be implemented during the capacity building phase (which may include one representative drainage course; about 25 to 30 ha. of private land associated with the above drainage course; one to two water harvesting structures; natural regeneration of vegetation through social fencing in one block of common land); implementation of above action plan; participatory evaluation of programme etc.

43. At the end of the above phase a critical assessment of the capacity of PIA/WDT and also the preparedness of watershed community may be made by an inter-disciplinary team identified by DWC. If the performance is not satisfactory the PIA or the watershed community may be disqualified or given one more opportunity as decided by DWC.

44. **Identification of Training Organisations:** NWDPRAs are being implemented in 25 states and two union territories. The size of the programme varies from state to state. About 9 to 10 states having larger proportion of rainfed area receive a greater quantity of programme funds

relative to other states where rainfed area is less. Tentative grouping of states for identification of nearby National and State training institutions is given in Appendix-IV.

45. States with a larger size of programme would require greater attention from a training organization relative to states with a smaller programme which are clubbed together in different groups (depending upon their proximity) so that sufficient number of participants would become available in each course. Each state / group of states will require three kinds of training: (i) Technical Training and (ii) Participatory Management training (iii) Accounting aspects like maintenance of records, accounts, audit aspects etc.

46. Each state or group of state may identify their own training organizations for meeting the requirement. This may include national institutions such as National Institute of Agricultural Extension Management (MANAGE), National Institute of Rural Development (NIRD), Central Arid Zone Research Institute (CAZRI), Central Soil and Water Conservation Research and Training Institute (CSWCRTI) and its regional centres, Central Research Institute for Dryland Areas (CRIDA) etc. Other state level training organization in Government and NGO sectors may be identified keeping in view competence, experience, developed infrastructure, proximity and willingness of organization etc. In case a particular training organization is not able to cover technical as well as participatory management components, separate organizations for each aspect may be identified accordingly. Each participating district may also identify an experienced KVK for hosting / conducting training programmes for a part of the participants under phase III courses.

47. Details about release of funds under training component during each year are given in Appendix IA to IC. The expenses for conducting training programmes under phase III shall be met by concerned PIA/WDT out of two percent fund to be released to it for this purpose. The coordination of training programmes under phase II may be carried out by district nodal agency and

hence two percent fund under the training component may be retained by district head out of the allocation for each PIA. The coordination of training programme under phase I may be carried out by a nodal person at the state level. The expenses towards this aspect may be met out of one percent fund under the training component to be retained at state level out of the funds allotted to each PIA.

48. **Support to Autonomous Support Organizations:** Support Organization may be established/ identified on a pilot basis where several NGOs and PIAs are functional. These Support Organizations may be created in each district or for a cluster of districts or even at state level depending upon the number of PIAs. Each Support Organization would serve about 10 PIAs. The cost for supporting these organizations may be met out of the 3.0 percent fund retained at state/district level under training component. This may be tested on a pilot basis initially, and if found useful replicated on a larger scale.

49. **Net-working of Training Organizations for Capacity Building:** By and large training organizations are able to conduct courses either on technological or on management aspects. It is rare to find an organization which can effectively cover all aspects of either technology or management component. A net-working among training organizations with different expertise through exchange of resource persons, hosting a part of the courses in respective organizations, etc. will be useful. The state / district agencies may however select training institutions best suited to their needs.

CHAPTER-IV

COMMUNITY ORGANISATION

50. **Mobilization of Community and Awareness Building:** Before commencing the developmental activities of the programme, sufficient attention should be paid towards generating awareness among the community members regarding the new strategy as well as main features of the “Common Approach for Watershed Development”. For this purpose, repeated meetings in large and small groups may be arranged. It would be useful if traditional street plays, folk songs, etc. are adapted to communicate the spirit of the restructured watershed programme during large group meetings. If required summary version of the guidelines in local language may also be circulated / distributed to willing persons.

51. **Entry Point Activity:** A maximum of 3.0 per cent fund is allocated for Entry Point Activities (EPA) which shall be released directly to WA/WC by head of District Nodal Agency after its registration under the society act. The funds shall however be released against an action plan (including detailed design and estimates as per SSR with due recommendation by the PIA. Tentative options regarding choice of community oriented items to be considered under EPA may be worked out in advance at the district level by the DWC for the guidance of PIA and watershed community. The primary purpose of this activity is to meet a part of the felt needs of the community, develop rapport with people and to build the capacity of WA, WC, SHG and UG to plan and implement the programme through participatory approach. Only those items may be considered under EPA for which concerned members of the community are willing to carry out *shramdan* (for at least 2 days per activity) by all the concerned families in the village / watershed. Those who are unable to provide labour may however contribute as cash. The action plan for EPA will be submitted within 6 months after the sanction of the project and its implementation may be completed preferably before the end of first year.

52. **Identification of Village Level Community Organizers:-** During the course of various meetings with community members, the WDT members may identify village based social workers / motivators who can be involved in organizing the community. Wherever possible the youth clubs, *mahila mandals*, *anganwadi* members may also be involved in this process. A small honorarium may be paid to the community organizers (out of the 2 percent funds released to PIA under community organization component) for their time and energy in the community organization activity.

53. **Type of Groups to be Organized :** Four types of groups are to be organized at the village level namely : Self Help Group (SHG); User Group (UG); Watershed Association (WA); and Watershed Committee (WC). A proper sequence is required to be followed while organizing the groups. In order to minimize conflict among the community members, it is essential to form WC at the end after organizing the first 3 types of groups. This is contrary to the normal tendency where WC is formed at the beginning through a meeting of unorganized members of the *gram sabha*. Till such time as the WC is organized (and its office bearers like Secretary and volunteers are identified) the WDT may take the assistance of village level community organizer not only for organization of SHG and UG but also to facilitate PRA exercises for preparation of strategic / detailed action plan of the watershed. Organization of above 3 types of groups may be completed in about 8 to 10 months after the start of the project.

54. **Organization of Self Help Groups:** By and large Self Help Groups (SHG) shall include those who are landless or have marginal size of land holding. Such community members may be motivated to get organized into small homogenous groups (preferably with 15 to 20 members in each case) based upon their livelihoods, social affinity, compatibility etc. Credit and thrift activity may be used for organizing them into groups. Preference may be given to groups with women members of the households as they have been found to be highly successful in management of credit and thrift activity. Use can be made of existing SHGs in the area.

55. Self Help Groups may be organized with the help of village level community organizers. These organizers should be thoroughly trained in the concept of SHG, management of credit and thrift activity, group dynamics and maintenance of records through focussed exposure visits to successful examples as well as through skill oriented training programmes. Such visits and training may be arranged also for representative members of the proposed SHG. The expenses towards visits and skill development courses may be met out of funds under training component. The expenses towards honorarium for community organizers may however be charged out of the funds under community organization component. The above honorarium may be provided against specific jobs to be carried out by the organizers namely: facilitation of monthly meetings on a fixed day, preparation of proceedings, maintenance of records for credit and thrift activity, training of group representatives regarding the above aspects etc.

56. The honorarium amount for the above assignment (per meeting) may be fixed by the district head in consultation with DWC for a period of about one year per group with an understanding that by this time the groups shall become mature enough to carry out the required jobs through their own group members. The group may be considered mature: when it meets regularly; the attendance is above 75 percent; proceedings of the meeting are suitably maintained; records about credit and thrift activity are maintained; recovery of loan is above 90 percent etc. At that stage, the support for the community organizers may be withdrawn from the project. In case the services of the organizer is still required it may be paid by the concerned groups out of their own earnings. All landless families in the village will be informed that they shall be eligible for matching revolving fund out of the project fund for supporting their livelihood support if they get organized into one or the other SHG (refer para 80 for further details on the concept of matching revolving fund). The landless families may however have the flexibility to become member of the SHG till the last year of the project period for availing the assistance of revolving fund.

57. The primary purpose of organizing the SHGs is not only to involve them in the implementation of the NWDPRRA activity but also to strengthen them as a social and functional unit in order that they may effectively manage their own need based activities (even if these are not within the framework of watershed project). Hence, at a micro level the basis for formation of these groups need be both common interest or activity as also social affinity and compatibility.

58. **Organization of User Groups(UG):** User Groups shall include those members who are land owners within the identified watershed area. Such land-owning community may also be motivated to get organized into small homogenous groups. Like SHG, the UG may also be organized around credit and thrift activity with the help of locally available trained community organizers. These groups may be of women members or men members or both depending upon their availability, willingness, etc. As in the case of SHG, the expenses for exposure visit and training of community organizers / group representatives may be met out of the training budget whereas honorarium to the community organizers may be provided out of the community organization budget.

59. Experience indicates that it is preferable to organize UG also as per their social affinity and compatibility even if they are to manage a particular community asset. Such members learn the value of group work and would be able to manage the community structures through occasional meetings of concerned members as and when the need arises.

60. **Constitution of Watershed Association:** After the organization of SHGs/ UGs, the WDT shall call for a General Body meeting of all members of the above groups and also other participants representing the households within the watershed area, who have not yet become member of the SHG and UG. The Watershed Association will be the General Body comprising all members of the Watershed Community who agree to participate in the watershed development project. This body would be formally registered under Societies Registration Act. The WA shall evolve its own working

procedures after electing its President. It will meet preferably once in a month, to discharge the functions entrusted to it as per the guidelines. All decision making power would vest with the WA. The WA would not only approve the Strategic Plan and Annual Action Plan but also carry out review of progress during implementation phase.

61. **Constitution of Watershed Committee:** The WA shall in its first General Body meeting, nominate four representatives from the Self Help Groups and five from the User Groups as members of the Watershed Committee. The Gram Panchayat and the WDT will be requested to nominate one each of their members as representatives. While making nominations, it will be ensured that the Watershed Committee (WC) has at least two women members and the SC/ST community is adequately represented. The WA will decide on its own procedures for nomination of the members of the WC by rotation which shall be simple and easy. However, members of the WDT shall be present during the meeting of the General Body of WA in which nominations to the WC are approved. The President of the WA may also be Chairperson of the WC. The WC shall perform all the functions that are entrusted to it in the guidelines for which it will work out its own procedures in consultation with the WDT. The Watershed Committee shall act as the executive body of the WA and carry out the day to day activities of the watershed development project subject to overall supervision and control of Watershed Association.

62. Functioning of WC and WA improves significantly if its members belong to mature UG and SHG. Hence it is useful to stagger formation of WC/WA until the UG/SHG are suitably organized. It may be appropriate if membership of WA is given to all those persons who are direct participants in the watershed programme so that decision making process is influenced by these members. This may include members of UG and SHG and other land owners whose land is covered under the identified watershed. It may be desirable if a nominal annual membership fee is charged from the WA member so that their involvement becomes active.

63. **Identification of Watershed Secretary and Volunteers:** After its constitution, the WC with the assistance of the project leader of the WDT shall identify one secretary and 2 to 3 volunteers residing within the village on honorary basis/contract basis, who shall be able to carry out the required jobs. Watershed Secretary should preferably be a graduate from the same village or at least from some nearby village and he should agree to live in the watershed village during project period. The WC shall fix the honorarium to be paid to the watershed secretary and volunteers; as well as the manner in which these should be paid – either on a fixed monthly basis or linked to performance of specific duties. However, it shall be ensured that the total honorarium does not exceed the ceilings laid down in Appendix-I. The Watershed Secretary is primarily responsible for maintaining records related to physical and financial progress, disbursement of wages to the labourer, purchase of material; supervision of the work of volunteers; maintaining the measurement book etc. The volunteers are expected to initiate implementation of works, provide markings at the site; supervise the quality; measure its progress; maintain measurement book, maintain register regarding use of materials, employment of labourers etc., besides assisting the Watershed Secretary in various responsibilities. Roles and responsibilities of different office bearers have been listed out in Appendix-V.

64. **Management of Watershed Committee Office:** At the time of registration under the Societies Act, the WA/WC is expected to indicate its office address where WC members would carry out its day today activities. This office building may be provided by the community or else it will need to be hired on rent basis out of the administrative fund under management component being provided to the WC or else a *Barani Chetna Kendra* may be constructed from the funds under the Entry Point Activity to serve this purpose.

65. In the initial stages WDT may supervise the working of WC office preferably on weekly basis. From the point of view of long-term sustainability, it is essential that a proper organizational management system is developed in which WC office would become a self managed unit. For this purpose,

roles and responsibility of each office bearer of the WC (chairperson, secretary, volunteer and other members) may be spelled out clearly before their nomination (refer Appendix – V for further guidelines on this aspect). Also other aspects like office hours, provision of leave, accountability system, relationship among different members etc. should be worked out so that office could run smoothly even during days when WDT members are not visiting the particular village. Special attention should be paid to define the relationship between WA and WC. The overall relationship between the two groups should be evolved in such a manner that WA work as a decision making body and the WC works as its executive arm. The post of President WA and other office bearers of WA/WC must be retained as honorary.

66. ***Training of Watershed Secretary, Volunteers and Members of WC:*** Watershed Secretary, Volunteers and the Members of WC will be oriented by the WDT regarding participatory planning process followed so far for preparation of detailed action plan and their role in consolidation of the proposals into a comprehensive watershed development plan for approval by WA and the district head. They shall be trained thoroughly in administrative procedures, record-keeping, accounts-keeping, conduct of meetings, execution of engineering works, maintenance of measurement books, accounting procedures etc. to enable them to discharge their responsibilities effectively during the implementation phase.

67. ***Balanced Empowerment of WC and WA :*** Under the participatory approach major responsibility for planning and implementation of watershed programme lies with the new institutional set up being created at the watershed level. Field experience has shown that under this institutional set up a balanced empowerment of WC and WA is crucial if the concepts like democratic decentralization in decision making, transparency in transactions at village level, social auditing of accounts, etc. are to be facilitated properly. For this purpose specific attention may be paid to the organizational and managerial aspects of the above institutional set as per details given in Appendix-VI.

68. ***Linkage of Watershed Institutions with Panchayat Raj Institutions:*** An important element of long-term sustainability is to forge linkages of watershed institutions with permanent institutions in the area, particularly the Panchayat Raj Institutions (PRI). Since PRIs are in varying degrees of administrative effectiveness in the States, the latter are likely to follow different mechanisms for linkages between the watershed institutions and the PRIs. Wherever possible Panchayats should be encouraged to become Project Implementation Agencies. Elsewhere linkages should be forged between the Panchayats and the watershed committees, through nominating one member of the village Panchayat as member of the WC, or declaring Watershed Committee as a sub-committee of the Land Management Committee under the Panchayat Raj Act.

69. ***Integration of Social Resource Management with Natural Resource Management:*** Integration of Social Resource Management (SRM) with Natural Resource Management (NRM) is crucial for achieving sustainable results. Such an integration would become easier if action plans of all components are developed separately within each SHG/UG; implementation of above plans are carried out by respective groups; adequate emphasis is given to production enhancement and livelihood support activities, combining short-term, medium-term and long-term gains to watershed community.

CHAPTER-V

PLANNING PHASE

70. **Participatory Rural Appraisal Exercises:** After the training programme WDT members will conduct a series of Participatory Rural Appraisal (PRA) exercises separately in each of the selected villages. All the members of the team will move as one unit and use techniques like participatory mapping, transact, matrix ranking, timeline, seasonality, etc. to gather first hand information. The PRA exercises should initially provide data regarding details of land, water and human resources, soil types, severity of erosion, problem-soils, rainfall, ground water levels, surface runoff, drainage lines, pasture land, forest species, grazing grounds, fuel, fodder and economic species, production systems in agriculture, horticulture, livestock, animal husbandry, village industries besides the socioeconomic realities such as demographic details, social and wealth ranking, migration, literacy, village crafts, skills, employment opportunities, etc.

71. After obtaining the above information, the PRA maps/visuals should be used for participatory analysis of present status, utilization pattern and maintenance of various natural resources (through water resource audit, land resource audit, social resource audit, perennial vegetation audit, etc). Further maps and visuals emerging out of above audit exercises may then be used for analyzing problems, reasons for the problems and possible solutions as understood by the participants. The output from such an analysis would provide a basis for external resource persons (including WDT and others) to build upon either through value addition to their solutions or by providing alternate options to address the problem. The final choice of the solution (out of various options) should however rest with the concerned participant since he/she is going to contribute a part of the cost towards its implementation. It is however important that the concepts of sustainability, equity, eco-friendliness, etc. are also kept in view (besides the cost effectiveness, convenience, etc.) while making the final choice of options for implementation. Collection of information is only one of the objectives of the

PRA exercises. The equally important objective is to interact with the village community in small groups to facilitate their participation in the programme.

72. **Basic Survey** : The information collected in the initial PRA exercises should be verified with secondary data available in the government departments, meteorological department, revenue records, village survey reports, etc. A part of the above information could be further supplemented with new primary data to be collected through conventional survey methods particularly for those items for which quantitative data would be required for comparison (as a bench mark) at the time of conducting the post project impact study. This will include items like: area under irrigation, extent of private land lying fallow, number of functional and non-functional wells and tanks, present level of water table in the wells, present status of perennial vegetation in common land, average productivity of land and water based enterprises / commodities, income from non-land based enterprises, number and quality of social groups and organizations at the village level, extent of migration to urban areas, scarcity of drinking water for human beings and animals, etc. These surveys should be completed within six months of the commencement of the project so that they could be used as input for preparation of watershed development plan.

73. Details about ownership of land by each participating family may be collected from revenue records at the village level. Wherever available additional information about demarcation of boundaries of different owners within a particular survey number may also be collected as it would help in properly locating proposed measures for development of land and water resources.

74. **Research Support to Watershed Development Project** : Most of the problems identified under watershed programme may have simple, straightforward technical solutions based on indigenous technical knowhow within the competence of the WDT members and innovative farmers. However, in some cases, there may be a need to understand, validate or improve the indigenous technical knowledge and innovations through more

scientific investigation or the problem may be so complex that the local knowledge of farmers/villagers and the WDT members are not adequate to find suitable technological solutions. In such cases the WDT members should get in touch with the concerned technical departments of government or research institutions and liaise with them to find answers to their problems. The Project Implementing Agency will forge linkages with research institutions, namely ICAR institutes, State Agriculture Universities (SAUs), Krishi Vigyan Kendras and others to ensure effective technical backstopping to the watershed programme. Incidental charges for visit by scientists/technical personnel to the watershed and cost of inputs for adaptive trials / action research at Krishi Vigyan Kendras or Zonal Research Stations (ZRS) may be taken out of the provision made under the component natural resource management or farm production system (of land owning families) as discussed under para 92.

75. ***Research Input in Watershed Development:*** In recognition of the fact that technologies for rainfed farming are more heterogeneous than that for irrigated farming, greater attention will be needed on promotion of on-farm-research. Under the watershed programme provision is made for research organizations such as ICAR research centres, Krishi Vigyan Kendras, Zonal Research Stations, State Agriculture Universities, lead NGOs with professional expertise, etc. to act as PIA and develop micro-watersheds ranging from 100 to 500 hectares. The micro-watershed will serve as a field and action laboratory for the research organization where adaptive research on land and water management as well as on different production systems can be undertaken. Such a micro-watershed where new technologies can be developed, tested and demonstrated by the research organization may develop into a model watershed, which could be replicated elsewhere. The research proposals from eligible/ competent Research & Development (R&D) Institutions will be approved by the district nodal agency in their respective areas. The norms and modalities for expenditure shall however remain the same as that of a typical PIA. The KVK in each district should be encouraged to develop one micro-watershed in its vicinity.

76. **Allocation of Watershed Budget** : For a unit watershed of 500 ha. the budget provision of Rs.22.5 lakh and Rs. 30.0 lakh has been made for areas having less than 8 percent and more than 8 percent slope respectively.

A broad allocation of funds for major components is given below:

Sl.No.	Components	Allocation of fund (%)
A.	Management component ❖ Administration cost ❖ Community organization ❖ Training programme sub total (A)	10.0 7.5 <u>5.0</u> 22.5
B.	Development component ❖ Natural Resource Management ❖ Farm production system for land owning families ❖ Livelihood support system for land-less families sub-total (B)	50.0 20.0 <u>7.5</u> 77.5
	Total	100.0

77. Under the project 22.5 percent of the budget is allocated for management component which includes 10.0 percent towards administration cost, 7.5 percent towards community organization and 5.0 percent towards training programme. Likewise, the remaining 77.5 percent of the budget is allocated for development component which includes 50 percent towards development of natural resources, 20 percent for improvement of land-based enterprises and 7.5 percent for improvement of non-land based enterprises.

78. **Utilization Pattern of Development Fund:** A total of 77.5 percent of the project fund is to be used for developmental activities which includes 50 percent towards natural resource development, 20 percent for improving farm production system (of land owning families) and 7.5 percent for providing livelihood support (to landless and marginal farmer families).

79. The 50 percent fund for natural resource development is to be utilized for conservation and development of natural resources namely land and water. For conservation and development of these resources a minimum contribution of 10 per cent for individual oriented activities and 5 per cent for community oriented activities would be collected from the users or user

groups. The contribution from SC/ST may be a minimum of 5 per cent for individual oriented as well as community oriented activities.

80. The 20 percent fund for farm production system (for land owning families) is to be used for three sub-components namely testing and demonstration of new technologies (in agriculture and allied sectors), Diversification of Production System (Planting of horticulture & agro forestry crops, household production system) and adoption of proven technologies (in agriculture and allied sectors). The funds allocated for testing of technologies may be used as 100 percent grant from the project towards purchase of only new inputs; the funds for planting of horticulture, agro-forestry crops may be used as 50 percent grant from the project and 50 percent contribution from the participants. The funds for adoption of proven technology may be used as a revolving fund to be provided through mature User Groups against a specific micro plan as discussed in para 82.

81. The 7.5 percent fund for livelihood support system (for landless and marginal farm households) is to be used for improving the income, nutrition and food supplement from existing livelihoods as well as for adoption of new micro-enterprises. This amount will be used as a matching share to the revolving fund through SHG against a specific micro plan as per details given in para 82 and 83. The choice of livelihood support and technologies would be made by the concerned members of the SHGs. The WDT may however organize training-cum-exposure visits of group members to success stories, particularly where new micro enterprise are being practiced.

82. **Utilization Pattern of Matching Revolving Fund through Mature UG and SHG** : As discussed earlier, a part of the 20 per cent funds for farm production system shall be used by user group members (land owning families) towards adoption of proven technologies and 7.5 percent fund for livelihood support system shall be used by self help group members (landless families) towards improving the income from existing livelihood. The required amount shall be taken out of the project fund as a grant to the WA/WC (under a separate account) which in turn may be used to provide the matching share

to those UG or SHG which are mature (as evident from successful operation of their credit and thrift activities, regular meetings, maintenance of records, good recovery of loans etc.) The SHG/UG are expected to open a separate account in bank to operate the above revolving fund. In the case of those SHG which belong to landless families, the revolving fund may be increased upto double the amount of their savings, where as in the case of UG, the revolving fund may be restricted to the equal amount of their savings.

83. The UG or SHG shall provide the above amount to concerned members (as individual loans) against a specific action plan for improving the productivity of / income from concerned enterprises. The members shall repay this amount to their groups within 12 months (preferably through 12 installments) along with the normal rate of interest being charged earlier by the group from its members under their own credit and thrift activity. Afterwards, the groups shall retain a part of the interest portion with them and refund the principal amount and the remaining part of interest to the WA/WC account for revolving it to other mature groups under the watershed. The maximum amount to be given to one UG/SHG at a time may be considered not more than Rs. 25,000. The individual members shall however receive the loan amount depending upon the extent of their own savings, type of action plan, cost of required inputs etc.

84. The success of this approach (particularly the recovery of loan) would depend upon two major factors namely, past record of the group in handling the recovery of loan in their own credit and thrift programme and the degree up to which the "peer group pressure" is kept functional. Hence those operational modalities which minimize the group pressure must be avoided. The tendency of groups to share the project amount equally among all members or to provide loan to individual members without interest shall be avoided as they reduce the intensity of group pressure. On the other hand, the approach of "paired loan" may be facilitated (in which at a given time two groups shall be identified; one group shall receive the loan and the other group is kept in waiting to receive it after its recovery from the first group).

Such an approach would help in enhancing the group pressure for rapid recovery.

85. ***Flexibility in choice of Technology:*** Under rainfed conditions choice of technologies are going to vary from location to location due to high degree of complexity and diversity in situations. Hence, it may be appropriate to consider relevant recommendations emerging from nearby research organizations. These organizations may belong to not only government sector (research centers of SAU, ICAR, etc.) but also non-government sector including private organization, cooperatives NGOs, etc. Likewise, indigenous technical knowledge (ITK) emerging through informal research carried out by innovative farmers may also be considered while developing the Action Plan of the watershed. This applies to the technologies for development of natural resources as well as for enhancement of productivity of different commodities in agriculture and allied sectors. While carrying out participatory planning exercises, the WDT may orient community members about different scientific and ITK options available to them through training courses, focussed exposure visits, etc. The final choice from the technological options and location of structures/measures may however be left to the concerned community members. Once the above two aspects have been worked out, the WDT may help in preparing the detailed design and estimate of the proposed/preferred structures or measures as per the approved SSR. Likewise, WDT may also help in supervision of quality of work during the implementation phase.

86. Under the restructured NWDPRP programme, a large number of PIAs, WDT members and Watershed Committee members will be participating in the watershed development programme for the first time. They may not have much knowledge and experience about the technological options available and recommended for respective agro-climatic and agro-ecological regions. In order to cater the need of these functionaries, a Technological Manual will be prepared and made available at a later stage.

87. **Technology Management Aspects for Development of Resources:** Technologies under Watershed development programme can broadly be classified in two types:

- (i) For development of natural resources – conservation and upgradation technologies; and
- (ii) For enhancement of production and productivity of different commodities and combination of commodities – Production system technologies

Conservation Technologies :

88. In view of diverse agro-ecological situations and socio-economic setting the choice of technology will vary from location to location. Such technologies should be in consonance with indigenous land use practices and systems.

89. Experience indicates that standardized conventional soil conservation technologies e.g. diversion drains, contour bunds with waste weirs / compromised contour bunds on lower field boundaries, check dams and drop-structures are universally recommended, planned and implemented over large areas covering different ecological endowments. Such measures are to be built upon indigenous practices like terraces in hilly areas and shelter belts in arid areas adjoining deserts and coastal sand dune regions. Research institutions / centers have almost adopted these introduced technologies but more work is needed to document and improve location specific technologies.

Production Technologies:

90. Good advances have been made in developing location specific production technologies. But some of the developed technologies have not been adopted on large scale because of risk inherent in rainfed agriculture

and the high input cost which majority of poor farmers cannot afford. Production technology should blend short-term and medium-term benefits to meet the immediate needs of watershed community and long term needs of restoration of ecological balance. Also production technologies should consider the mixed farming systems of rainfed farmers in a holistic manner.

91. Therefore, NDWDPRRA would focus on following aspects of technology management:-

- Identification of potential indigenous technologies (Indigenous Technical Know-how – ITK) and building upon them in relation to topo-sequence.
- Incorporating affordable recommendations emerging from nearby research stations – ICAR, SAUs, NGOs, Private Sector, Co-operations and innovative farmers.

92. The WDT may orient community members about different technological options for developing natural resources as well as enhancement of production and productivity in agriculture and allied sector. In this effort, they may enlist the help of extension functionaries of the line-departments as well as the agricultural scientists of the KVKs, ZRSs and SAUs.

93. **Technology Management aspect for Natural Resources:** Participatory development of natural resource requires a harmonious blend of Ridge to Valley and need based approaches. Details about technology management aspects regarding development of land and water and vegetation resources are discussed below.

94. **Private Land Resource:** This involves development of four types of land resources namely cultivated land, fallow land, drainage lines and special problem soils. The guiding principle for treatment of private land should include following:

- Minimum land goes out of cultivation.
- The conservation measures do not have any adverse impact on crop production like water standing against bunds which cause temporary surface ponding and sub-merge young plants particularly during early stages.
- Should not interfere with cultivation practices such as cutting of land in convenient size and shape through contour bunding which does not allow convenient ploughing in the corners.
- Should conserve moisture throughout the field and minimize risk of crop failure during drought years.

95. Treatment of cultivated land may be restricted to only those fields, which are suffering from erosion and where farmers are willing to pay the required contribution. Fields which have slope less than 1.5 percent in red soil and 0.75 percent in black soil may not be treated with engineering structures. Instead, the erosion problem may be managed through vegetative barriers (with local plant species) or through proper crop husbandry. For fields having higher slopes than those indicated above, wherever required small engineering structures for erosion control may also be used. Efforts be made to stabilize the slope by providing contour trenches with vegetative cover on the soil removed from trenches and staked on lower side of trenches. This will decrease water velocity and increase ground recharge. The point of consideration should be to control flow of water at excessive rates and if this is controlled, erosion will automatically be controlled.

96. Treatment of private fallow land may be decided on the basis of physical features of the land and also the proposed land use by the farmer after the development of fallow land which may include cultivation of annual crops, planting of horticulture and other perennial crops, improvement in productivity of existing grass, etc. Removal of boulders and adoption of erosion control measures on lower field boundary will be essential if annual crops are to be cultivated in these fields. Such type of developmental activity may be considered only if participating farmer is willing to pay at least 50

percent contribution. Sometimes preparation of cost estimates for such items may be difficult as these items may not be included in the existing SSR. Hence, for such items new SSR may be approved by district head of the nodal agency.

97. Fallow land can broadly be grouped in three categories : short-terms fallow; long term fallow; and problem fallow. Short-term - fallow land may require clearance of bushes, deep ploughing with tractor, etc. The long-term fallow land may require clearance of trees besides bushes, removal of boulders, deep ploughing with tractor, etc. The problem fallow land would, however, require different type of treatment as indicated later. Some fallow lands may be owned by resource poor families, as long-term lease/pattas of surplus lands-ceiling lands or other common lands. In many cases these lands were usually demarcated as large blocks and allotted to a group of landless households. Development of such land, would require not only the physical development indicated above but adequate efforts to sub-divide and re-demarcate the fields for each individual family. Re-demarcation of fields in the above manner may not be a simple measure since a particular block of land may have 2 to 3 major qualities of land (good, average and poor). Hence this aspect has to be kept in view while demarcating the fields so that each family gets the share accordingly. To begin with concerned families may be encouraged and facilitated to carryout mutually agreeable demarcation of individual fields. Afterwards, revenue authorities may be approached to legalize it by entering into land records.

98. Treatment of drainage lines / gullies may be carried out not only to minimize its further degradation/erosion but also to develop it into a productive asset as the moisture content in gully course is usually higher than rest of the watershed area. For this purpose, many of the indigenous measures namely, construction of soil harvesting structures (for leveling of gully course or for creating a small field within the gully course), terracing of bed area into small size fields small sunken dug out ponds, stone/vegetative checks, vegetative and stone stabilization of banks, etc. may be considered. Drainage lines should also be utilized for water storage structures to

encourage storage and recharging groundwater in tune with local and indigenous devices and not conventional heading type structures for safe disposal.

99. Treatment of problem soil may be carried out in such fields which are effected by salinity, alkalinity, acidity provided farmers are willing to pay contribution. Initially a small portion of the above area may be treated with only 10% contribution from the farmers. Afterwards, farmers may be encouraged to treat the remaining area out of the revolving fund under improvement of farm production system (para 82).

100. **Common Land Resource:** It includes development of those lands which are owned by state government, revenue department or village panchayats. Development measures for such lands may be introduced in two phases, namely, natural re-generation phase and new plantation / silvi pasture phase. For sustainable results plantation of new species should be taken up only where first phase of natural re-generation through social fencing has been successfully completed. During the first phase special care may be taken to allocate usufruct rights (preferably in favor of resource poor families/women) through appropriate formal mechanism so that concerned users may not only take interest in protecting the resource from unauthorized grazing but also prepare a need-based plan for introduction of new plant species. Under the social fencing concept specific period may also be identified for removal of unwanted plants or to cut down their excessive growth (in order to avoid undue suppression of beneficial plants) and also for carrying out singling of economical plants (which are regenerating during this period). Besides this, staggered trenching and other moisture conservation measures like contour furrows, separated furrows across the slope and catch pits / crescent basins nearer to plants may also be adopted. During the second phase plantation of new species may be done as per the preference of the concerned users. As far as possible, mixed plantation of multipurpose species depending upon soil depth and availability of moisture be encouraged.

101. In some watersheds there may be sufficient fallow lands owned by Resource Rich Families (RRF) which are currently lying unutilized due to their pre occupation with other cultivated lands. Under such a situation it may be useful to encourage the RRF to give their fallow land on medium to long-term lease to the women SHG members for cultivation of annual crops (particularly the food crops). For this purpose, if any land development investment is needed, it may be considered out of the project funds as per contributory approach indicated in para-79 for this component. Such an arrangement of leasing to the groups (SHG) would not create any risk for the land owners in terms of losing the legal right over the resource since the dealing is with the group rather than the individual.

102. There are usually four major types of bio mass which are likely to be produced in the common land namely, grass/fodder, fuel and fruit trees, Minor Forest Produce (MFP) and timber. Fuel wood would be preferred mainly by resource poor families; grass would be preferred by families which are owning livestock; MFP would be preferred by families who are skillful in harvesting, processing and marketing of such products and timber would be preferred by resource rich families. Different types of bio-mass may compete with each other in case proper allocation of space for each component is not provided in a rational manner. Proper allocation of space may be made for specific type of bio-mass. While doing so preferential allocation of usufruct may be made to those resource poor stake holders who are currently associated with the common land (under its degraded condition) and also in favour of mature SHG so that it may facilitate equity for poor and empowerment of women.

103. **Forest Land Resource:** Some watersheds may encompass forest land under the ownership of State Forest Department. Since nature does not recognize artificial legal boundaries of forest and non-forest lands in watersheds, entire watershed is to be treated in an integrated manner. Though the criterion for selection of watersheds primarily remains predominance of non-forest lands, the forest lands forming part of such

watersheds are also to be treated simultaneously as per the following guidelines:

- ❖ Technical sanction of the treatment plans should be given the Divisional Forest Officer concerned.
- ❖ The programme should as far as possible be implemented by Village Forest Committees existing in that area. If no such committee exists, their formation may be encouraged, or else the project activities in such watersheds should be taken up by the Forest Department.
- ❖ Village Forest Committees should be treated at par with Watershed Committee. Since Village Forest Committees are registered with the Forest Department of the respective states, there would not be any need for getting them registered under the Societies Registration Act.
- ❖ The micro-watershed development plan for the forest areas should be in conformity with the Forest Conservation Act.
- ❖ Where a relatively larger proportion of the watershed is covered by forest lands, Forest Department at the district level should be encouraged to take up the work of development as Project Implementation Agency.
- ❖ A forest official should invariably be included as a member of the Watershed Development Team wherever forest land falls within the watershed.

104. **Water Resource:** *Supply Side Management* of water resource includes its conservation for sustainable development of agriculture in rainfed areas. The rain water resource can broadly be divided in four categories, namely: (i) in-situ conserved moisture; (ii) harvested water under various types of structures; (iii) ground water; and (iv) surplus runoff (going outside the watershed area). Relative importance of each of these categories may vary from region to region. However, due emphasis may be given to the exogenous and indigenous practices of in-situ moisture conservation, recharge of ground-water through percolation structures keeping the location specific needs of human, agriculture and livestock in view. It is widely recognized that indigenous technical knowledge is very sound in carrying out

development of water resources at micro level. Hence, high priority should be given to replicate or build upon these systems. It is, however, observed that many of the indigenous water harvesting structures are becoming dysfunctional. This is primarily due to lack of sustainable arrangements for their repair and maintenance. Efforts be made to assess the usefulness of these structures and in case found useful, these may be renovated from the project. Special precaution may be taken to work out operational modalities for their maintenance by concerned user groups before making investment on construction of any new structure. The basic hydrological approach should be to relocate and transfer rain water 3 to 4 months in time by conserving and converting surface flow into sub-surface flow.

105. *Demand Side Management* of available water through its optimal and sustainable utilization is an equally important concern. This may be achieved through choice of appropriate low water requiring crops and also through efficient methods of irrigation (namely drip-irrigation, sprinkler irrigation etc). Investment for high cost micro-irrigation systems may however be undertaken through convergence of other ongoing schemes.

106. Water resource is used not only for crops but also for drinking by human beings as well as livestock. Hence, under watershed programme adequate attention should be given to meet drinking water needs on a priority basis. Specific water harvesting structures for drinking water by animals may be considered in ridge areas, waste land etc., where animals go for grazing.

107. ***Social Regulation to avoid Over-exploitation of Ground Water Resource:*** At present, by and large, ground water exploitation is not sustainable with the result water table is going down rapidly. Extraction of ground-water is more than the annual recharge. It is crucial that proper kind of social regulation is facilitated by Watershed Committee and Watershed Association, so that entire recharged water resource is used judiciously and equitably. This requires collective action. Like-wise, cropping pattern should also be modified in favour of less water requiring crops, particularly during years when rainfall is low. During dry years, however, water may be

used first for meeting the drinking water needs for human beings and livestock before addressing irrigation requirements.

108. There is a general impression that post rainy season flow of water in semi-perennial drainage courses / rivers is gradually reducing (on account of reduced lateral / sub-surface flow of water). This is essentially due to destruction of perennial vegetation and dys-functioning of water harvesting structures in ridge areas. Post rainy season flow of water in drainage course can become an excellent source of supplemental irrigation for rabi season crops besides being useful for a number of non-agricultural uses. Knowledge regarding potential of developing this resource is likely to be available with local people particularly in areas where such water flow used to be higher in the past and have been reduced now.

109. In many areas there is tendency to construct new water harvesting structures without assessing the existence and intensity of similar structures constructed already in the upper portion of the same watershed. Likewise, no specific attempt is made to understand the impact of these structures on the sustainability of the indigenous water harvesting structures in the lower areas of the same or adjoining watersheds. It would therefore be crucial to assess above aspects before any investment is made on new structure.

110. For the sake of equity it may be desirable to locate water harvesting structures nearer to the fields / wells of resource poor farmers. The water from such structures may be used after it has percolated in the nearby open wells. Direct pumping of water above the ground by a few persons nearer to these structures should be avoided so that it is able to recharge more number of wells over the longer period. Needless to mention that efforts should be made not only to develop new water resources but also to improve upon the utilization efficiency of existing water resources. Hence, further investment on new water resource may be considered only after having a clear commitment from the users that newly developed resource would be used for efficient crops and also through efficient methods in equitable manner.

111. **Technology Management Aspects for Improving Productivity of Land and Water Based Enterprises:** This involves three sub components namely: (i) testing and demonstration of new technologies; (ii) planting of horticultural / agro-forestry crops; and (iii) adoption of proven technologies. The first and third components shall deal not only with agricultural crops but also with livestock, horticulture, fisheries etc. Emphasis may be given to improve the productivity of each commodity and also to diversify the overall farming systems. In each of these components adequate emphasis be laid on on-farm water management and conservation practices for water use efficiency. Salient features of the proposed approach for each of the above sub-components are indicated below.

112. **Testing and demonstration of new and sustainable technologies:** In the case of agricultural and horticultural crops priority may be given to test those technologies which have a direct bearing on sustainability namely, Integrated Pest Management (IPM), Integrated Plant Nutrient Management (IPNM), on-farm water management, drought resistant short duration varieties, diversification of farming system, value addition and marketing of produce through farmer groups, etc. In fallow land alternate land use systems like agro-forestry, agri-horticulture, silvi-pasture, alley cropping, etc. may be tested. Like-wise, in cultivated land attention may be paid towards organic farming, use of bio-fertilizers, multiple cropping, improved inter cropping, etc. on the fields of small and marginal farmers. Under the watershed programme, special attention needs to be given to make the village self reliant with regard to seed requirement through 'Seed Village' concept. In the present context 'seed' does not refer to the seed of only annual crops but also seedlings of horticulture and forest plants, fingerlings of inland fish, etc. For this purpose, initially a small size trial-cum-demonstration may be arranged from the project fund. Such trial and demonstration should rely more on homegrown inputs rather than on market purchased and should provide risk reduction in diversified cropping systems. Afterwards, the programme may be adopted on commercial basis by willing households through revolving fund with UG, etc.

113. In the case of livestock, priority may be given to improve the breed of existing animals by making provision of male animals of improved breed or by artificial insemination, adoption of cost effective methods of disease control (through proper blending of indigenous and exogenous technologies); improved management of nutrients (based upon locally available raw material), introduction of seasonal leguminous fodder under irrigated condition, promotion of perennial leguminous fodder under rainfed condition (in the common as well as private land), etc. Further steps may be taken to reduce the population pressure of animals. The conventional approach of culling the unproductive animals is not found to be of wider acceptance due to socio-cultural reasons. There is a need to evolve alternate ways which are socially relevant. The possibility of reducing population pressure through social fencing (for animals from outside the village) and through simultaneous reduction of animal population by all families (for animals within the village) need to be tested. It is also expected that by up-gradation of livestock productivity (through intensive management) over-all production of livestock sector would increase. As a trade off the less useful animals are likely to be taken out. Many of the technological interventions indicated above (particularly those related to breed improvement) would require high cost. Such items may be introduced through convergence of ongoing government schemes in livestock sector. Project funds should primarily be utilized for primary health care and preventive medication (immunizing vaccination, deworming and trainings of paravets), feed and fodder treatment.

114. Special attention may be paid to improve the productivity of inland fisheries particularly in red soil areas of southern states where tanks have been in existence from historical times. This may be achieved through increasing the stocking rate of fingerlings, controlling the natural predators by releasing fingerlings at an advanced stage, provision of supplemental feed, treatment of diseases, etc. Small ponds (*Pokhars*) in eastern and north India and indigenous system of fisheries in other areas should be supported.

115. ***Adoption of Horticulture and Forestry on Cultivated Land:*** These are essential both for economic and ecological reasons. These are not

so dependent on annual rainfall as annual crops, hence play a very important role in minimizing the risk and impact of drought by providing fodder, fruits, timber, cash income, etc. Trees and shrubs also have long-term impact in improving the micro-climate and re-distribute nutrients from lower layers of soils and restore ecological balance.

116. NWDPRAs would promote integration of trees in different manner (pure crop, plantation on bunds and around water bodies, plantation in clusters and blocks, orchards, etc. Pits of proper size, filling with soil and manure, or tank silt mixtures and initial watering should be ensured for better survival and growth of the seedlings. Preference should be given to direct seeding of local varieties and in-situ grafting with improved varieties.

117. Attempts should be made for social regulation of high water requiring orchards like vine-yard which is against water use equity and benefit only a few. Moreover, over exploitation of ground water results in lowering of water table. The basic approach should be to provide a few trees to many households rather than many trees to a few influential families. Mahila nurseries and vegetable cultivation should be promoted as these provide short term benefit to the rural poor households.

118. **Adoption of Proven Technologies:** As discussed under para 82 and 83 this component may be implemented through matching revolving fund to User Groups against a micro-plan prepared by concerned farmers. The fund may be used only for purchase of those critical inputs which could not be adopted so far due to lack of credit. Hence gap in adoption shall be used as a basis for preparing the above micro plan. However, high cost technologies even if proven on research farms and on the fields of rich farmers should not be imposed on resource poor rainfed farmers, who operate under risk prone environment. After careful consideration of pros and cons the choice should be left to the farmer.

119. **Convergence of On-going Government Production Programmes in Watershed:** Not all of the felt needs of the watershed community as

reflected in the PRA exercise will be able to be financed through the project resources. Advantage must be taken of the regular on-going production programmes of the line departments - Agriculture, Horticulture, Animal Husbandry, Fisheries, Sericulture, Forest as well as rural development programmes of the DRDAs/ ZPs to bring about requisite convergence. The District Watershed Committee which comprises representatives from line departments and where the watershed plans would be coordinated and reviewed would be the appropriate forum wherein dovetailing with on-going programmes would be achieved.

120. ***Technology Management Aspects for Improving the Income and livelihood of rural landless households:*** As discussed under para 82 and 83, this component may also be implemented through the matching revolving fund to mature SHG against a micro-action plan prepared by the concerned households. The credit and thrift oriented SHG normally pass through three different phases regarding adoption of livelihoods for improving the income. In the first phase, (which usually lasts for 6 to 12 months) the members prefer to use their savings mainly for consumption purpose / emergency purpose (purchase of food grains, medicines, school fees for children, etc.). In the second phase, (which operate usually during the second year) the members prefer to take loan for those enterprises which are already existing in the village and regarding which they are familiar (rearing of milch animals, sheep, backyard/poultry, piggery, biomass-based cottage industries, broom binding, mat weaving, rope and basket making, etc.) It is only in the third phase, (which usually starts during third year) the members begin using their surplus savings for new enterprises (sericulture, rabbit rearing, commercial poultry, mushroom, bee keeping, etc.). Hence, undue haste should not be made in introducing new enterprises prematurely before the members have developed adequate business skills and confidence and before they have made provision for their consumption needs. A proper follow-up support particularly on technological aspects as well as marketing aspects may be worked out before introducing new enterprises.

121. **Strategy for Promoting Equity for Resource Poor Families and Empowerment of Women:** In the early stages the following specific initiatives may be taken to meet the requirement : training of WDT on preparation of equity-oriented-gender-empowering action plan; orientation of community regarding the significance and mandatory requirement of above aspect, etc. There are following seven specific ways through which equity and gender empowerment could be significantly achieved:

- ❖ Equal wage and equal employment opportunities for women during implementation of project activities even if estimates are prepared on the basis of SSR.
- ❖ Preferential allocation of usufruct right over the common land resource before starting its planning under the project to resource poor.
- ❖ Development of private fallow land, marginal land and surplus land assigned to resource poor families and woman headed families on priority basis.
- ❖ Location of water harvesting structures nearer to the wells and lands owned and cultivated by resource poor families.
- ❖ Equity in sharing of additional water resource developed under the project.
- ❖ High priority to organization of Self Help Groups through credit and thrift activity; and providing support to livelihoods of landless families through bio-mass and household production system.
- ❖ Convergence of other schemes designed specifically for Resource Poor Families and Women.

122. **Preparation of Strategic Plan for Watershed Development:** Watershed programme deals with three major components, namely: (i) development of natural resources; (ii) improved management of farm production system (of land owning families); and (iii) improved management of non-farm based livelihoods (of land-less and small/marginal holding families).

123. Development of natural resources would focus on three major resources namely: private land; common/forest land; and water. The private

land resource development component would deal with the following sub-components: treatment of cultivated land; development of fallow land; and treatment of drainage course. The common/forest land development would deal with the sub-components namely : natural regeneration of existing biomass through social fencing, conservation of soil and water, and plantation of new seedling/seed in the treated area. The improved management of farm production system (with land owning families) would deal with different commodities/enterprises namely, agriculture, horticulture, livestock, fisheries, etc. In each case there would be three types of main activities namely, testing/demonstration of new technologies; diversification of existing farming systems; and adoption of proven technologies. Improved management of non-farm based livelihoods (of land-less and small/marginal holding families) would focus on adoption of proven technologies in existing livelihoods as well as starting of new micro-enterprises.

124. One of the major objectives behind preparation of strategic plan is to carry out need based allocation of available funds for different components and sub-components. Needless to mention that this allocation may vary from PIA to PIA and also from watershed to watershed within each PIA. In arid areas relatively more emphasis may be given to livestock-based farming system, whereas in humid and sub humid areas relatively more emphasis may be given to horticulture/tree based farming system. In semi-arid areas, however, agriculture based farming systems are more important. Further details about technology management aspects for each component and sub-component have been indicated separately in this document. Allocation of funds for different sub-components under natural resource development may vary from place to place depending upon severity of problems, proportion of land under private and community ownership; quantity of surplus run-off spilling outside the watershed area; extent of land and water resource development measures adopted earlier in the watershed area, etc. Based upon mutual agreement between the watershed community and the WDT members, a tentative allocation of development fund may be made for each component and sub-component indicated above.

125. The second major objective behind the strategic plan is to evolve appropriate strategies and approaches for carrying out the following specific aspects: organization of community in a new institutional set up; integration of social resource management with natural resource management; need based capacity building of community members on technological as well as management aspects; efficient utilization of already developed natural resources; further development of existing natural resources; diversification and intensification of existing farming systems; integration of indigenous technical knowledge with exogenous technical knowledge; and facilitation of social regulation over the use of natural resources in the watershed area.

126. The third major objective is to phase out the financial allocation of different components and sub-components over the project period keeping in view the annual allocations made already in the guidelines (appendix 1a & 1c). The Strategic plan would also focus on preparation of a time frame within which future activities need to be carried out.

127. Preparation of strategic plan may be facilitated by orienting the community regarding the type of components and sub-components to be considered under the project, arranging exposure visits to successful watersheds and research stations, organizing focused PRA exercises in the watershed area with different UG, SHG , other participants, etc. These PRA exercises may be carried out for detailed auditing of each natural resources (lands, water, perennial vegetation, social resources, etc.) so that watershed-specific strategies and approaches could be avoid. Afterwards, the above strategic plan would become the basis for preparation of detailed annual action plan

128. **Approval of Strategic Plan** : The strategic plan of the watershed is meant for guiding the preparation of detailed annual action plan in a balanced manner so that lopsided development of certain components would be avoided. This plan does not deal with preparation of detailed design and estimate of different structures/measures. It only deals with strategies for sustainable development and need-based allocation of funds for different

components and sub-components. Hence, the strategic plan does not need any formal administrative and financial approval. It is, however, essential that the plan is presented in the WA and a general agreement is obtained regarding the thrust areas of investment and strategies for achieving these. Afterwards, it may be sent to the District Nodal Agency for specific suggestions and improvements and also subsequent reference at the time of scrutinizing the detailed annual action plan.

129. **Preparation of Annual Action Plan:** After the preparation of strategic plan of the micro watershed the WDT and WC members shall further facilitate the preparation of annual action plan with the help of concerned user(s). For this purpose, the micro-watershed area may be sub – divided into 4 to 5 blocks / mini – watersheds each to be planned and implemented on an annual basis. The sequence for planning of these mini watersheds may be arranged keeping in view the ridge to valley concept. At the time of preparing detailed action plan the approximate allocation of fund for each component and sub-component may be kept in view as per the strategic plan prepared earlier. In early stages the users of the concerned mini watersheds / blocks may be motivated through focussed exposure visits to successful watersheds. Afterwards, a set of technological options for each type of works / activity may be mutually identified on the basis of exogenous knowledge available with WDT and indigenous knowledge available with innovative farmers.

130. **Demand Driven Approach :** The action plan for each component and sub-component may be prepared through a demand driven approach. In principle, all participating families are eligible to submit their proposals in open - ended application forms to be designed separately for each component. The proposals for soil and moisture conservation measures on private land may be submitted by the concerned families on individual basis (for treatment of individual fields) or on small group basis (for treatment of drainage course). Other community oriented proposals (like water harvesting structures, perennial vegetation in common land etc.) may be given by a group of concerned users. The land owning families (associated with UGs)

may also be advised to detailed proposals for planting of horticultural / agro-forestry crops and adoption of proven technologies in agriculture and allied sectors. The plans for testing of new technologies may be drawn up by WDT members in consultation with participating farmers and concerned research organizations. The landless families (associated with SHGs) may be advised to submit proposals for adoption of new technologies in the existing livelihoods as well as for starting new micro – enterprises.

131. The proposals received from participating families on all components and sub components would be scrutinized for further-discussion with concerned members. While scrutinizing the proposals the following criteria may be kept in view: cost-effectiveness, convenience in implementation and maintenance, environmental friendliness equity for resource poor, sustainability, etc. Proposals related to development of land and water resources may be discussed at the respective farms individually or in small groups of farmers. The proposals for farm production systems as well as livelihood support system may be discussed in respective UG and SHG. Afterwards, budget estimates may be prepared for each proposal jointly by WDT and the participating households as per SSR so that there is clarity about the overall cost as well as specific contribution to be paid by the concerned households or group of households. After receiving the consent of the households on the application forms about the contribution to be made, the proposal may be considered for consolidation into an overall action plan.

132. ***Decentralized Approach for Preparation / Sanction of Design and Estimates of Watershed Works:*** Watershed works may be categorized into two types. The first one consists of small size structures which can easily be designed and estimated as per SSR by locals under the overall guidance of concerned WDT. These include works like bunding, trenching, pitting, planting of horticultural crops, forest trees etc. A short duration course on technological aspects can further improve the efficiency of above persons in preparing good quality of design and estimates.

133. Preparation of design and estimate of costly structures requires larger input from more qualified persons. It will be appropriate if WC is given flexibility to hire outside consultants (usually retired engineers/professionals) to design above type of structures and prepare the estimates. These estimates can be sent to the district head of nodal agency for technical approval. For such structures these consultants may be given an honorarium as per standard rule for preparation of estimates as well as for supervision of quality (including writing of measurement book) during implementation phase. The service charges paid to the consultant may be included as a part of the estimate for the structures so that it can be met from the development fund. However, it should be kept in mind that a network of small structures rather than a large structure would provide water equity, require less repair and maintenance cost and should be preferred.

134. **Cost Norms for Structures:** Keeping in view high variability in labour cost from place to place there will be flexibility in cost norms for each structure/measure. The cost estimates would be worked out as per Standard Schedule of Rates (SSR) in the respective areas. For large water-harvesting structures which require higher financial investment, the State Watershed Committee may set an upper cost ceiling. If, however, a watershed community desires to construct a bigger structure and exceed the ceiling fixed by the aforesaid committee they may do so by making a community contribution in excess of the limit fixed. As far as possible, complex and large structures should be avoided as concentration of water helps only a few households.

135. Under the participatory approach it is essential to decentralize not only preparation of design and estimate but also the technical sanction of these structures. The small structures costing less than Rs.25,000 per unit may be technically sanctioned by the concerned WDT. However, big structures costing more than Rs.25,000 shall require preparation of estimates and supervision of its quality by experienced and qualified engineers/professionals out of a panel of experts nominated by the district head.

136. **Preparation of Budget Estimate as per SSR :** Any estimate may involve the following three components: labour, material and the equipment. The estimate for material component and equipment may be prepared as per the prevailing rates in the market provided it is lower than the prescribed rates in SSR, the quality is up to the prescribed standard, and process for finalization of quotation is transparent. Formal approval of such transactions may be given during a regular meeting of WC (in which WDT member is also as an observer). Afterwards, the proceedings may be announced in the next general body meeting of WA. The above procedure may be followed for such items even if rates are to be approved as per SSR. It is essential that estimates for labour component are made as per latest SSR and they are paid accordingly. In any state/district there may be many sources of SSR prepared by different departments (even for a particular item of work). In such case the District Nodal Agency shall take a final decision to follow a particular SSR and also update it from time to time.

137. **Initial Approval of Annual Action Plan by WA :** The consolidated annual action plan discussed earlier shall be presented in the WA meeting with details about different proposals, cost estimates, contribution to be paid by the users and also the approximate period during which the proposals are likely to be implemented. Watershed development plan may also include the objectives and success criteria. It should also identified the mechanisms that would be used by the Watershed Committee and the Project Implementing Agency to monitor and review the progress being achieved from time to time during its implementation.

138. The initial approval of the first annual action plan by WDC may take about 9 –12 months after inception of the project. Afterwards, it may become a regular feature in such a way that subsequent plans are prepared and submitted to the District Nodal Agency on an annual basis at about one month before the start of next financial year.

139. ***Final Approval of Annual Action Plan by the District Nodal Agency*** : The WA shall submit the plan, with the recommendations of the PIA to the district head of nodal agency who shall convey administrative and financial approval. The approved annual action plan shall become the basis for the district head to release the funds and also to monitor, review and evaluate the project. The WDT / WA will ensure that the first annual action plan is submitted within 10 to 12 months after the project commencement so that the district heads can approve the same and release the first installment for the WC during the capacity building phase. Once the final approval is communicated there may not be any need for further technical approval by outsiders (WDT, MDT etc) at the time of carrying out the actual implementation.

140. At the State Government level, it may require delegation of administrative and financial power to District Nodal Agency. This is left to the States to work out appropriate mechanism for delegation of these powers to the District Nodal Agency to facilitate the administrative and financial approval of the annual action plan. Until it takes place the administrative and financial sanctions may be provided by the District Watershed Committee for those annual action plans whose fund requirement exceeds the sanction power of District Nodal Agency.

141. ***Withdrawal Strategy by PIA/WDT***: One of the important purpose behind participatory approach is to empower the watershed community so that they could subsequently carryout activities on their own. Hence, a withdrawal strategy should be worked out by WDT in the beginning itself in order to provide the community with sufficient opportunity to become self reliant in a gradual manner. For this purpose, the following specific aspects may be considered: organization of community into a sustainable institutional setup; active involvement of people in all stages of project management (namely planning, implementation, monitoring, evaluation etc); promotion of self reliance in financial aspects through credit and thrift activity, formulation of specific mechanism for withdrawal by WDT/PIA; providing working experience to the village level institution regarding post project maintenance

of structures created under watershed project; operational aspect for sustainable utilization of Watershed Development Fund; facilitating the convergence of schemes with other line department, linkage with credit institution, etc.

CHAPTER-VI

IMPLEMENTATION PHASE

142. ***Opening of Watershed Project Account*** : On constitution of the WC and the appointment of the watershed Secretary as well as watershed volunteers, the WC will take necessary action to open a bank account in the name of WA in the local branch of any Nationalised Bank/Cooperative Bank. This account shall be operated jointly by the Chairperson of the WC, a member of the WDT and the watershed Secretary. Withdrawals of amount upto Rs.1,000/- shall be made on the joint signatures of the Chairperson of the WC and watershed Secretary. For amounts above Rs.1,000/- one member of the WDT, Chairperson of WC and WS shall be the signatories. For WDT member to be a cosignatory, it may be desirable for him/her to become a member of the concerned WA. Application to the district head of nodal agency for release of funds to the Watershed Project Account shall be jointly signed by the Chairperson of WC and the watershed Secretary and shall be duly recommended by the project leader of the WDT. The watershed Secretary shall maintain the necessary records of receipt and expenditure under this account in the manner in which the district heads shall prescribe.

143. ***Setting up of Watershed Development (Corpus) Fund*** : Maintenance of assets created under the project after the project life is over is an important component for sustainability of the project. Most Panchayats not being financially sound are incapable of taking over maintenance out of their own resources. To help tide over this difficulty a 'Corpus Fund' is proposed to be provided to community groups/panchayats, etc. to support management and maintenance of community assets, entrepreneurial venture, socio-economic activities, etc. it is proposed to keep 1% of the approved project cost as a "Corpus Fund", with another 1% as contribution from the State Government and beneficiaries, which will be operationalised in the following manner:

- 1% of approved project cost will be earmarked as 'Corpus Fund' to ensure suitable maintenance of community assets created in the watershed under the project.
- The 1% project contribution will have to be matched by the contribution from the watershed community and partially from the State Government.
- This fund may be further augmented from the sale of produce from common resources as well as borrowings from credit institutions as well as other sources of maintenance under Jawahar Rozgar Yojana, Panchayat Development Fund, etc.

144. The WC shall open an account in the local branch of the bank in the name of "Watershed Development (Corpus) Fund". This shall be a fixed deposit/interest bearing account and shall be operated jointly by the President of the Watershed Association, and the Project Leader of the WDT. Contributions received from user group members and individual beneficiaries in cash or the monetary equivalent of materials (taken from the watershed project A/c) shall be transferred to the Watershed Development (Corpus) Fund. Any other cash collections made by the WA/WC in terms of donations/contributions, recoveries of fines or fees for services rendered, etc. shall also be deposited in the Watershed Development (Corpus) Fund. Besides this 1.0 percent of the project cost shall be transferred by the district nodal agency to the above account as a corpus fund. This amount shall be taken out of the community organization component retained by the district nodal agency.

145. **Financial Powers:** While most of the works may be actually executed through the User Groups, incurring of expenditure shall be authorized to the extent of Rs.1,000 by the Chairperson Watershed Committee and above Rs.1,000 jointly by the Chairperson Watershed Committee and the concerned technical member of the Watershed Development Team.

146. The district heads shall lay down certain cost-norms regarding TA/DA to farmers, honoraria to guest faculty and other incidental expenditures to be

incurred under community organization, training programme etc. These cost norms may be, by and large, in conformity with related schemes of the Central Government.

147. **Fund Flow Mechanism to District Level:** Fund flow mechanism would be specific to each Ministry . In the case of Ministry of Agriculture it would operate as follows:

1. From Ministry of Agriculture, Government of India to the State Government nodal department namely Department of Agriculture/ Soil & Water Conservation/Watershed Management/State Land Development Corporation Ltd.
2. From the State Department to the district head of Department of Agriculture / Soil Conservation/Watershed Management/State Land Development Corporation Ltd.
3. From the district head of the Department of Agriculture / Soil Conservation, etc. to the concerned watershed institutions (PIA for the management component, WC for the development component and support agency, if any, for capacity building component).

148. **Release of Watershed Budget:** Details about release of funds to various agencies are given in Appendix IA to IC. The Appendix IA includes the information about standard percentage of funds to be released each year to different agencies. The Appendix IB contains the information about actual amount to be released for those watersheds where total budget allocation is only 22.5 lakhs (where the average slope less than 8%). The Appendix IC contains the information for watersheds where budget allocation is Rs. 30.0 lakhs (where the average slope is more than 8 percent).

149. Of the 10.0 percent allocation for administration cost, 4.0 percent may be released directly to watershed committee, 5.0 percent to PIA and 1.0 percent may be retained at the District/State level nodal agency. The proposed amount for watershed committee may be used towards honorarium for watershed secretary and volunteers, hire charges for a watershed office

and miscellaneous office contingency. In most of the villages free accommodation may be arranged in community building/private houses etc. Hiring of WC office should be resorted to only if free accommodation is not available at the village level. The administration fund for PIA may be used towards salary of 4 WDT members to be hired on contractual basis for the project period; rental charges for a WDT office in the watershed area, TA/DA of WDT, transport, honorarium for a part time account assistant, typing of reports and other contingency items. For this purpose, PIA shall open a Saving Account in a Nationalised/Cooperative Bank, which will be operated by competent authority of PIA. The administrative cost with District/State Nodal Agency may be used for transport TA/DA for visit of subject matter specialists to watershed, short term consultants for supporting watershed programme.

150. Of the 7.5 percent amount allocated for community organization and other activities, upto 3.0 percent may be released directly to WC by the district head towards entry point activities; 2.0 percent may be released to PIA towards honorarium to the village based community organizers (for nurturing the self help groups and user groups related to credit and thrift activity); the remaining 2.5 percent amount may be retained at the district head-quarter for using it towards publicity about the programme and the guidelines, support for production of technological inputs at micro level (namely NPV, neem based pesticides, rearing of chaky in sericulture, etc); support for information technology at village level; provision of corpus fund to the watershed committee, miscellaneous charges towards publicity of watershed guidelines, etc.

151. Of the 5.0 percent amount for training programme, 2.0 percent is to be released to PIA towards exposure visits and training of WA, WC, SHG and UG; 2.0 percent to be released to districts nodal head for organization of orientation and training courses for PIA, WDT etc; the remaining 1.0 percent fund may be retained at state head quarter for supporting national and state level training organizations, for training of state level trainers, orientation of senior officers at district and state level, organization of annual workshops of

district heads, PIA; infrastructure build up of autonomous support organization, etc.

152. On the whole 10 percent of the project outlay shall be released in the first year, 20 percent in the second year, 27.3 percent in the third year 21.2 percent in the fourth year and the remaining 21.5 percent in the fifth year. Every year the funds shall be released in two equal installments. After the first installment, the releases shall be dependent on 50 percent utilization of the funds released earlier.

153. While retaining their share of management components from each project, the district head of nodal agency shall release funds to the Project Implementation Agency for administrative cost, community organization and training programme. The amount for EPA and works component shall be released directly to WA by the district heads on the basis of recommendations from the PIA. The Project Implementation Agency shall ensure that the watershed project account is opened in the name of WA by the Watershed Committee before the district head release the EPA and work component.

154. ***Flexibility in Re-allocation of Funds:*** As far as possible, the PIA shall restrict the fund utilization within the broad allocations indicated in the guidelines. However, in special situations the budget may be re-allocated to the extent of 10 percent from one sub component to another sub-component. No budget shall be transferred from development to management component, however, any savings from the management component may be transferred to the development component.

155. ***Participatory Management of Implementation Phase by WC:*** After receiving the funds from district head the WC shall start assuming primary responsibility for implementation of various works. There are five aspects which require special attention during implementation phase: (i) maintenance of records and accounts; (ii) collection of contribution; (iii) social auditing and

transparency; (iv) facilitation of group action / conflict resolution; and (v) empowerment of community.

156. **Maintenance of Records and Accounts:** List of records and accounts which are required to be maintained at the WC level and at PIA / WDT level are given in Appendix – VII). These records shall provide the basis for preparing various progress reports, demand for release of funds, and auditing of accounts. Annual auditing of accounts of WA will be required under societies registration act. For this purpose the District Nodal Agency may announce a panel of Chartered Accountants(CAs), preferably CAs approved by CAG. The WA can select a CA of their choice from the panel. The President WA is to send the audited utilization statement every year to the district nodal agency, within six months of end of financial year.

157. **Rate of Contribution from the Community :** Rate of contribution shall vary for different activities as well as communities. It shall range from 10 to 50 percent for individual oriented activities as per details given in para 79, 80 and 81; and a minimum of 5 percent for community oriented activities. The contribution from SC/ST may range from 5 to 25 percent for individual oriented activities and a minimum of 5 percent for community oriented activities. A part of the budget out of the two components namely, farm production system for land owning families and livelihood support system for landless families shall be used as revolving fund through mature UG and SHG as per para 82.

158. In case of soil conservation measures the work should be started from ridge-to-valley. This shall help in development of marginal land in the upper reaches and also minimize the siltation of water harvesting structures in the lower reaches. However, if some farmers in the upper reaches are not responsive (due to being absentee landlords, etc.) or not willing to pay contribution due to any reason; implementation of works in such fields should be postponed till the farmers are motivated to participate as per the norms. Under such situations required modification in the design of measures may

be done (to minimize the adverse effect on account of non-participation by the above farmers).

159. In the case of water harvesting structures only those works should be considered for which there is a written demand from actual users. For such measures, the likely beneficiaries should be properly identified and the contribution should be collected in proportion to the benefit likely to accrue to each user. In case the demand for such structures is more than the availability of runoff water, prioritization may be done in consultation with the community through proper facilitation by WDT. Also there can be a conflict with those families who are likely to be losers on account of proposed measures. Implementation of such works should be carried out only after resolving the above conflicts.

160. ***Social Auditing and Transparency.*** Social auditing and transparency at the village level is an important mechanism to minimize conflicts among community members. It also helps in empowering majority of members in the community rather than a few influential people; improving participation of resource-poor families in the programme, etc. The following nine specific steps may be taken for facilitating transparency in the programme : painting wall posters on important aspects like strategic plan, key features of the scheme, SSR, etc.; organizing several rounds of open meetings with the community in initial stages to orient the members about the project approach, modalities, etc.; introducing formal application system for receiving proposals from the participants; carrying out payment through cheques to respective stake holders particularly for water harvesting structures which involves higher cost; preparing technical estimates for each work in consultation with concerned users; ensuring collection of contribution from concerned users before starting implementation of work (except in cases where user is to contribute as a labour); making full payment to labourers as per SSR; organizing frequent meetings of WA to review physical and financial progress during implementation phase; and facilitating WA to become a decision making body while WC to work as its executive body.

161. **Facilitation of Group Action and Conflict Resolution:** Facilitation of group action and conflict resolution is another important requirement for sustainable development of watershed resources. This requires a high degree of sensitivity towards social aspects as well as clear understanding of technological interventions. The required social action for any intervention may be completed before starting its implementation.

162. **Modality for Payment of Works by WC:** Implementation of works should be started only when the particular user / user group is willing to come forward. The user group may have the freedom to identify skillful labours for carrying out the required job in their own fields. The payment should however be made by the watershed secretary directly to the labours through cash (if amount is less) or through cheques. This should however be done after receiving a certificate from the concerned user(s) about satisfactory completion of the job. The office bearers of the Watershed Committee should avoid making advance contacts with labours or giving markings in the fields for implementation of works before collecting the due contribution from users otherwise it will make the programme top down even at village level.

163. **Introducing Management Flexibility during Implementation Phase:** Watershed programme is time bound and hence setting the targets is essential not only to complete it in time but also to provide a mechanism for proper review and monitoring. Under the participatory approach active involvement of large number of stake-holders is to be facilitated in the programme; transparency is to be maintained; and also contribution is to be collected from actual beneficiaries. Hence, completion of the works as per target may not take place in some cases. It is, therefore, essential to introduce certain flexibility in overall management of the programme. The following specific provisions may be considered in order to promote the desired flexibility.

164. During implementation phase different watersheds show differential rate of progress which may be due to differences in their maturity and response to the participatory approach. Certain degree of differences in

progress would not matter as it can be made up subsequently. However, if in some watersheds the overall progress is too slow and if the funds are likely to be underutilized, it would be advisable to shift the funds to adjoining watersheds preferably under the same PIA rather than attempting to achieve financial targets in the existing watersheds without observing the contributory norms, transparency etc. Such an arrangement would itself bring seriousness among the Watershed Committee member and the need for shifting the budget may be minimized particularly if the assessment of progress is properly monitored on regular basis.

165. There is a tendency to prepare detailed plans of the watershed for the entire area and also for all the proposed components in order to achieve an integrated development. It is observed that the available funds are usually inadequate to meet the requirement of the entire watershed area. On the other hand it is also observed that some of the families are not keen to participate in the programme particularly if contribution is to be paid by them. There is hence a need to modify the approach and make the programme demand driven in which implementation would be carried out in only those fields where farmer(s) are keen to pay the required contribution. With this approach, certain families who are not able to come forward as per the financial norms (i.e. contribution, revolving fund, etc.) may not be included in the programme. These families however have a right to join later on as and when they get motivated.

166. Normally selection of villages and PIAs is finalized for the entire project period even if their performance is not found to be satisfactory at a later date. It is essential to evolve objective procedures to review the performance periodically so that certain projects may be suspended or dropped in the middle if their performance is poor or mismanagement of fund is observed.

167. ***Mechanism for Facilitation of Accountability.*** For smooth operation of funds at the village level, it is essential to evolve a proper mechanism for its accountability. For this purpose, the following specific

steps shall be undertaken: Two separate MoUs each between District Nodal Agency and Watershed Association and also between District Nodal Agency and Project Implementing Agency shall be signed at the commencement of project, which will contain clauses specifying their roles and responsibilities and accountability; empowering the District Nodal Agency to carryout surprise check of works; opening a vigilance cell/desk in the office of the District Nodal Agency to entertain complaints regarding misuse of fund released to WA or PIA; empowering the District Nodal Agency to suspend the programme in watershed, to stop fund release or take any other legal action in case mis-appropriation of funds is observed. In grave and proven cases of misuse of funds replacing and black-listing of PIA and discontinuing programme in the watershed may also take place for which DWC will be competent deciding authority. The model MoUs are annexed at Appendix-VIII(a) and VIII(b), which may further be made more specific at the State/District Nodal Agency level as per requirement.

CHAPTER-VII

MONITORING AND EVALUATION

168. **Management Committees:** Under the project the following four types of management committees are envisaged to review and guide the programme at different levels. These include: National Watershed Committee, State Watershed Committee, District Watershed Committee and Watershed Committee. Periodic review of progress, particularly during implementation phase at each of the above levels may be undertaken regularly and suitable standard formats may be evolved so that a uniform and compatible system is developed at various level.

169. **National Watershed Committee:** This Committee may be jointly chaired by Secretary (A&C) and Secretary (RD) on rotation and have as its members representatives from various organizations including ICAR, Departments of Animal Husbandry & Dairying, Planning Commission, Ministry of Environment and Forest and Experts in the field. This Committee may meet once in a year for reviewing the progress and providing policy direction to the programme. The nodal officer from the Ministry of Agriculture shall be the convenor of this committee. This composition and Terms of Reference(TOR) of this Committee shall be notified by the Ministry of Agriculture.

170. **State Watershed Committee:** This Committee may be chaired by Chief Secretary or Agriculture Production Commissioner and the members of the committee may be drawn from the concerned line departments of the state government including rural development and panchayat raj department; representative from SAU/ICAR institution in the state, representatives of selected autonomous support organizations, state level training organization, state level committee for coordination of training programmes (to be constituted under the project), NGOs, Presidents of selected Watershed Associations. The above committee may meet once in six months to review progress, resolve management issues and provide policy directives. The

composition and TOR of this Committee shall be notified by the respective State Governments within one month of issuance of these Guidelines.

171. ***District Watershed Committee:*** This has already been described in para.17 above. The District Watershed Committee of each participating district shall also be notified within one month of issuance of these Guidelines.

172. ***Watershed Committee :*** This has already been described in para 61 above. The Watershed Association (registered under the Societies Act) will be the General Body comprising all members of the watershed community who agree to participate in the watershed development project. The Watershed Committee shall act as an executive body of the Watershed Association and carry out the activities of the watershed plan through paid employees. The Watershed Association will be the final decision making body. The Watershed Association may meet in respective watershed villages on monthly basis to plan and review the activities, particularly during implementation phase.

173. ***Monitoring of Progress at District Level:*** At the district level it is essential to review the progress of each Project Implementing Agency on a monthly basis. Likewise, Project Implementing Agency will review the progress of each watershed before participating in the district level meeting. During implementation phase it is advisable to prepare a monthly plan for achieving required financial and physical progress of each watershed. Watershed Associations may also undertake monthly meetings to review progress. This approach would help in achieving a steady progress and also timely resolution of bottlenecks in implementation.

174. ***Monitoring of Physical & Financial Progress:*** Periodic review of progress during implementation phase at the district, state and national level will be undertaken regularly and suitable standard formats will be used so that a uniform system is in operation for various levels. The proforma for reporting the physical and financial progress is annexed at Appendix-IX.

175. ***Concurrent Evaluation by Internal as well as External Agencies:***

A system of Concurrent Evaluation would be evolved through internal as well as external agencies based on reliable performance indicators. In this evaluation, a critical assessment will be made of the relevance of technological content, involvement of people in the programme, equity for poor and women, facilitation of group action in addition to physical and financial progress. Requisite budgetary provision will be made for the purpose from the project budget. On completion of project an Impact Evaluation will be undertaken. Use will be made of remote sensing, satellite imagery and other modern techniques for evaluation of watershed project. "Terminal Evaluation" and 'Saturation Indexing' exercise will also be carried out which will help in translating the lessons learnt to be used for preparation of future project proposals.

176. ***Application of Information Technology in Watershed Programme:***

At present some of the organizations are successfully applying the Information Technology (IT) under the watershed programme. A number of GIS based soft-wares / application programmes are now available which can improve the efficiency of planning, implementation, documentation, reporting of watershed progress, etc. It would be appropriate if efforts are made to provide the required IT support at the village level so that it may help in empowering the community and improving the transparency in the transactions. Wherever needed the support for above aspect may be provided by district head of the nodal agency from the 2.5 percent fund out of the community organization component retained at the district level.

177. ***Auditing of Accounts on Regular Basis:***

A major part of the NWDPRRA fund will be provided to the new community based organization at the village level which may not have previous experience in handling such large amounts. Besides training of its committee members on account keeping, there is a need to carry out internal auditing (once in three months) and external auditing (once in a year) so that maintenance of accounts could be suitably undertaken. Annual auditing of above accounts will be required under Societies Registration Act. For this purpose District Nodal Agency may

identify a panel of CAs, preferably approved by CAG of which the WA/PIA may select any one. This is besides the mandatory annual AG audit of funds released to the District Nodal Agency. Accounts at both these places will have to be maintained keeping requirement of above audits in view. There is a need to orient watershed committee members that responsibility for addressing the audit paras lies with them. Discussion on the audit paras and follow up action should be worked out in the open meetings of WA. Social auditing through transparency at every stage is also a crucial requirement for proper financial management. Hence, all developmental transactions should be approved preferably on monthly basis by the watershed association.

178. ***Evaluation of the Project and Documentation of the Process :-***
The Ministry of Agriculture and the State Governments shall appoint internal as well as external agencies to carry out concurrent as well as post-project evaluations of the watershed programme. The impact criteria laid down in the programme guidelines will be the basis for such evaluations. At the same time, independent consultants may be asked to undertake action research projects to document the actual process of project implementation in a representative sample of watersheds. The results of these evaluations and process documentations may be submitted to the State and Central Level Implementation and Review Committees with suggestions on policy issues as well as improvement of working procedures.

CHAPTER-VIII

SUCCESS CRITERIA

179. Although circumstances may greatly vary from project to project, it is important that a few measurable and quantifiable criteria are fixed for different categories of works/activities under the projects to evaluate their success or otherwise in terms of the stated purposes. The proposed criteria are minimal in number as well as in performance standards. The State Governments may supplement these with more success criteria if found desirable or prescribe higher performance standards. However, care should be taken to ensure that the additional criteria are internally consistent with the purposes and end results of the projects and also do not conflict with the criteria laid down already.

180. ***The proposed criteria can broadly be grouped in 5 categories namely :*** (a) Physical development (b) Financial management (c) Human capital development (d) Social capital development and (e) Post project sustainability. Specific success criteria under each of the above categories are indicated below:

I. *Success Criteria for Physical Development*

A. *Successful timely completion of works and activities under the project:*

- ❖ Around 80 percent of the watershed area is covered with treatment or development activities.
- ❖ About 50 percent of surplus runoff is conserved/harvested in the watershed.
- ❖ Around 80 percent of the number of project activities and works are implemented through user group / self help group.

- ❖ More than 80 percent of the structures / measures (implemented for development of private land, common land and water resource) are sustainable and functioning.
- ❖ Wherever local technical knowledge / technical solutions to specific problems have been identified as appropriate for certain works / activity, around 80 per cent of the number of such works / activities utilize the local solutions straightaway or modify and improve them and then use them in the works / activities.
- ❖ Around 80 percent of the improved technologies for crop management / afforestation / animal, horticulture, etc. are adopted by at least 50 percent members of the user groups.
- ❖ Around 80 percent of the community oriented works are taken over for operations and maintenance by the user groups or the community / panchayat.
- ❖ More than 60 percent of new plants planted in common land and private land are surviving at the end of project period.

B. *Sustainable impact on productivity and income:*

- ❖ At least 50 percent increase in area under life saving and supplemental irrigation through better recharging of ground water, efficient methods of irrigation, digging of new wells, etc.
- ❖ Adoption of integrated and allied land use systems like agro-forestry, agri-horticulture, sylvi-pasture, etc. in at least 25 percent of the private fallow land after their development under the project.
- ❖ At least 10 percent annual increase in productivity of major commodities in agriculture, horticulture, livestock, poultry etc.
- ❖ Significant reduction of erosion in cultivated field, significant harvesting of surplus runoff from the watershed area, natural regeneration of desirable plants in the common land.
- ❖ Diversification of farming system by at least 20 percent of the families (particularly RPF) leading to at least 25 percent enhancement of their annual income.

- ❖ Enhancing availability of drinking water through internal sources of water even during dry year.

II. *Success Criteria for Financial Management*

- ❖ Around 80 percent of the number of works are completed within the cost estimates.
- ❖ All required registers, records and accounts have been maintained properly.
- ❖ Annual auditing of accounts of the WA has been done regularly and suitable actions have been taken on audit paras.
- ❖ The proposed contribution under the project has been fully collected in time and deposited in the WDF account in bank.
- ❖ The recovery and rotation of revolving fund have been more than 80 per cent.

III. *Success Criteria for Human Capital Development*

- ❖ Proper capacity building of more 80 percent of the WDT members on technological as well as participatory management aspects have been carried out within first 3 months of their appointment.
- ❖ About 80 percent of the office bearers of WC, WA, SHG, UG have been properly oriented about project objectives, strategy, approach etc.
- ❖ Thorough training of all the watershed secretaries, volunteers, community organizers on job related aspects including maintenance of records etc. besides technological and management aspects of each component of watershed programme.
- ❖ At least 2 exposure visits for innovative members of WA, WC, SHG, UG to places where successful watershed programme has been implemented through participatory approach.
- ❖ Satisfactory build up of awareness among the community members through at least 6 rounds of indigenous folk songs, street plays etc. about the watershed objectives, approach, strategy, operational methodology, etc.

- ❖ Equity related issues have been successfully addressed under the watershed programme: more than 80 per cent of small and marginal farmers' lands have been developed; more than 50 per cent of the proposals of water harvesting structures from resource poor families have been completed nearer to the fields of resource poor farmers; usufruct rights in common land have been allocated to resource poor families (who were getting benefit from such lands before its development).
- ❖ Reduction in migration of at least 50 per cent families has taken place during project period and at least of 25 per cent families after the project period.

IV. Success Criteria for Social Capital Development

A. Self-Help Groups:

- ❖ Around 75 percent of the watershed household, that is, those villagers who are directly or indirectly dependent on the watershed, are enrolled as members of at least one self-help group including common economic interest groups of resource poor.
- ❖ Separate self-help groups are organized for women, scheduled castes / tribes, agricultural labour, shepherds and other economically weaker sections.
- ❖ Around 80 percent of the SHGs meet regularly at least once in a month and take all their decisions by common consensus amongst the members; transact business with around 50 percent of the resources generated from amongst the members; have timely recoveries of around 80 per cent of the outstanding loans; maintain their accounts and other records up-to-date.

B. User Groups:

- ❖ Around 50 percent of the families in the watershed community are represented in at least one user-group.
- ❖ Around 80 percent of the watershed development works / activities are carried out through the concerned user groups.

- ❖ Around 80 percent of the user groups meet regularly once in a month and take all decisions through common consensus amongst the members; have around 80 percent members who have given their voluntary donation / contributions for the related concerned project work / activity in terms of cash, kind or labour, as per the prescribed norm; submit their accounts regularly to the Watershed Committee and the Watershed Development Team; taken over the operations and maintenance of the completed community works or activities on common property resources.

C. Watershed Committee / Watershed Association:

- ❖ Watershed committee has successfully implemented all the project works without having any contractual system.
- ❖ Watershed committees has been able to maintain all records properly.
- ❖ Watershed committees has carried out the annual auditing of accounts and taken the required follow up action.
- ❖ The entire due amount regarding peoples contribution has been collected and deposited in WDF.

V. Success Criteria for Post Project Sustainability

- ❖ Functioning of the new SHG / UG even beyond the project period (at least upto the extent of 70 percent) organized by MoA, GOI.
- ❖ Functioning of the WC even beyond the project period as reflected in the following specific achievements: proper maintenance of at least 80 percent assets created under the project through operation of WDF; proper management of revolving fund with at least 50 percent of the SHG & UG; starting of at least two community oriented activities which require group action (as a result of organization of community into SHG / UG).
- ❖ Convergence of on-going schemes from each of the relevant development departments in the area for the benefit of SHG / UG members.
- ❖ Linkage with a nearby credit and input institution.

- ❖ Linkages with KVK, ZRS or SAU nearby for addressing the local technical requirements of the community.

181. ***Maintenance of Records and Supervision of Quality of work done by WC*** : Each Self Help Group/User Group shall maintain its own accounts for the works/activities undertaken by it. The groups shall also maintain a register of the users who have actually contributed labour and materials with their monetary value. The watershed volunteers shall be made responsible for proper maintenance of above records, accounts and also periodic measurements of the works done. The watershed Secretary shall verify the correctness of the accounts and place before the Watershed Committee for approval of expenditure. The members of the Watershed Committee will inspect the works to satisfy themselves about the genuineness and the quality before approving payments for the same. Members of the WC, watershed Secretary shall be responsible along with actual users for maintaining good quality of the works

182. The Watershed Development Team and the Watershed Committee shall ensure that accounts of their activities and expenditures are maintained in accordance with the formats prescribed by the district head who in turn may take the advice of the District Watershed Committee for designing them in accordance with the state level reporting formats for review and monitoring of progress. Each Watershed Development Team should maintain proper documentation of the processes and activities that are undertaken at the project level. This will enable outside independent agencies to analyze the problems of attitudes, skills, behavioural aspects, procedural bottlenecks and suggest necessary improvements. For this also, the District Watershed Committee may work out formats for log book and diaries to be maintained at the project level. These should be simple and easy to maintain and should contain minimum required information to avoid unnecessary paper work.

CHAPTER-IX

POST PROJECT ACTIVITIES : Withdrawal Phase

183. ***Convergence of Activities of Different Departments / Agencies:***

Field experience has shown that such a convergence can be achieved effectively if there are mature SHG, UG (having a sustainable common fund as discussed under para 84) and there is a management body of these groups (WC) to provide a platform for convergence of schemes / activities of different development departments. Hence the above groups under the watershed programme may be utilized for convergence of individual oriented as well as community oriented schemes available with the departments. Regular inter-face of extension functionaries of line Departments with the watershed community during implementation phase will ensure convergence and permanent linkages.

184. ***Post-Project Expenditure of left Over Amount :*** Although the project funds would have been utilized within the project period, these can be spent by the Watershed Committee for a period of six months beyond the closing date of the project. The funds can be used for development works. However, they shall not be used for administrative aspects beyond the closing date of the project. Any savings will be transferred to the development component.

185. ***Post project maintenance of community assets:*** Under the watershed programme various community assets are created such as water harvesting structures, plantations on common lands, fish ponds etc. During implementation phase peoples contribution being collected for private works and community works and deposited under watershed development fund would be used for post project maintenance. The following specific steps /guidelines may be adopted for maintaining the community assets after completion of the project:

1. All community assets created under the project would be formally transferred to the Watershed Association for its operation and maintenance

2. The community assets would be divided into two categories (i) those which are to be used by the same families on a regular basis (eg. water tanks, field drains, etc.); and (ii) those which are annually auctioned (eg fishing right, biomass from the common land / forest land, etc.)
 - A list of beneficiaries would be prepared for assets under category-I.
 - The Watershed Association shall have the right to decide the service charges to be collected from beneficiaries associated with first category of structures and also collect the amount through auction regarding use of assets under second category of structures. The amount from both the sources shall be deposited under Watershed Development Fund (WDF) account in the nature of Revolving Fund.
 - The Watershed Committee will maintain these community structures by using the money in the Watershed Development Fund. In the case of structures under category-I WC shall meet 25 percent of the cost from WDF. The remaining 75 percent will be borne by the beneficiaries of these structures. In the case of structures under category-2 the entire cost towards repair / maintenance may be borne out of WDF subject to its availability.
 - For carrying out the above requirements the Watershed Committee may engage the services of a watershed secretary on a regular or part-time basis depending upon the need and financial resources available.
 - The details about income and expenditure shall be presented in regular meetings of the Watershed Association and put on the notice board of panchayat on six months basis.

3. In the event that the Watershed Association becomes defunct, the community assets and the Watershed Development (Corpus) Fund will be transferred to the village Panchayat.

186. ***Sustainable Utilization of Watershed Development (Corpus)***

Fund: As discussed in para 143 Watershed Development Fund consists of corpus fund contributed by the project, amount received as contribution from participants during implementation of various developmental activities; and any other donation, interest, etc. collected under the project. Sustainability of this fund is very crucial for continuity of various community activities during the post project period. Hence, in principle this amount may be given as a loan to the mature SHG and UG to meet their community oriented needs namely repair and maintenance of community structures, procurement of inputs on a community basis, storage and marketing of produce at a common place, etc. The amount should be provided only to those groups which are already having a matching common fund and have a past record of managing their credit and thrift activity in a successful manner. The operation of this fund may be carried out by WC which may continue to function beyond the project period. If needed the fund may be used for paying a small honorarium to a local person for assisting in maintaining the accounts.

187. This fund shall be operated by a management committee consisting of representatives from mature SHG/UG. The required procedures for operating this fund may be worked out by group representatives in advance and approved in the general body meeting of WA. If needed utilization of this fund can be started during last year of the project so that members get used to the procedures in a proper manner. During this period the WDT may provide necessary facilitation.

188. ***Linkages with Credit Institutions:*** During the project lifetime the PIA and WDT will work to develop linkages with the credit institutions such as the Regional Rural Banks, Cooperative Banks, etc. The credit requirements of the watershed should get reflected in the District Credit Plan. Credit requirement of treated watershed should form a regular agenda item in the District Credit Coordination Committee, the State Level Coordination Committee as well as at the National Committee. Credit would flow to constituents of the watershed through: (i) credit for production activities as reflected in the watershed plan such as short-term crop loans, medium-term

loans for livelihood systems such as dairy animals, etc.; and (ii) credit support to Self Help Groups. Linkage with credit institutions should be facilitated during the initial years of the project (soon after the SHG/UG has started operating their own credit and thrift activities successfully).

189. ***Redeployment of Experienced WDTs and Office Bearers of WC:*** Having closely worked with a group of villages on a watershed development project, the members of the WDT would have acquired considerable experience and expertise in watershed project management. The district head may encourage the Project Implementation Agencies to take up more clusters of watershed projects and redeploy members of the WDT who are released from the completed projects to new projects. In these projects, many of the office bearers of WC (Chairperson, secretary, volunteer, etc.) may have also acquired practical experience in managing the programme in a particular manner. This resource must be utilized in future watershed programme. Such experienced persons may be considered as future WDT members. The qualification may be relaxed in the case of those experienced persons who are willing to stay at the village level for providing close contact with the community in new watersheds.

TENTATIVE LIST OF ITEMS TO BE CONSIDERED FOR TAKING
RESOLUTION FROM THE COMMUNITY/PANCHAYAT
BEFORE FINAL SELECTION OF THE VILLAGE

- **Willingness to manage watershed programme through a separate WA / WC after its registration under the society registration act**
- **Willingness to implement the project by people themselves without any contractor**
- Willingness to maintain all records properly and own the audit responsibility for the developmental funds to be released under the project to the proposed registered society
- Willingness to pay contribution for individual as well as community works as per the guidelines
- Willingness to operate revolving fund for improving farm production system (of landowning families) and livelihood support system (of landless families) through organized UG / SHG
- Willingness to maintain community structures to be created under the project by panchayat in the event of the WA/WC fail to maintain it
- Willingness to operationalize social fencing (ban on free grazing, ban on unauthorized cutting of trees) for development of common land/forest land where exists; and also allocation of usufruct over the perennial vegetation from these land in favor of resource poor families and women SHG to promote equity
- Willingness to contribute as shramadhan for implementation of entry point activity as well as development of common land resource
- Willingness to co operate with PIA / WDT for organizing the community into SHG, UG, WA, WC and for carrying out PRA exercises for preparation of watershed plan
- Identification of appropriate office bearers of WA / WC who are local residents, capable, respected and non political

CAPACITY BUILDING AND TRAINING**A. *Orientation courses for administrators and managers***

Administrators and managers may required only short duration orientation courses for 3 to 4 days duration. A tentative list of items/modules to be covered in these courses are indicated below:

- (a) Rationale behind watershed approach for sustainable development of rainfed agriculture
- (b) Rationale behind participatory approach under watershed programme
- (c) Orientation about common guidelines of restructured NWDPPRA
- (d) Focussed exposure visit to successful watersheds
- (e) Sensitization about aspects related to equity for poor and empowerment of women
- (f) Attitudinal and behavioral aspects for facilitation of participatory approach
- (g) *Operational aspects of new roles and responsibilities to be performed by administrators and project managers -*
 - Timely selection of PIAs and micro-watersheds in respective districts.
 - Preparation of detailed training plan for the state / district and its coordination and facilitation.
 - Facilitation of fund flow in time.
 - Monthly review and monitoring of physical progress with regard to organization of community, capacity building of different actors, preparation of action plan, progress of various works during implementation phase, concurrent and terminal evaluation of programme etc.

- Monthly review and monitoring of financial progress; timely release of funds to the PIA and community, maintenance of financial and physical records particularly at PIA and WA level including internal auditing of accounts on three months basis and external auditing of account on annual basis; action taken on audit paras by the registered society; vigilance action on any misappropriation of funds at PIA / micro-watershed level.

B. Skill enhancement courses for WDT

Implementers may require a combination of short duration courses on above items and long duration skill enhancement courses for about 8 weeks duration. This content of the skill enhancement course may vary depending upon whether it is meant for WDT or watershed community as per details given below:

B.1. For WDT:

- (a) Orientation of above participants about items listed above.
- (b) Focussed exposure visit of participants to successful watersheds
- (c) Skill enhancement of above participants on the following aspects
 - Organization of community into a new institutional set up at the village level which includes credit and thrift groups (SHG and UG); WA and WC etc.
 - PRA tools and techniques.
 - Team building, ASA, facilitation skills, group action and conflict resolution.
 - Indigenous methods of mass communication for awareness building among community members.
 - Management information system and computer application.

- Facilitation skills for organization of exposure visits to success stories.
- Technological aspects regarding development of natural resources, production enhancement activities and livelihood support activities.
- Participatory planning including preparation of design and estimates; supervision of quality of works etc.
- Participatory implementation.
- Participation monitoring and evaluation.

B.2. Watershed Community:

- (a) Orientation of community about participatory approach as well as main feature of the operational guidelines (through indigenous methods of mass communication).
- (b) Motivation of office bearers and selected community members through focussed exposure visits to success stories.
- (c) Orientation of office bearers of the WC, WA, UG, SHG about their roles and responsibilities under the programme.
- (d) Enhancement of skills of watershed secretaries, volunteers, community organizers about record keeping and other job relative management aspects.
- (e) Enhancement of knowledge and skills of indigenous paraprofessionals on technological aspects.

The period of skill oriented courses may be spread over 12 to 18 months in order to provide repeated contacts so that participants could simultaneously learn as well as practice the skills in a gradual manner.

89

C. Skill enhancement courses for trainers: Trainers may require an additional longer duration course beside the orientation course and skill enhancement course on items indicated above. The additional component would focus on trainers training skill and facilitation skill to

carryout their own training courses effectively. All the above components may require a total of about 12 weeks duration which may include learning of required skills and also practicing them in at least 3 follow-up training courses under the supervision of master trainers.

Implementers may require a combination of short duration orientation courses on above items and long duration skill enhancement courses for about 8 weeks duration. The contents of the skill enhancement course may vary depending upon whether it is meant for WDT or watershed community.

The period for skill oriented courses may be spread over 12 to 18 months in order to provide repeated contacts so that participants could simultaneously learn as well as practice the skills in a gradual manner.

TENTATIVE GROUPING OF STATES FOR IDENTIFICATION OF NEARBY NATIONAL AND STATE TRAINING INSTITUTIONS FOR THE WATERSHED PROGRAMME

S.No.	STATE (s)	Tentative size of programme	
		No. of PIAs	No. of Watershed units
1.	Andhra Pradesh	18	180
2.	Gujarat	16	160
3.	Karnataka / Kerala	25	250
4.	Madhya Pradesh	38	380
5.	Maharashtra	27	270
6.	Orissa, West Bengal Andaman & Nicobar Island	50	500
7.	Rajasthan	20	200
8.	Tamil Nadu	8	84
9.	Uttar Pradesh, Bihar	40	400
10.	North Eastern States -- Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, Tripura.	50	500
11.	Himachal Pradesh, Haryana & Punjab	8	80
T o t a l		300	3000

**ROLES AND RESPONSIBILITIES OF DIFFERENT OFFICE BEARERS AND OTHERS
ASSOCIATED WITH WATERSHED COMMITTEE / WATERSHED ASSOCIATION**

President of WA :

1. Initial approval of watershed development plans (Strategic and Annual Action Plans) by Watershed Association.
2. Organization of monthly meeting of association to review of progress of works carried out by WC during implementation phase.
3. Arranging annual auditing of accounts through the Chartered Accountant out of the approved panel of Chartered Accountants.
4. Addressing issues related to conflicts on account of technological intervention, organization of committee, equity for poor, empowerment of women, recovering of revolving fund, collection of contribution from beneficiaries, social fencing in common land etc.
5. Encouraging Watershed Association members to get organized into one or other SHG, UG (through credit and thrift activity).
6. Approving the procedures regarding purchase of required material, equipment etc., for implementing of various work.
7. Any other function specified in the bye-laws of the Watershed Association or in the Guidelines.

Chairperson of WC :

1. Organization of monthly meetings of office bearers of WC to consolidate the physical and financial progress, to identify the activities to be implemented during the next month, to prepare statement about collecting of contribution, etc.
 2. Identification of issues related to aspects indicated above for discussion in the WA meeting.
 3. Certification and authorization of payment to labourer and others after verification of - physical progress of work at the site; entry of works into the measurement book; proposed expenditure within the original sanction of works; deposition of contribution into the bank; certificate by the concerned user regarding satisfactory completion of work; verification of preview entries; etc.
 4. Convenient co-signature on cheques for amounts greater than 1000/- other maintenance and authentication of cash book, accounts and records.
- 92
5. Responsibility to ensure quality works and financial accountability.

6. Any other function specified in the bye-laws of the Watershed Association or in the Guidelines.

Watershed Secretary :

1. Consolidate action plan of the Watershed(W.S) in collaboration with WC and WDT during planning phase.
2. Maintaining of all records prescribed as per appendix –VII during implementation phase.
3. Arrange payment of works to labourer and others.
4. Facilitate the procurement of material or hiring of equipment through a committee approved by WA.
5. Prepare the proceeding and action take report of the each meeting of WC and WA.
6. Prepare the monthly and quarterly reports on physical and financial progress for monthly meeting of WA and District Nodal Agency.
7. Prepare budget demand on regular base.
8. Facilitate organization of WC and WS meetings.
9. Responsibility for ensuring quality works and financial accountability.
10. Any other duty suggested by president WA or prescribed in bye-laws of the WA.

Watershed Volunteers:

1. Collect proposals from user groups, self help groups for scrutinization and consolidation.
2. Assists WDT in consolidation of above proposals.
3. Collect proposal for implementation of work as per sanctioned plan.
4. Provide markings for the work to be carried out at the proposed site in consultation with the concerned users.
5. Maintain records related to utilization of labour, material equipment etc for each specific work (daily basis).
6. Enter the progress of work in measurement book after proper measurement of the progress (preferably on weekly basis).
7. Facilitate the supervision of quality of work through personal visits.
8. Collect contribution from actual users and deposit in bank.
9. Collect satisfactory completion of work from concerned users.
10. Assists WC, chairman and WDT in day to day activities.

11. Any other duty suggested by president WA, secretary WC or prescribed in Bye-laws of the WA.

Other Office bearers of the watershed committee:

1. Participation in monthly meeting of WC and WA on a regular basis to review the physical and financial progress of work; collection of contribution; resolution of conflicts; supervision of quality of work; maintenance of records; preparation of progress report; timely budget demand; organization of UG, SHG, utilization of revolving fund etc.
2. Identification of issues for consideration by WA.
3. Supervision of quality of work in their respective area under the watershed.
4. Any other function specified in the bye-laws of the Watershed Association or in the Guidelines

SALIENT ORGANIZATIONAL AND MANAGEMENT ASPECTS FOR EFFICIENT FUNCTIONING OF NEW INSTITUTIONAL SET UP AT THE WATERSHED LEVEL

1. Delay in formation of WC (postponing it till SHG, UG and WA are properly organized).
2. Clear demarcation of roles and responsibilities between WC and WA in such a way that WA acts as a decision making body and WC acts as its executive body.
3. Organization of frequent meetings of WA particularly after the release of funds for implementation. This may preferably be done on monthly basis to review the progress and approve the proposal for the next month.
4. Restricting the membership of WA to only those persons who are actual participants in the watershed programme and preferably those who are members of SHG & UG. If needed a small membership fee may be collected from the members of WA on annual basis.
5. Proper recording of proceedings of the meetings of WA & WC. Afterwards action taken on resolutions may be approved in the next meeting of these bodies.
6. Proper choice of office bearers of the WA / WC who are well respected members in the community; have their major source of income from agriculture and other related enterprises at the village level; do not occupy formal positions in any political party establishment, Panchayat Raj Institutions (except for the member nominated by the village panchayat as its representative) etc. The membership of the above office bearers may be approved in the general body meeting of WA.
7. Implementation of works by UG directly particularly in cases where UG are mature and able to handle the funds. In such cases, the required development fund could be released by WC directly to UG against their micro action plan. The maintenance of records etc should however be ensured by office bearers of WC/WDT.
8. Thorough orientation of all office bearers of WA and WC regarding their role and responsibilities.

Type of records to be maintained by the Watershed Committee and PIA
under the Watershed Programme

A Watershed Committee Records:

1. WA Resolution Register
2. WC Resolution Register
3. Measurement Book
4. Receipt Book
5. Payment Vouchers
6. Stock Register
7. Cash Book
8. Material Form
9. Ledger (WSC)
10. Indent of WC for the release of funds
11. Record of WDF (Corpus fund) and revolving fund.
12. Any other prescribed by District Head / DWC

B. PIA / WDT records:

1. Cash Book
2. Ledger
3. Stock Register
4. Any other prescribed by District Head / DWC

**MEMORANDUM OF UNDERSTANDING BETWEEN WATERSHED ASSOCIATION AND
DISTRICT NODEL AGENCY**

This memorandum of understanding is executed on this ----- day ofmonth, year by and between Watershed Association (Duly Registered under Societies Regn. Act) : represented by its President herein after called and referred to as the Association.

IN FAVOUR OF

The District Nodal Agency (DNA) of..... District represented by its..... and herein after called and referred to as the Agency: Whereas the DNA has identified the watershed project in.....village(s) and the President of the Watershed Association has agreed to undertake the same.

Now this document witnessth as follows:

1. On behalf of the Watershed Association (WA) its President is executing the present memorandum of understanding in favour of the Agency. The President is authorised to enter the MoU with the DNA.
2. The WA shall convey its confirmation to the resolutions commitments made earlier by the community at the time of finalization of the village (as per para).
3. The WA shall spend the money, which is granted by the agency only for the purpose as mentioned by the agency.
4. The WA shall furnish interim reports along with the accounts quarterly or whenever the Agency desires.
5. The WA shall furnish Physical and financial progress report of developmental activities quarterly to the Agency.

6. The yearly accounts shall be submitted by the WA at the end of the year which shall be duly certified by competent chartered accountant.
7. The WA shall nominate the Watershed Committee (WC) members, which in turn shall identify watershed secretary and volunteers on payment basis as per the provision in the guidelines.
8. The DNA shall clearly inform the office bearers of WA and WC (including Watershed Secretary and volunteers), about the overall roles and responsibilities to be performed by each one of them as per details given in appendix..... in the guidelines.
9. The WA shall not divert the funds to any other programme and the expenditure shall be incurred strictly in accordance with the provision in the guidelines and approved action plan.
10. The WC members including Secretary & volunteers shall jointly work with WDT initially to organize and train community members; and then to prepare action plan for the developmental component under the watershed programme.
11. The Watershed Association shall submit the plan of action with the recommendation of the WDT to agency through PIA for sanction and release of funds.
12. The WA shall also identify mechanism that would be used with the help of Watershed Committee to monitor and review the progress being achieved from time to time in the implementation of the sanctioned plan.
13. On signing of MoU the agency shall release funds on half-yearly basis in the Bank Account of watershed committee for watershed development activities.

98

14. The office bearer of WA and WC shall not involve in any political or religious activities.

15. WC members shall conduct the awareness camps and exposure visits to successful watersheds in nearby areas.
16. Office bearers of WA and WC shall mobilize the required contribution from the participants before starting the implementation of activities and the same shall be deposited in the name of Watershed Development Fund in any Nationalised Bank.
17. Office bearers of WA and WC shall involve all communities irrespective of caste, creed and religion.
18. If the DNA is not satisfied with the progress of the WA / WC in respect of the programme or if it finds that the terms and conditions are being violated by the WA / WC the Agency reserves the right to suspend/terminate the project with a notice of 15 days and the WA shall refund forthwith the entire unutilized amount.
19. In the event of defalcation of funds the administrative system shall proceed according to rules and laws.
20. When the project is completed the President (WA) shall submit the audited statement of accounts in the form of receipts and payments along with utilisation certificate duly certified by the Chartered Accountant.
21. The officials of DNA will be at liberty to inspect and carryout checks on works under progress, completed works, documents, reports, vouchers, accounts and cash book related to the programme.
22. The WA shall open a separate account for the project. Besides this another separate account shall also be opened for WDF.

99

23. That this memorandum of understanding is made and executed in consonance with the terms and conditions as set out in operational guidelines for watershed development

framed by the Ministry of Agriculture, Government of India based upon the common principles of watershed development evolved jointly by MoA and MoRD.

IN WITNESS THEREBY, the Memorandum of Understanding is executed on the day, month and year mentioned above.

Head
District Nodal Agency

President
Watershed Association

Note:- DNA - District Nodal Agency
WC - Watershed Committee
WA - Watershed Association
WDF - Watershed Development Fund.
MoU - Memorandum of Understanding.

100

Appendix-VIII(b)

**MEMORANDUM OF UNDERSTANDING BETWEEN DISTRICT NODAL AGENCY AND
PROJECT IMPLEMENTING AGENCY**

This memorandum of understanding is executed on day of..... month, 2000
by and between : - represented
by.....; nominated as Project Director, herein after referred to as the Project
Implementing Agency (PIA).

102

IN FAVOUR OF

The District Nodal Agency (DNA) of, district represented by its and herein after called and referred to as the Agency: Whereas the DNA has offered the watershed project toorganization and it has agreed to undertake the same.

Now this document witnesses as follows:

1. On behalf of the PIA, Sh. / Dr. of the organization has been nominated as Project Director who is executing the present Memorandum of Understanding (MoU) in favour of the Agency. The Project Director is authorised to enter the MoU with DNA.
2. The PIA shall spend the money, which is granted by the agency only for the purpose as mentioned by the agency.
3. The PIA shall furnish the physical and financial reports on various activities quarterly to the Agency.
4. The yearly accounts shall be submitted by the PIA at the end of each year, which shall be duly certified by competent chartered accountant.
5. The PIA shall nominate the staff in the Watershed Development Team.

101

6. All the persons nominated as WDT members under this project shall be on full time basis and be working exclusively for the project. They shall be available to the watershed community whenever their services are required.
7. The staff nominated by the PIA shall be professionally qualified and experienced in their respective fields as indicated in the new guidelines.
8. The PIA shall not divert the funds to any other programme and the expenditure shall be incurred strictly in accordance with the guidelines and approved plan.

9. The PIA shall organize sufficient number of Self Help Groups and User Groups before organizing the Watershed Association and the Watershed Committee.
10. The PIA shall organize the Watershed Association (WA), and the same shall be registered under the societies registration act with the appropriate authority.
11. The PIA shall facilitate the organization of Watershed Committee (WC) after the organization of WA.
13. The PIA shall also evolve mechanism that would be used by the watershed committee to monitor and review the progress being achieved from time to time in implementation of the sanctioned action plan.
14. After signing of MoU the agency shall release funds on half-yearly basis in the Bank Account of PIA (with respect to management component) and in the Bank Account of Watershed Association (with respect to development component).
15. The PIA shall not involve in any political or religious activities.
16. The PIA shall conduct the awareness camps, exposure visits and other activities including organization and training of community. Afterward it shall facilitate planning, implementation and evaluation of the watershed programme through participatory approach.

102

17. The PIA shall mobilize the required contribution from the participants and the same shall be deposited in the name of Watershed Development Fund in any Nationalized Bank.
18. The PIA shall involve all members of the community irrespective of caste, creed and religion.
19. If, the Agency is not satisfied with the progress of the PIA in respect of the programme or if it finds that the terms and conditions are being violated by the PIA, the Agency reserves the right to terminate the project with a notice of 15 days and the PIA shall refund forthwith the entire utilized amount.

20. In the event of defalcation of funds the administrative system shall proceed according to rules and laws.
21. When the project is completed, the PIA shall submit the audited statement of accounts in the form of receipts and payments along with utilisation certificate duly certified by the Chartered Accountant.
22. The officials of the Agency are at liberty to inspect the documents, files, reports and accounts whenever they desired.
23. PIA shall open an account separately for this project and maintain the same in separate account.
24. That this memorandum of understanding is made and executed in consonance with the terms and conditions as set out in operational guidelines for watershed development framed by the Ministry of Agricultural, Govt. of India based upon the common principles of watershed developed evolved jointly by MoA and MoRD.

103

25. IN WITNESS THEREBY, the Memorandum of Understanding is executed on the day, month and year mentioned above.

Head
District Nodel Agency

Project Director
PIA

Note:- PIA - Project Implementing Agency
WC - Watershed Committee
WA - Watershed Association
WDT - Watershed Development Team

DNA - District Nodal Agency
WDF - Watershed Development Fund

104

Appendix-IX

**PROFORMA FOR REPORTING PHYSICAL AND FINANCIAL PROGRESS
UNDER NWDPPRA SCHEME**

Sl. No.	I. Components /Activities	Unit	II. Physical		III. Financial	
			Target	Achievement	Target	Achievement

A.	<p><u>Management component</u></p> <ul style="list-style-type: none"> ❖ <u>Administration cost</u> <ul style="list-style-type: none"> a. State / District Hq. b. Watershed Committees <ul style="list-style-type: none"> - Salary - Other expenses c. Project Implementation Agencies <ul style="list-style-type: none"> - Salary - Others expenses ❖ <u>Community organisations</u> <ul style="list-style-type: none"> a. Entry point activities of WC b. Honorarium to village based community organizers c. Expenses at District <ul style="list-style-type: none"> Headquarter for: publicity, support for production of technology input, support for information technology at village level, miscellaneous charges etc. d. Corpus for WDF ❖ <u>Training programme</u> <ul style="list-style-type: none"> a. State / District level training cost b. PIA: Training cost at identified Institutes 					
----	--	--	--	--	--	--

Sl. No.	Components/Activities	Unit	Physical		Financial	
			Target	Achievement	Target	Achievement
B.						

	<p><u>Development component</u></p> <ul style="list-style-type: none"> ❖ <u>Natural Resource Management</u> <ul style="list-style-type: none"> a. Arable Land <ul style="list-style-type: none"> - Soil and moisture conservation activities - Agronomic conservation practices - Others b. Non Arable <ul style="list-style-type: none"> - Run off management structures - Water harvesting structures - Dry land Horticulture - Conservation and development of bio-mass - Others c. Drainage Lines <ul style="list-style-type: none"> - Upper reaches - Middle reaches - Lower reaches ❖ <u>Farm production system for land owning families</u> <ul style="list-style-type: none"> a. Establishment of nurseries and production of seedlings b. Testing and demonstrations of new technologies c. Diversification of Production system 					
--	--	--	--	--	--	--

106

Sl. No.	Components/Activities	Unit	IV. Physical		V. Financial	
			Target	Achievement	Target	Achievement

108

	<ul style="list-style-type: none"> d. Adoption of proven technologies such as organic farming, use of bio-fertilizers, Integrated Nutrient Management, Integrated Pest Management, on farm management, development of micro irrigation system etc. e. Livestock management f. Others ❖ <u>Livelihood support system for land-less families</u> a. Household production system b. Bio-mass based rural industry activities c. Dairy, sericulture, goat breeding, Bee keeping, Mushroom cultivation, commercial poultry etc. d. Livestock management e. Others 					
--	---	--	--	--	--	--

OUTLINE OF INTEGRATED WATERSHED DEVELOPMENT PLAN

Part-I Description and Analysis of Natural Resources and existing enterprises

1. Introduction
2. General features of the watershed
3. Bench mark information about the watershed for impact studies in future
4. Socio – economic status and infrastructure facilities in watershed area
5. Inventorization and analysis of natural resources :
 - Water resource
 - Land resource
 - Perennial vegetation resource
6. Description and analysis of land based enterprises :
 - Agriculture
 - Horticulture
 - Livestock
 - Fishery
 - Others
7. Description and analysis of existing non-land based enterprises:

Part-II Preparation of Strategic Plan

- I. Analysis of problems and potentials
- II. Strategy and approach for addressing the problems and potentials:
 1. Organisation of community into a new institutional set up at the village level
 2. Integration of social resource management with natural resources management
 3. Capacity building of community members:
 - Management aspects
 - Technological aspects
 4. Improving the efficiency of already developed natural resources
 5. Further development of existing natural resources
 6. Diversification and intensification of existing farming systems
 7. Integration of indigenous technical knowledge with exogenous technological Knowledge
- III. Need based allocation of available funds for different components and sub-components:
 - Development of natural resources:
 - Private land resource
 - Common land resource
 - Water resource
 - Production enhancement of land based enterprises:
 - Agriculture
 - Horticulture / Forestry
 - Livestock
 - Fisheries
 - Others
 - Livelihood support for non-land based enterprises:
 - Existing enterprises
 - New enterprises
- IV. Phasing of financial allocation over the project period for each component and sub-component
- V. Time frame for various activities under the project
- VI. Withdrawal strategy and post project management¹⁰⁹

Part-III Preparation of detailed Annual Action Plan

I. Proposed technological interventions for different components and sub-components:

1. Development of natural resources:

- Private land resource
- Common land resource
- Water resource

2. Enhancement of production and productivity:

- Trials and demonstrations on different commodities
- Plantation of horticulture/forestry in private land
- Adoption of proven technologies in different commodities

3. Support for micro-enterprises:

- Existing enterprises
- New enterprises

II. Budget estimate for each component and sub-component

III. Expected contribution from the participants

IV. Modalities for implementation, review, monitoring, auditing etc.

V. Concurrent and terminal evaluation

VI. Appendix:

- User group-wise and individual participant-wise proposals for development of natural resources
- User group-wise and individual participant-wise proposals for enhancement of production/productivity of different commodities
- Self help group-wise and individual member-wise proposals for livelihood support system
- Map of the micro watershed:
 - Existing structures/measures
 - Proposed structures/measures

LIST OF ACRONYMS

A&C	Agriculture and Cooperation
AG	Accountant General
AISLUS	All India Soil and Land use Survey
ASA	A Systematic Approach
ATMA	Agricultural Technology Management Agency
CA	Chartered Accountant
CAG	Comptroller & Auditor General
DA	Dearness Allowance
DDP	Desert Development Programme
DPAP	Drought Prone Areas Programme
DWC	District Watershed Committee
EAS	Employment Assurance Scheme
EPA	Entry Point Activity
FSA	Farming Systems Approach
GIS	Geographical Information System
GO	Government Organization
GOI	Government of India
GSLDC	Gujarat State Land Development Corporation
ICAR	Indian Council of Agricultural Research
INM	Integrated Nutrient Management
IPM	Integrated Pest Management
IT	Information Technology
IWDP	Integrated Wastelands Development Programme

KVK	Krishi Vigyan Kendra
MANAGE	National Institute of Agriculture Extension Management (MANAGE)
MDT	Multiple Disciplinary Team
MFP	Minor Forest Produce
MoA	Ministry of Agriculture
MoRD	Ministry of Rural Development
MoU	Memorandum of Understanding
NATP	National Agricultural Technology Project
NABARD	National Bank for Agricultural and Rural Development
NGO	Non Government Organization
NPV	Nuclear Poly-hydrous Virus
NRM	Natural Resource Management
NRSA	National Remote Sensing Agency
NWDPRA	National Watershed Development Project for Rainfed Area
PIA	Project Implement Agency
PRA	Participatory Rural Appraisal
PRI	Panchayat Raj Institution
RD	Rural Development
RRF	Resource Rich Families
SAMETI	State Agriculture Management Extension and Training Institution
SAU	State Agriculture Universities
SHG	Self Help Groups
SRM	Social Resource Management
SSR	Standard Schedule of Rates

TA	Travelling Allowance
UG	User Groups
UPLDC	Uttar Pradesh Land Development Corporation
WA	Watershed Association
WC	Watershed Committee
WDF	Watershed Development (Corpus) Fund
WDT	Watershed Development Team
WS	Watershed
WARASA	Watershed Areas' Rainfed Agricultural Systems Approach

Time-frame for carrying out various activities under restructured NWDPRRA during IX plan

Sl. No	Activities/Mile Stones	2000-2001		2001-2002															
		Nov	Dec	Jan	Feb	Mar	Apr	Ma y	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	
1.	Formation of various committees <ul style="list-style-type: none"> • National Watershed Committee • State Watershed Committee • District Watershed Committee • District Nodal Agency 	— — — — —																	
2.	Publicity of new guidelines	— —	— —																
3.	Selection of new project sites	— —	— —																
4.	Selection of PIAs for new projects	— —	— —																

5.	Capacity building of different stake-holders <ul style="list-style-type: none"> • Identification of Training Org. • Training of Trainers • Orientation of administrators and managers • Training of implementers 	_____ -	_____ -	_____ -	_____ -	_____ -	_____ -	_____ -	_____ -	_____ -	_____ -	_____ -	_____ -	_____ -	_____ -	_____ -	_____ -	_____ -
6.	Planning and implementation of EPA				_____ -	_____ -												
7.	Organisation of community <ul style="list-style-type: none"> • Self Help Groups • User Groups • Watershed Association • Watershed Committee 				_____ -	_____ -	_____ -	_____ -	_____ -	_____ -	_____ -	_____ -	_____ -	_____ -	_____ -	_____ -	_____ -	_____ -

Sl. No	Activity/Mile Stones	2000-2001		2001-2002															
		Nov	Dec	Jan	Feb	Mar	Apr	Ma y	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ja n	Feb	Mar	
8.	Preparation of Strategic Plan <ul style="list-style-type: none"> • Basic survey • PRA exercise • Preparation of the plan • Approval of the Plan • Linkage with Res. Org. 				—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
9.*	Preparation of annual action plan <ul style="list-style-type: none"> • Preparation of the plan • Approval of the plan 						—	—	—	—									
10. @	Implementation of programme <ul style="list-style-type: none"> • Non-land based activities • Development of natural resources • Production enhancement activity • Convergence of other schemes 										—	—	—	—	—	—	—	—	—
11. @	Review and monitoring of progress			—			—			—			—			—			

12. @	Evaluation of project <ul style="list-style-type: none"> • Concurrent evaluation • Terminal evaluation 																	—	—
13. @	Auditing of accounts <ul style="list-style-type: none"> • Social auditing • Formal auditing 						—	—											
14. @	Post project activities <ul style="list-style-type: none"> • Convergence of other schemes • Maintenance of community structures/measures • Linkage with credit institutions 						—	—											

Note :

1. ----- : Indicates follow up of the activities during that period.
2. * : From the year 2002-03 onwards this exercise would be started in January and completed in March.
3. @ : These activities will continue/taken up in the subsequent years as per the strategic plan.