EVOLUTION OF WATERSHED PROGRAMME- MEANING - DEFINITION AND STRUCTURE – OBJECTIVES
THE EVOLUTION OF WATERSHED PROGRAMME IN ANDHRA PRADESH AND IN KURNOOL DIVISION DURING THE TENTH PLAN PERIOD.
The main objectives of watershed programmes are the enhancement of cultivable land in villages; improvement of agricultural products; and the upliftment of living standards of people by proper utilization of natural resources.

In the year 2003 the guidelines to be observed for the implementation of watershed programme by the Gram Panchayats with the participation of self-helping organisations, the teams of customers and groups of farmers have been framed and incorporated in Haryali Guidelines.

**NEED AND IMPORTANCE OF WATERSHED**

Our country is one among the very less number of countries which have overwhelming natural resources. But unfortunately these resources are decreasing in number year by year and if this continues the existence of human race will certainly become very difficult.

The reasons for this depletion of natural resources are population explotion, indiscriminate destruction of forests and a great fall in ground-water level. All these obviously contribute in making the rain-fall dependent lands dry and barren. Soil erosion is another reason for making the lands deserts. It is our responsibility to save the soil for our existence. Water does not spring from the soil as it is nor is it produced by the soil. Water is stored in the cracks of the earth and in the multiple layers of the earth, if the rain-water is allowed to sink into the soil.

Hence it is apparent that the rain-water is the main source of ground-water. Man is continuously digging bore-wells which will influence the ground-water. Deforestation
destroys the plant-kingdom and the rain-water is allowed to over run and is being wasted for lack of trees.

Ralegao Siddhi, a village in Maharashtra, has made a pioneer effort in saving the rain- water in the form of ground-water by letting the rain-water sink into the soil.

**WHY WATERSHED PROGRAMME?**

The land through which the rain-water flows, i.e., from an upper region to the lower region, the ups and downs, hilly region to the lower region and also the ground is called “Watershed”. As there are two classes in human beings-the rich and the poor-there are two varieties of land-the higher regions are the poor and the lower regions are the rich. The poor lands naturally belong to the poor and the watershed programme came into existence with the sole purpose of improving these lands of the poor

**WATERSHED DEFINITION:-**

The rain-water flows in the form of small streams through valleys from the upper regions to the lower regions and it follows a regular outlet and this area is known as “watershed”.

**The Watershed area can be identified:-**

→ when the fertile soil present on the upper/higher regions is carried by the water to the lower regions;

→ When all the drops of rain combine together and starts flowing in the form of a stream, the soil starts getting eroded i.e., soil erosion commences. If this soil erosion is to be prevented, the speed of the water should be restricted from the very place where the
rain-drop has fallen. This prevents soil erosion and the fertile nature of the soil can be preserved. And thereby every drop of rain water is brought into use.

→ The entire area from where the rain-water comes and joins the stream is to be identified as ‘watershed’ area.

→ For this watershed programme 500 hectares (1250 acres) of land has been regarded as one unit.
THE OBJECTIVES OF WATERSHED PROGRAMME

- Proper utilization of land, water, tree and the forests.
- To make the people participants in the programme, enlightening them and organising training classes and exhibitions.
- Arranging consumer groups and labour groups and executing programmes with them.
- Poor women must be made to form a society and make them member in Village Societies.
- Making the standard of living of the poor better and creating more opportunities for better livelihood.
- Increasing the productivity in the poor peasants’ personal lands, animals, fruit gardens and fisheries.
- Encouraging local and traditional knowledge implementation.
- Making the people totally responsible for the maintenance and repairs of their implements and properties.
- Distributing the land and water resources basing on the prosperity and benefit.
- Taking into account the streams and lakes present in cultivable land and uncultivable land, 10% of the contribution is taken from the beneficiary and they are made better.
- Granting loans to the poor selected farmers and giving instructions to them how to improve productivity in agriculture and animal husbandry and preparing plans for the same.
GUIDELINES FOR HARIYALEE WATERSHED:

In the State of Andhra Pradesh watershed programme is implemented through
THREE different plans. They are:

1. Drought Prone Area Programme (D.P.A.P)
2. Integrated Watershed Development Programme (I.W.D.P)
3. Desert Area Development Programme (D.A.D.P)

In the year 2004-2005, the above programmes have been implemented through Gram Panchayats in accordance with the governing principles of Hariyalee.

The objectives of Hariyalee are:-

→ To make every drop of rain sink into the soil and by this means increasing the water for irrigation, plantation, fruit tree plantation, flower plantation, grass improvement, fish breeding and enhancing the income of the villages and also supplying potable water.

→ Through watershed programme, natural resources develop and consequently the income of the Gram panchayats boosts up.

→ Providing employment, removal of poverty, enlightening the people and improving the income resources of the villages:

→ Preventing the losses caused by rains;

→ Encouraging people to be able to maintain their properties and to be able to manage the natural resources and enlightening the people towards this end;

→ Making the people aware of the less expensive technological knowledge and establishing communities and making the people use local technological knowledge;
After getting the grant of watershed:-

1. Identify the place for implementation of watershed i.e., the area in the selected villages where the rain water flows from higher place to lower place (i.e., ritz to valley);

2. The area of watershed is 500 hectares;

3. The Gram Panchayat acts as the organisation that implements this Project.

4. Watershed development teams must be formed with the help of project co-ordinating committee.

5. There should be 10 to 12 watersheds to each watershed development team.

6. Every Watershed Development Team should have as members.-
   3. Agriculture development expert. 4. Civil Engineer.

7. The members of these teams should study and estimate the conditions of the village with the assistance of villagers.

8. They must prepare a village Watershed map with survey numbers and incorporate them in the map of survey of India.

9. With the help of these maps the first 500 hectares of land where watershed programme is going to be implemented must be identified.

10. Net planning should be done with the participation of the villagers and with the help of the village map.

11. Through net planning the various techniques of preventing fertility of land/soil and preservation of water should be identified and then lay plans for the identified jobs.

12. A five-year plan should be prepared for the various identified jobs.
13. Every year, the annual-plan must be prepared and the administrative acceptance must be obtained.

14. One person from the village must be elected secretary to watershed by both Gram panchayat and Gram/ Village Sangh/ Society.

15. The following are the bank accounts the Gram/Village panchayat should maintain for the funds of watershed project :-
   - The name of the account in the bank must be “Watershed Project Fund”. (Administrative funds and administrative establishment development funds)
   - Another bank account under “National Resources Development” must also be opened
   - Another bank account under “Productivity Improvement” must also be opened.
   - An account under “Business Life Resource” should be opened.
   - All these accounts should be taken care of by the Gram Panchayat Sarpanch and Watershed Secretary.
   - The following are the bank accounts that are to be maintained by the Village Committee.
     - A bank account under “Productivity Enhancement.”
     - Another account under “Business Life Resources.”

16. There should be groups of labourers and consumers.

17. Identified duties must be given to each group in their respective lands.

18. An exhibition is to be organized regarding the watershed duties for the benefits of the consumers.

19. Training should be given by C.L.R.C. to the beneficiaries on various watershed duties.

20. Work should be started after the necessary training is given.

21. Village Committee and Village Panchayat should supervise the work after completion.
SOCIAL AWARENESS:-

THE VARIOUS ORGANIZATIONS THAT PLAY VITAL ROLE IN THE IMPLEMENTATION OF WATERSHED

VILLAGE PANCHAYAT: - In villages ward members and surpanch are elected in democratic way and they play a vital role in the administration of the village and developmental activities of the village. This has got a dominant role to play in the Natural Resources Management for the overall progress of the village.

VILLAGE COMMITTEE: -

Village committee is formed with all small committees formed by the poor in the village. Village committee looks after the work of the smaller committees, the needs of their members and the resources of their income for their livelihood.

SELF HELPING COMMITTEES:-

Self-helping committees are formed by the people who indirectly depend on the natural resources in the watershed areas: for instance the vegetable vendors and fruit vendors. The members of these committees are the people who live in the same area, belong to the same economic group, troubled by the same problems and so all of them come together to make use of the resources available to them and work together to come out of their problems.
CONSUMERS' GROUPS:-
These groups are formed with the people who directly depend on the natural resources in the watershed areas. They are the farmers of one area, the farmers who cultivate the barren lands, the people who breed fish in the ponds, and the people who depend on the forest.

LABOURERS' GROUPS:-
These groups consist of the people who do not have any other source of income except earthen work, stone cutting and agriculture labourers.

PROMINENT FEATURES OF SOCIAL AWARENESS:-
* Organizing village meetings and informing the people about the grant of Watershed.
* Agreement with the Project Coordinating Committee.
* Organizing Art exhibitions and workshops.
* Forming Self-helping committees, village committee, consumers’ committee and laborers’ committee.
* Making the poor members of the committees.
* Improving the expertise of supervising committee and in the implementation of Watershed.
* Giving importance to the poor and women in getting permanent sources of income.
METHOD TO FORM CONSUMERS' COMMITTE

One method of forming such committee is depending on the usage of sub-watershed as follows:-

* Indenting the resources, forest, hillocks, lakes, barren lands and fertile lands with the help of the village resources map.

* Identifying sub-watershed with the help of small lakes and tanks.

* Preparing the list of farmers as per the sub-watershed with the help of pahani/adangal survey numbers.

* Collecting the information about the possession of land of the farmers and subdividing it into wet land, barren land and so on.

* Confirming whether the farmers are experienced or not with the help of the list of farmers and by personally visiting the land.

* Preparing the final list after consulting the farmers.

* If the farmers of nearby lands are facing same troubles, 20 or 30 farmers of such must be brought together and must be made a group of consumers.

* Meetings must be arranged periodically and they must be enlightened about the uses of forming groups and their importance in watershed programme.

* They should work together for overall benefit of all members and it should be facilitated.

* Forming groups, electing leaders and they should be made to elect their own leaders basing on the work of a group.
POINTS TO BE OBSERVED BY THE GRAM PANCHAYAT AND VILLAGE COMMITTEE

1. They must necessarily establish the consumers' forum and the forum of labourers.
2. Must encourage and prepare plans for the efficiency of these groups
3. Must maintain accounts.
4. Must maintain relationship and coordinate with other organizations.

PRINCIPLES TO BE FOLLOWED IN THE IMPLEMENTATION OF WATERSHED

- Importance must be given to the improvement of the land of the poor (Land, water resources, bullocks and greenery).
- Work should be completed with the services of the labourers.
- Improvement of composite resources.
- Share the responsibilities of Gram Panchayat, self-helping groups, village committee and consumers' forum and labourers' groups.

GROWTH OF EXPERTISE (TRAINING)

Measures to be taken in the training for the growth/improvement of the expertise of the Gram Panchayats and village organizations:

- Training programmes should be planned as per the groups.
- In meeting, the prospects of the training, should be discussed.
- Must get training assistance from cluster range live resources centres,
• For the development of live-resources and for the expertise in training, co-operation must be sought from W.D.T and other such organisations.
• The training expenditure must be borne from training-fund.
• Must encourage field visits and special visual programmes.

**GENDER EQUITY – SOCIAL JUSTICE – THEIR ACHIEVEMENT – STEPS TO BE FOLLOWED**

In our villages there still exists some social differences between male and female genders. When the gender equality is achieved then only we can achieve real progress. In the same way there is a necessity for the improvement of the backward classes. If we want to achieve these we have to: See to it there should be participation of women and the poor in taking decisions. The chances for the life – resources of women and the poor must be improved. There is a need for the social and economic improvement of the poor and women.

To improve social justice and to achieve gender equality the Gram Panchayat and the village society should take the following steps:-

- Art exhibitions, training classes and interaction classes must be organized.
- In every work and decisions women and the poor must be made participants.
- There should be equal salary to male and female (man and women).
- Women should be made to participate in consumer forums and labour groups.
- Through Water Shed programmes efforts must be made for the health and education improvement in women and children.
ORGANIZING AND MANAGING MEETINGS:

Arrangement of the meeting of the villagers:

- Meeting should be arranged at a time which is convenient to all villagers and it should be made known by all.
- The panchayat should take into account all the decisions taken and problems discussed at the village meetings.
- Every aspect of the village must be recorded.
- The administration, development of the Gram Panchayat should be explained and accounts must also be made known to all. Watershed Plans and their implementation must be discussed.
- The problems in the village: viz: superstitious beliefs, dowry, AIDS and migration must be discussed.
- Gram Panchayat and Village society must take into account the public opinion about the framing of watershed programmes and their implementation.

MONTHLY MEETINGS OF GRAM PANCHAYAT, VILLAGE GROUP, CONSUMERS' GROUP AND LABOURERS' GROUPS:-

Every month Gram Panchayat and village groups convene meeting with their members. But for the maintenance and supervision of watershed one day should be allotted and the consumers’ group and laborers’ group should be invited. They should discuss the following points. They should also invite the W.D.Ts compulsorily to these meetings.
• Basing on the programmes annual reports should be prepared and must get the approval of the same.

• As per the programme provision of labour for labourers, life – resources and agriculture bullock improvement should be discussed.

• Should analyse whether watershed programme is followed or not.

• Village Group should see:
  
  1. Economic help and maintenance of records.

  2. Recoveries and problems associated.

• The consumers’ groups should verify the jobs undertaken as per the plan and importance and the problems related to them.

• Gram Panchayat: - Maintenance of funds, payments and related records: should discuss other issues related to watershed training and plan.

• All must be given a chance to participate in the discussion. Proper importance should be given to the poor and women.

• Should discuss the co-operation of the secretary, Paraworkers, and W.D.Ts.

• For every problem they should take appropriate decisions which are acceptable by all and implement them.
ARRANGEMENTS IN THE IMPLEMENTATION OF WATERSHED PROGRAMME:-

Principal Secretary (Village development)

Commissioner (Village development)

District collector & chairman D.W.M.A.

Project Director, District water Maintenance Agency (D.W.M.A)

D.C.B.C. Members
Members of M.D.T.
Project Facilitation Agency

D.L.R.C Members
C.L.R.C Members

Watershed Development Team

Gram Panchayat

Consumers' Groups

Village society

Labourers' Groups

Self Helping Groups
### Implementation of Watershed - Allotment of Funds - Workwise

<table>
<thead>
<tr>
<th>Topic/Account</th>
<th>PARTICULARS</th>
<th>FUND FROM WHOM TO WHOM</th>
<th>Percentage</th>
<th>Total (Rs)</th>
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</table>
| Administration (10%) | 1. District Water Maintenance Agency (D.W.M.A)  
2. Project Felicitating Agency (P.F.A)  
3. Project Implementation Agency/Gram Panchayat | From Project Funds to D.W.M.A from D.W.M.A to Project Felicitating Agency From D.W.M.A to Gram Panchayat | 3.50% 4.00% 2.00% | 1.00 1.20 0.75 |
| Development of expertise (5%) | 1. District Water Maintenance Agency (for the training of personnel)  
2. Project Felicitation Agency (P.F.A)  
3. Gram Panchayat-Village society. | From D.W.M.A to District Resources Centre From D.W.M.A to Project Felilitation Agency From D.W.M.A through Gram Panchayat to Local resources centre | 0.5% 1.50% 3.00% | 0.15 0.45 0.90 |
| Husbandry of Natural Resources (60%) | 1. From Gram Panchayat to Gram Panchayat. | District Water Maintenance Agency | 60.00% | 18.00 |
| Improvement of Productivity (15%) | 1. Gram Panchayat (Basic Facilities-Methods that can be followed)  
2. Village Society-Revolving fund | From D.W.M.A to Gram Panchayat From D.W.M.A through Gram Panchayat to Village Society. | 3.35% 11.65% | 1.00 3.50 |
| Life-resources (10%) | 1. Village Society Revolving Fund  
2. Village Society-Felicitiation | From D.W.M.A through Gram Panchayat to Village Society. From D.W.M.A through Panchayat to related expences. | 7.50% 2.50% | 2.25 0.75 |
| **Total** | | | **100%** | **30.00** |
DUTIES AND RESPONSIBILITIES OF GRAM PANCHAYAT, VILLAGE SOCIETY AND CONSUMERS' GROUP IN THE IMPLEMENTATION OF WATERSHED

GRAM PANCHAYAT: - Gram Panchayat is an organization formed in a purely democratic way by electing members from all wards and sarpanch for the administration and development of the village.

DUTIES OF GRAM PANCHAYAT IN MAINTAINING WATERSHED PROJECT:

1. It has to elect a project facilitation Agency and should have a written agreement document.
2. It has to convene meetings along with the Project Facilitation Agency.
3. Must help in the formation of self – helping societies, village societies, consumers’ groups and labourers’ group.
4. Support the PFA in preparing five year integrated project and in preparing annual implementation programme.
5. It has to take the consent of village society for the integrated project and convene village meeting for every three months and put before it the progress and take consent for the expenditure incurred.
6. Supervise the programme with the help of Project Facilitation Agency (PFA)/W.D.T.
7. In relation to the maintenance of the project it should have good relation with Project Facilitation Agency and D.W.M.A. (District Water Maintenance Agency).
8. It should see to it that the funds allotted from D.W.M.A and the funds that are collected by the consumer groups for the improvement of watershed should be kept in the banks under different heads and must be released from the same heads respectively.
9. It should see to it the money allotted for the improvement of natural resources should reach the labour groups and that also payments must be made every week.

10. It should release the funds in the method of Community Improvement Fund (C.I.F.) for the advancement of productivity, livelihood improvement and ability.

11. Must maintain records of debit and credit as per the recommendations of D.W.M.A.

12. It should formulate the responsibilities and conditions regarding the maintenance of properties, Watershed Development fund maintenance and the properties generated by compound resources. It should also clearly show the rights of the consumers over such properties.

**VILLAGE SOCIETY:** - Village Society is formed by the combination of the small societies of the poor in the village and it helps the villages in fulfilling the needs of the members of these smaller societies and also help the villagers in finding some jobs for their livelihood.

**SELF-HELPING GROUPS:** - These groups are formed by the people living in watershed area and who rely indirectly on the natural resources. For example the vegetable vendors and flower vendors who live at one place and have the same living conditions and facing the same kind of problems will have to come together, use the resources that are at there and should try to come out of their problems unitedly and these groups are called self-helping groups.
THE RESPONSIBILITY OF THE VILLAGE SOCIETY IN THE IMPLEMENTATION OF WATERSHED:

1. It should support in the formation of the groups of consumers/self-supporting groups/labour groups.

2. In the preparation of and maintenance of annual plan of these groups at village level.

3. Recommend to the gram-panchayat about the payment to the consumers group and labour after the assigned jobs are completed.

4. Even during the works are in progress it should recommend to the gram-panchayat regarding the payment to consumers group and labour group.

5. Help the gram-panchayat in implementation of work plan, supervision and in preparing the report.

6. The funds that are granted for the improvement of production and work for livelihood should be maintained by taking from gram-panchayat in form of grant(i.e., release of funds, maintenance of records, collection of loans, giving reports and checking the debit and credit etc.,)

7. Should examine the plans and working groups and approve.

8. Should fix the total work relating to natural resources improvement, the time to be taken for implementation and the labour charges for the works which have been approved in the review meetings of labour groups, consumer groups and village panchayats or gram panchayats.
THE RESPONSIBILITIES OF SELF-HELPING GROUPS IN THE IMPLEMENTATION OF WATERSHED.

1. Should identify the poor in the village, improvement of the productivity of their resources, and prepare programmes for the betterment of their livelihood.

2. Should obtain the village society's approval for the prepared programmes.

3. These self-helping groups should get money as debt from the village - society/group for the approved plans.

4. Thus obtained loan by the group should utilize according to a plan either by people or by groups.

5. The debt should be repaid to the village-society within the stipulated time.

6. They should supervise the works of productivity improvement and improvement of the works of their livelihood.

7. They should participate in group meetings and village meetings and review the implementation of their programmes.

METHOD OF FORMATION OF CONSUMER SOCIETY:-

Basing on the sub watershed formation of consumer society is one method. The formation is like this:-

1. With the help of the resources map identifying the resources, forest, hillocks, streams, barren lands, fertile lands in the village.

2. Basing on the small streams and rivers identifying the sub- watersheds.

3. Preparing a list of farmers with the help of pahani/adangal and survey numbers. This list must be in accordance with the sub-watersheds.
4. Collect the information about each farmer's land, extent of wet land, barren land and semi-arid land is in possession of a particular farmer.

5. With the help of the farmers' list, they should visit the field and see whether the farmers are experienced or not and talk to the farmers there and prepare a final list.

6. If the farmers are facing the same kind of problems and if they have fields nearby, 20 or 30 farmer families must be identified as one consumer group.

7. Meetings must be arranged periodically and explain the advantages of forming as a group and explain the importance of these consumer group in the watershed programme.

8. Should facilitate the groups to work together for the benefit of each individual and group.

9. They should prepare a group with them who have come, elect the leaders and make them prepare their own work plans and stick to the plans.

CONSUMER GROUPS: -

These are the groups formed in the watershed areas who depend directly on the natural resources. They are the farmers living at one place, the poor who are bringing the barren lands under cultivation, the fishermen who grow fish in the tanks and the people who depend on the forest for their livelihood.

THE RESPONSIBILITES OF CONSUMERS' GROUP IN THE IMPLEMENTATION OF WATERSHED: -

1. Will elect a leader after taking men and women as members and forming a group and naming, framing their opinions, aims and limitations.

2. Will frame a working plan for the safety and productivity improvement of land, water, plantation and cattle.
3. These plans should be discussed in consumers group as a duty and must obtain the approval of the village-society.

4. Should get the approval of the plans preparing them for the welfare of the people and discuss them with people of the village.

5. Will decide the nature of work, who will do, how is it to be done, when, where and how much expenditure is to be incurred and decision must be taken only after discussing it thoroughly in the meetings.

6. The works must be taken up by using labour groups or by themselves.

7. Supervise the works while the works are in progress.

8. After the works are over this groups will have to look after their safety, maintenance and methods of utilisations are to framed.

LABOUR GROUPS:

These are the groups formed by the people who depend basically on the labour for their livelihood. They do not have any property and do not depend on any natural resource. For their everyday meal they do soil work, stone work/ and agriculture labour and all such people can form labour groups.

THE RESPONSIBILITIES OF THE LABOUR GROUPS IN IMPLEMENTING WATERSHED:

1. The members of this group will have to undergo training in the work and improve their expertise.

2. They should confine themselves to the quality of work and know the charges of the labour.
3. They should maintain related records such as workers' attendance register, record of the measurements, payment vouchers, credit expenditure and pass book of the bank. If necessary they should take the help of a volunteer.

4. They will have to select the work in co-ordination with the consumers' group and select the works which should be done by which labour group.

5. They should take the payment week-wise from gram-panchayat in the form of cheque.

**THE RESPONSIBILITIES OF WATERSHED SECRETARY:-**

1. He should record the minutes of the gram-panchayat meetings and help in implementing them.

2. He should record the matters related to gram-panchayat and watershed association and send them for audit.


4. Should record the accounts by participating in the meetings of self-helping groups and consumer groups.

5. Should take the technical advice of M.D.T and W.D.T and see to it that works are done accordingly.


7. Should work along with other village societies for the total development of watershed area.

8. Should be accessible to all the villagers who are related to watershed.
THE RESPONSIBILITIES OF PROJECT FELICITATION AGENCY (PFA)

1. Selects four watershed development team members.
2. Brings an awareness among the members of the gram panchayat about watershed programme and will unite all of them.
3. Obtains the acceptance of gram panchayat for the development of watershed.
4. Forms various self-helping societies such as – agriculture labourers, societies for cowherds and shepherds, women societies and consumers societies.
5. Arranges/organises exhibitions, work-shops and meetings and brings awareness among the villagers about watershed.
6. Prepares five year plans and annual plans.
7. Sees to it that the works are taken up in accordance with the plans.
8. Helps in collecting funds for the improvement of watershed.
9. Gathers the villagers and makes them realise the necessity and importance of undergoing training.
10. Reviews the watershed programmes every month and sends the monthly reports to MDT.

THE RESPONSIBILITIES OF WATERSHED DEVELOPMENT TRUST (WDT)

On behalf of one PFA four experts of WDT will work:

So the funds of PFA and WDT are almost same. They perform the following tasks along with the management of funds.

1. They identify the sub watershed in one watershed and collect information about the patta holder’s of the land and land as well.
2. Help in the formation of consumer groups.
3. Use different maps and by net planning identify the tasks to be taken up and prepare a treatment map for them.

4. Prepare plans for the identified tasks.

**PLANS**

They will have to prepare Five Year plan after examining the needs of the village. According to the importance of the work, will have to prepare annual plan and obtain the acceptance of village society and District Water Maintenance Agency.

**NATURAL RESOURCES AND THE FAMILIES DEPENDENT ON THEM:**

The families which depend on natural resources face many problems because of lack of rains. They do not have sufficient income and so they are downtrodden. They cannot educate their children, can not have good proteinized food, can not find necessary jobs, the land becomes barren and so they resort to migration. The watershed programme has been brought in for the improvement of underground water, providing livelihood, for the improvement of agriculture and cows and bulls. So these families have to prepare plans according to their needs.

**Note must be Taken:**

1. About the number of people who are really poor without any support in the village.
2. What are the other tasks not related to agriculture but related to natural resources?
3. What are the problems faced by women folk?
4. What is the condition of amenities or drinking water and water for irrigation?
METHODS NECESSARILY TO BE OBSERVED:

1. All villagers must participate in the preparation of social map, identification of resources maps.

2. As per the consumer/ farmer group, the need for the maintenance of natural resources and the improvement of productivity must be identified.

3. Must identify the needs of every family.

4. Must collect the needs and necessities from the village elders, women and the poor.

5. Must prepare plans for training classes for the improvement of the expertise.

6. Must prepare plans in accordance with self - helping groups and the needs of families and in view of them must improve the productivity of agriculture and cattle.

7. They should make the improvement of community resources, a part of the plan.

8. All should participate in the village meeting and also in the acceptance of the plans.

NATURAL RESOURCES AUTHORITY PROGRAMME

1. WATERSHED (500 HECTARES):-

1. All together i.e., village panchayat sarpanch, societies, farmers, village heads, members of panchayat, labourers must visit the watershed area and identify the processes/ methods of availability of water to the watershed catchments area i.e., the streams, the lakes, ponds, wells and bores. With the help of the toposheet they should visit the 500 hectares of land and identify the needs, the conditions of the land and the crops.

2. They should inspect the already constructed construction for agriculture water and also examine their condition. They should identify the places where they are and
study the needs of the poor, middle class, women farmers and see what structures they need and then record them accordingly. During this process i.e., during the visit to these places, the technically experienced facilitators (Engineers, W.D.Ts) must necessarily co-operate.

3. After visiting the 500 hectares and the village, they should draw the maps of the village resources and social maps.

4. They should identify the needs according to the consumer groups and prepare a plan for natural resources authority programme at village level. After the preparation of the plan, programmes should be sorted out in the order of higher places to lower places. They should obtain the approval for all annual plans.

5. Should determine in which consumer groups 50 hectares the work must be taken up first.
PLANS FOR AGRICULTURE CATTLE PRODUCTIVITY IMPROVEMENT

Keeping in view the agriculture cattle productivity improvement programmes, the self-helping groups should prepare plans for the same:

- Land and cattle information collection family wise;
- Better land fertility authority and agriculture methods;
- Seed production and seed banks;
- Total eradication of pests;
- Usage of traditional fertilizers and growing fruit gardens;
- Change of crops and growing vegetables;
- Using new/innovative technical methods;
- Schools for farmers about crops;

**Agriculture**

- Paraworkers

**Cattle growth**

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**Cattle Property:-**

- Feeding cattle, medicine and injections;
- Fodder and productivity;
- Sheep, goats and domesticated poultry;
PLANS FOR CREATING LIVELIHOOD

Keeping in view the creation of livelihood for the poor, the plans should be prepared self-helping group wise. For the preparation of these plans, the participant’s analysis should be made. The poor should be divided into groups and then plans should be prepared in order to lend financial help for the creation of livelihood and for the improvement of their expertise.

♦ The needs must be identified as per the analysis of the participants;
♦ Financial help must be encouraged to have cattle, to have small shops;
♦ Training must be given for the improvement of different livelihoods;
♦ The poor youth of the village must be shown suitable livelihood;

SUPERVISION OF WATERSHED.

With the help of the plans, the annual plans will get the approval needed by the authorities concerned and then the funds will be distributed in the following way item-wise.
1. Gram panchayat and gram society will have to supervise the implementation of watershed in the monthly meetings and will have to personally inspect the works while they are in progress.

2. This kind of supervision will help to see whether the plans are followed or not: and also the lapses in the procedure can be understood and progress in every work can be assessed.

3. Supervision means checking directly and indirectly whenever it is possible.
KINDS OF SUPERVISION:-

1. Supervising income and expenditure, financial transactions, physical constructions and the works.

2. Several methods can be followed in the implementation process:

   Example: - Using charts, supervising records, discussing in meetings.

3. Implementation status should be reviewed periodically: The position of the village before starting watershed, the improvement that has taken place during implementation and the changes must be registered and they must be examined and reviewed.

REGISTERS THAT ARE TO BE MAINTAINED IN WATERSHED IMPROVEMENT PROGRAMME

**Gram Panchayat and Gram Society:** - They will have to keep secretary and animator and will have to maintain the following registers / records and make entries of all information without fail.

1. Cash Book
2. Ledger
3. Book of resolutions taken in meetings
5. Register of gardens and aorestation.
7. Self - helping groups register.
8. Watershed beneficiaries register

10. Community development, training register.

11. Cheque payment registers.

12. Total family improvement plan register.


**IMPORTANT ACTIVITIES TO BE TAKEN UP UNDER / NATURAL RESOURCES AUTHORITY**

The existence of man on earth depends on the safeguarding the natural resources' such as land, water and trees which are life supporting. Every drop of rain water flows from higher areas to lower areas and it is being wasted. Many scientists have found out ways to solve the problem of wastage of water from catchment areas. Development of area must begin from higher areas to lower areas in a disciplined way. If the higher areas are neglected and all the works are done in the lower areas, there won’t be any good results, instead there will only be bad results.
Generally the following mentioned programmes are taken up for the improvement of watershed. All the works are taken up starting from higher areas causing down to lower areas i.e., ritz-to-valley, process.

**WATERSHED WORKS ARE OF 3 TYPES:-**

**SAVING FERTILITY OF LAND** (20% funds must be spent on these)
1. Rock fill dams are to be constructed in small ponds, lakes, streams and in the water eroded areas.
2. Water saving tanks are to be dug in ponds.
3. If the land is very slant trenches are to be constructed in one line.
4. Trees are to be grown across to prevent water wastage.
5. Kantoor trenches are to be constructed.
6. Kantoor bunds are to be constructed.

**Water preserving constructions** (25% funds are to be spent on these)
1. Farm pond
2. Small Spring tanks
3. Spring tanks Small
4. Check dams
5. Diversion drains
6. Gabian constructions
7. Underground dams
8. Preventive walls with sand bags.
FOREST PRESERVATION, SOCIAL FORESTS AND GROWING FRUIT GARDENS (15% funds are to be spent on these)

1. On the banks of ponds and fields, trees such as teak and trees belonging to cassia family as they give less shade are grown.

2. Growing the trees that give firewood, wood, fodder and growing nurseries and improving social forests.

3. Ploughing always against the slant area.

4. Growing fruit gardens
   a) Different methods to be followed in planting trees.
   b) Importance of gardens in watersheds
   c) Fodder improvement

WATER DEVELOPMENT FUND (WDF)

In the process of watershed programmes implementation 5 to 10% donations must be taken from the farmers and after implementing the watershed programme the balance amount must be used for safeguarding the natural resources.

LIVELIHOODS (MEANS OF LIVING)

The term 'liveliness' means the expertise and properties (resources, opportunities and facilities etc.) for earning one's food and also the tasks one can do. 'Permanent livelihood' implies overcoming the inconveniences and difficulties and making opportunities for living better.
AGRICULTURE LIVELIHOOD:-
1. Cattle for milk
2. Breeding sheep
3. Growing vegetables
4. Growing flower gardens
5. Earth-warm fertilizer
6. The pulp of tamarind
7. Growing gardens
8. Silk industry and so on

LIVELIHOOD OTHER THAN AGRICULTURE:-
1. Grocery shop
2. Hotel
3. Incense industry
4. Basket- making
5. Leaf pattery making
6. Brick- making
7. Pickle- making
8. Tailoring
9. Carpentry
10. Hand embroidery
11. Flour mills
12. Ready made garments shops
PREPARATION OF LIVELIHOOD PROGRAMME:

1. Preparing a survey report about already existing livelihood and new/fresh opportunities for other livelihood.
4. Examining the micro-plan and approval(V.O and Report)
5. Releasing the revolving fund.
6. Regularizing the debt payment.
7. Review ,and
8. Adding the value.

IMPROVEMENT OF THE PRODUCTIVITY OF AGRICULTURE CATTLE:

In this programme of productivity improvement in the watershed villages ,and for the productivity improvement in agriculture and cattle certain restrictions have been included.

a) In order to run the productivity improvement programmes at village level in regular methods, there should be elected members, male and female who are educated upto at least 8 or 10 class and who are closely associated with agriculturists, who know something about cattle breeding and who have experience in agriculture and irrigation and who can be friendly with all villages and must have serving tendency. After this election, they should be sent for training, with the consent of village society, to district water authority society.
b) At village level, productivity improvement programmes should be prepared by village society which should include the programmes of small and middle class farmers agenda. This must be sent for the approval of Project Director and after getting approval, productivity improvement revolving fund is to be maintained in the same way as Community Improvement Fund (C.I.F) is maintained.

c) The Productivity Improvement Revolving Fund should grant loan to the farmers for only under mentioned items:

I. **LAND FERTILITY AUTHORITY:**

1. Micro productivities (Zinc, Sulphur and Boron)
2. Production of dung fertilizers (compost, Nadep and ditch and heap methods)
3. Soil from ponds
4. Live fertilizers
5. For planting Glyricedia.
6. Trodding the soil with sheep and cattle.
7. Gypsum.
8. Vermicompost.
10. Zinc sulphate.
11. Castor seed flour.
II. BETTER SEEDS:

The villages and farmers can take loans to buy better seeds from this fund. The landless poor and small and middle class farmers can also take the land on lease.

III. BARREN LANDS:

Small and middle class farmers can take loans from this fund in order to bring the barren lands under cultivation (i.e., for Ploughing and for fertilizers).

IV. CATTLE IMPROVEMENT IN BARREN LANDS:

The village society should identify 1 to 5 acres of barren land in the village and with the permission of the panchayat that land should be used for planting ‘Styiohamata’ and ‘subabul’ plants. The fodder that is grown in this barren land will be given to the landless poor.

V. TOTAL PROTECTION METHODS:

Neem juice twice: 10 kgs

N.P.V Virus

Chilli powder + 5 kg chilli: 105 kgs

Nests

Casta oil seeds

Tobacco juice

Tyco gram

Gender attraction baskets.
WATER AUTHORITY METHODS:

For pipe lines
Sprinklers
Drip method is used for only one acre.

VI. INSTRUMENTS:

Agriculture tools (plough and sickle), sprayers and other tools which are less than Rs.2000/-

VII. CATTLE PROTECTION:

In this field, the sheep owners, in order to buy better sheep, they can take loans from Productivity Improvement Fund.

Milk producers can take loans for the improvement of fodder and to buy fodder.

The cattle protecting workers in the villages can take loan for the cattle which are unhealthy.

EXPERIMENTAL ITEMS FOR PRODUCTIVITY IMPROVEMENT IN AGRICULTURE:

It is a practice to release funds as grant to the exemplary farmers that are selected by village society in the village. This fund is granted for doing experiments in agriculture and cattle productivity improvement. Later, if the experiment proves to be fruitful they will have to invite other farmers to participate in such experimental activities.
EXPERIMENTAL ITEMS:

1. Glyricedia plants
2. Feeding micro organisms.
3. Seed production
4. N.P.M methods
5. Growing Honeybees
6. Production of vermicompost
7. Production of fertilizer through Nadep method.
8. Shri paddy.

SEED PRODUCTION:

In order to develop a village as a seed producing village, first the major crops that are grown in that particular village are to be identified. The water authority organization will distribute the seeds that are brought from experimental centers to the elected farmer of the village. Later when the crop is grown, the output is checked and the village society takes a decision as to whether the seeds are to be stored in the seed bank and then these seeds will be distributed to all the farmers at the time of sowing.

TOTAL PRODUCTION SECURITY:

1. Neem juice
2. N.P.V virus
3. Chilli
4. Nests
5. Juwari plantation around the field
6. Chrysanthemum plants
7. Cast oil seeds
8. Tecrogram
9. gender attraction baskets
10. Tycoderma.

EXPERIMENTAL ITEMS FOR CATTLE PRODUCTIVITY:
1. Colour layer birds (colour birds)
2. Growing better sheep
3. Improving fodder
4. Using mineral bricks
5. Artificial Insemination.

BASIC FACILITIES:
In the meetings of village societies, exemplary farmers are selected from self helping groups and 40% is granted from the donations of beneficiaries and 60% grant amount is given to implement the programme of providing basic facilities for agriculture and cattle productive improvement. The village society’s primary responsibility is to see whether the programmes undertaken by these exemplary farmers are being followed by other farmers in the village.

AGRICULTURAL BASIC FACILITIES:
1. Drum for cleaning seeds
2. Vermi compost unit
3. Shri Paddy (Macro, Kano veeder)
4. Agriculture foods
5. Drying yard
6. Neem seed floor machine
7. Tadipatri
8. Minidal mill
9. Drum kilt

BASIC FACILITIES FOR CATTLE IMPROVEMENT:
1. Automatic Fat Machine
2. Seet securing
3. Trevis
4. Chop cutter

Table.4.1

IMPLEMENTATION OF WATERSHED - STAGES

STAGE -I - PREPARATORY:-

<table>
<thead>
<tr>
<th>WORKS TO BE DONE</th>
<th>ITEMS TO BE ACHIVED</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Basic awareness of PFA/WDT, village panchayat and village societies.</td>
<td>W.D.T and others should be made to understand and have the expertise for the preparation of village societies, to facilitate the implementation plan preparation.</td>
</tr>
<tr>
<td>2. Expertise improvement of facilitation groups (W.D.T and others).</td>
<td>Groups are formed and they can have awareness of the programme of watershed development.</td>
</tr>
<tr>
<td>3. Constructing self-helping groups, UG, and L.Gs and strengthening village societies and village panchayats.</td>
<td>Village panchyat, Village society and other groups will have sufficient experience in the implementation of watershed programme during probation period and in a limited way.</td>
</tr>
</tbody>
</table>
4. Natural resources improvement, productivity improvement, preparing plans for the improvement of livelihood and preparing annual implementation plan. Have already prepared annual implementation plans and about the implementation of plans relating to different items.

5. Village society's approval of implementation plans.

<table>
<thead>
<tr>
<th>WORKS TO BE DONE</th>
<th>ITEMS TO BE ACHIVED</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Improvement of expertise of different groups in the methods of implementation.</td>
<td>In the implementation of plannings the village societies shall gain experience</td>
</tr>
<tr>
<td>2. Implementation of the plans of programmes</td>
<td>Producing properties and improvement of resources.</td>
</tr>
<tr>
<td>3. Expenditure plan for every work through people's estimation methods.</td>
<td>Completing the works according to the laid plans in watershed.</td>
</tr>
<tr>
<td>4. To see that the donations come from the consumer groups as per their share.</td>
<td>Results must be shared equally, opportunities to the labourer groups, composite resources development, productivity of the livelihood of the poor improvement and livelihood improvement programmes improvement and support.</td>
</tr>
<tr>
<td>5. Have discussions regarding which work should be given importance, where and which work to be done, how it should be done and the wages given to the workers. These must be discussed by L.G, U.G, V.O and G.P.</td>
<td>Watershed development fund and other funds arrangements and making proper use of it.</td>
</tr>
<tr>
<td>6. Deciding the methods of supervision, release of funds, quality control etc.,</td>
<td>----------</td>
</tr>
</tbody>
</table>
7. At village and district levels supervision and reviews.

8. At the end of every year accounts and plans preparation regarding the spending of funds.

9. The rights of utilisation are to be given to eligible UGS.

Table 4.3

<table>
<thead>
<tr>
<th>WORKS TO BE DONE</th>
<th>ITEMS TO BE ACHIEVED</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Estimation of the capabilities of all societies in independently utilizing the natural resources.</td>
<td>1. There will be a ready made plan for the improvement of the maintenance of resources independently.</td>
</tr>
<tr>
<td>2. Preparation of programme for works relating to the acquired properties and gathered funds.</td>
<td>2. A clarity will be formed along with curiosity in all societies about the acquired properties.</td>
</tr>
<tr>
<td>3</td>
<td>3. Village society/ other groups will use the resources and follow the plans.</td>
</tr>
</tbody>
</table>

Table 4.4

DUTIES TO BE DONE BY GRAM PANCHAYAT IN IMPLEMENTING WATERSHED

| 1 | A written agreement to be taken from Project Facilitating Agency (P.F.A) |
| 1 | After supervising the natural resources improvement programmes, the payment must be made by cheques on the recommendations of village society. |
| 2 | Conducting awareness programmes |
| 2 | Framing the groups of consumers and labourers and arranging co-ordination. |
| 3 | In the village society the plans must be made with the participation of people. |
| 3 | Maintenance of records and the reports about the utilisation of the grants taken from gram panchayat for the development of livelihood and |

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<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td>4</td>
<td>In all plans importance must be given to the poor group and equal participation should be given without any gender bias.</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>The poor must be taken into the self-helping groups.</td>
<td>5</td>
</tr>
<tr>
<td>6</td>
<td>Growth must be done keeping in view the upliftment of the poor (Land, water resources, cattle, and greenery)</td>
<td>6</td>
</tr>
<tr>
<td>7</td>
<td>Providing employment to the groups of labourers.</td>
<td>7</td>
</tr>
<tr>
<td>8</td>
<td>Organizing the various works of consumer groups (farmers groups)</td>
<td>8</td>
</tr>
<tr>
<td>9</td>
<td>Development of composite resources</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Importance must be given to women and the poor in the implementation</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>First the watershed works must be taken up in 50 hectares and observe the outcome</td>
<td></td>
</tr>
</tbody>
</table>

Source: -Training Information to village Panchayats and village societies regarding Hariyalee Guidelines and Principles.

Published by A.M.R Andhra Pradesh Village Development Academy
Rajendra Nagar Hyd-30
4.2 BACKGROUND TO THE WATERSHED DEVELOPMENT:

In many Indian villages, drinking water supplies drawn from traditional wells and boreholes have been severely affected over recent decades by spread abstraction of aquifers for irrigation. Irrigated areas and the amount of groundwater abstracted have increased dramatically, associated with policies to increase food production, subsidies and increased access to loans for farmers to sink wells and purchase pumps and incentives such as free or cheap electricity. Under effectively open-access regimes, such policies have led to widespread declines in groundwater levels in alluvial areas and more rapid use during the year of the limited ground water supply to deeper bore wells has still failed to provide sustainable sources. Many village water supplies now fail routinely during the dry season, and they are increasingly vulnerable to periods of drought. Tankering of supplies is a costly emergency solution and unpopular with communities.

In specific areas, high levels of toxic elements such as arsenic and fluoride are a major problem with severe impacts on the health of communities. Increasing levels of pollution of surface and ground water are also a major concern.

Increasingly unable to develop local ground water resources for drinking water supplies, district government and State development agencies have often sought large scale engineering solutions to harness surface water resources. Large dams, water treatment works and extensive pipeline networks have been given priority - often each serving hundreds of villages. However many disadvantages associated to this approach have emerged, and often schemes cannot be sustained at desired levels of service. Regional piped water supply schemes have suffered from poor and reliable infrastructure,
and as responsibilities are decentralized, high operation and maintenance costs are a major constraint. Local solutions are now increasingly being sought to manage water resources better, address water quality issues and secure sustainable resources for consumptive (drinking, washing etc) and productive use (backy and irrigation, watering livestock etc.,) at lower cost.

Watershed development project can improve local water resources through increased ground water recharge. However, the emerging evidence suggest that potential to augment water resources through forest, field and drainage line treatment is very limited compared to the gap between supply and demand. For their positive impacts to endure, watershed development projects in the future will have to address difficult water management issues especially the allocation of finite water resources between competing users. Already there is an evidence that watershed development projects may worsen drinking water provision in some situations by simulating water use through increased irrigation. The impact on water supply for domestic use, vital for the poor, is rarely directly considered or addressed. Impacts down stream water user have also been neglected.

Against this back ground, it should be seen at the measures to explore how water supply in Andhra Pradesh can be more effectively and sustainable addressed through improved watershed development projects².
Schematic diagram illustrating potential imports of watershed development on water resources availability.

Positive imports of the Watershed Development are:-

- Increased ground water recharge (short term).
- Can raise awareness in relation to water use and management.
- Entry-point activities- e.g. hand pump.
- Possibility to leverage funds and action by government RWS department.
EVOLUTION OF WATERSHED PROGRAMME – MEANING AND DEFINITION OF WATERSHED PROGRAMME:

There are two approaches for any nation, State, district or village. They are **Commodity Development Approach** and **Area Development Approach**. Under Commodity Development Approach all efforts are made for production/processing and marking of identified commodity/group of commodities. National Dairy Development Board, Central Silk Board and other Mission Modes of Development follow this approach.

The second development approach is Area Development Approach. The area to be developed can be man-made boundaries, decided by administrative convenience: Districts, Taluks, and community development blocks and even villages, where a land revenue/land resource is important.

However, when water is the primary concern, the Area Development Approach is divided into broad categories: Command Area Development for comprehensive development of natural resources and production of all possible commodities in the irrigated areas, and Watershed Development Approach which is followed for sustainable utilization of natural resources of water, land, vegetation and livestock in rainfed areas. Any watershed area should also be a part of the overall development plan for the block/mandal in a district and it should be ensured that there is no duplication of funds in the watershed area. This area development approach must also ensure that ecological security so essential to bring about sustainable economic development, is progressively promoted.
Through out the world and particularly in India, now Watershed Development Programme has also evolved as a comprehensive development concept for sustainable and efficient utilization of natural resources for the benefit of the local community with special attention to the rural poor. In the absence of a measurable definition of ecological security, the watershed development programme ought to become an instrument to progressively promote conservation of natural resources and stabilization of the geo-hydrological regimes in order to ensure that the annual increment in the biomass generation is enough to support all life forms in the watershed area.

This conceptual clarity, common vision and common understanding by all the guiding principle for efficient utilization of natural resources in watershed areas for bringing about sustainable development through Rainfed Farming Systems(RFS).

The basic objective under the Watershed programme ought to be that the conservation and development measures be conceived and as means and the production systems compatible with the concepts of ecological security as ends.

"Watershed development is, thus, holistic development seeking sustainable livelihood security system for all life forms in the area".

Conceptually, it should be clear that watershed development is no longer a sectoral programme with a narrow focus like control of siltation of reservoirs. This approach in the past has led to taking up of areas which contribute maximum silt yield as the highest priority areas, and not necessarily the areas most prone to soil erosion. In such an approach it would be futile to argue what is more important "means" or "ends" as both are supposed to serve each other.
Rain water conservation and harvesting hold the key for sustainable development of rainfed areas. What is watershed development if it cannot meet the basic minimum needs of water of the rural communities in the project areas?

Therefore, the rain water management should encompass the multiple uses of water namely; drinking water for humans, livestock and fauna, domestic uses, life-saving and pre-sowing irrigation of crops, natural regeneration of flora and other uses in this order of priority.

The harvested water to be treated as common pool resource by evolving suitable community practices which will ensure equitable distribution of the usufruct.

The present system of construction of check dams in the lower reaches of watershed helps only a few farmers, generally the rich ones.

It is recommended that a series of small sunken water harvesting devices all over the landscape and all along drainage lines should be installed for equitable distribution of water. It has been suggested that low-cost small earthen ponding dams should be dug out on the upper reaches of the watershed so as to augment, activise the watercourse (drainage lines) and also provide adequate soil moisture below such devices for the benefit of the poorer sections of society who make a living from that part of the watershed. Vegetating the upper reaches to provide the usufruct rights with pro-poor bias and also to enhance the stream-flow, besides increased groundwater recharge one the other possibility. Cost-sharing in such community works requires special attention.6
Perspective Planning for watershed Development 2002 to 2022:-

Watershed Development Programme has been operational in India for about 45 years and so far only 27.5 million hectares out of problem area of 107 million hectares is expected to be treated by the end of the IXFYP. This is because different ministries operating the watershed programme did not formulate a perspective plan. At the instance of Parliament, the Planning Commission formulated a 25 years perspective plan. The approach suggested in the perspective plan should be followed. MORD, MOA and MOE & F together should develop a perspective plan to treat the problem area in the given time and the XFYP should be a part of the perspective plan of each of these Ministries. The Working Group suggests a Perspective Plan to treat/reclaim/cover 88.5 million hectares of rainfed degraded lands in next 4 FYPs with cost-sharing by the centre, the States and the beneficiaries.

Perspective plan and Funding of Watershed Development Programme:-

Since its inception, Watershed Development Programme in India is expected to cover a small fraction of about 27.5 million hectares by the end of IXFYP of a about 107 million hectares of problem area/degraded land and other rain-fed areas in a period of about 45 years. At this pace it will take several decades to treat the areas suffering from different form of land degradation. Also the natural vegetative cover and ground water is depleting at alarming rates. Therefore, there is need to move faster by adopting the approach suggested by the Planning Commission in its 25 year perspective plan, and operationalizing the same, starting with the XF1/P, and thereafter during the next FYPs.
Both union and State governments should provide maximum financial support. But government alone cannot provide resources of such huge magnitude for funding the Watershed Development Programme. If there is a shift in the development paradigm and watershed becomes a production programme, with short-term, medium-term and long-term benefits flowing to the people, the watershed community will gladly come forward to fund the activity. This has been demonstrated under the watershed development project implemented in Ralegaonsidhi where watershed development programme has been implemented without any assistance from any outside agency or government. Government funds should be utilized as enabling assistance to individuals, user groups and village development communities for managing their own natural resources.

Governments both at the central and State levels have responsibility to make investment in rainfed areas, to offset the imbalance between rainfed and irrigated areas and to reduce the disparity. Since huge public funds have been invested for irrigated areas, government should provide maximum possible financial support in the next 4-5 FYPs through increasing budgetary provisions. The credit linked subsidy for land development/reclamation through NABARD and Commercial Banks as soft loans will enable the farmers to contribute their share. There are many examples in the country where farmers have taken loan, improved their production-base and repaid the same to the banks/financial institutions.

The Watershed Development Programme has attracted the attention of bilateral donors and international funding agencies. Such fund should be accessed to the maximum possible extent.
In the last 45 years only an area of about estimated 27.5 million hectares had been treated under all schemes put together by the end of IX FYP, out of about 107 million hectares of vulnerable degraded land and the remaining lands are in need of urgent attention. Besides, the rain-fed agricultural lands also require water harvesting/conservation measures. This is the time when watershed development should become a mass movement for accelerated pace of progress. The Watershed Development Programme must become a people's programme with government support and should not remain as a government programme for the people. The Panchayat Raj Institutions need to be empowered to give shape to a possible people movement, with the need-based village level planning as its central theme. Even this need-based village level planning would have to be conducted by the village communities themselves, and they alone ought to be entrusted with the task of implementing their own plans.

The Working Group, in the short time at its disposal, found it difficult to estimate such degraded land/rainfed areas which need reclamation efforts and soil and water conservation measures. No separate data category-wise, is available for degraded land which is under cultivation or unutilized. The estimates for total water land are for about 63.85 million hectares which do not include the isolated patches of less than 100 hectares spread over the States. Besides, a same category of land taken as wasteland is also covered under the net sown area. Therefore, estimation of degraded land together with rain-fed areas needing reclamation and/ or conservation measures could not be worked out correctly. As per recent estimates made by the MOA, the degraded lands in the country account for about 107.4 million hectares. Besides, most of the rain fed lands especially with undulating topography in low rainfall areas require some or other type of
conservation measures, especially for harvesting and conserving the rain water. As per the information provided by the DAC, DLR and MOE and F a total of about 27 million hectares is likely to be treated/reclaimed by the 1XFYP (2001-02). An area of about 0.5 million hectares has been assumed to have been treated/developed through the efforts of NGOs where there has been no government's support. Thus, considering that a total of 27.50 million hectares is likely to be covered by the end of the 1x plan, about 79.55 million hectares of degraded land remains unattended. This would be again on the presumption that all the 27.5 million hectares of land already treated was/is degraded land. Besides, the degraded lands, most of the rain fed uplands in low rainfall areas also need soil and water conservation measures. All such areas may work out to approximately 88.5 million hectares (a).

Therefore, the Working Group suggests the Perspective Plan for the reclamation/development of an area of 88.5 million hectares with active participation and sharing of investment by the people/beneficence, through the Watershed Development Programme which could be taken as a Single National Initiative.
Table 4.5 Projected Treatment/Reclamation of land under Watershed Development Programme and Fund Requirement with Cost-Sharing during the next Five Year Plans:

<table>
<thead>
<tr>
<th>Five Year Plan</th>
<th>Area envisaged to be covered (million ha)</th>
<th>Estimated cost of development (Rs/ha)</th>
<th>Total on average (Rs. crores)</th>
<th>Cost on Sharing Ratio(x)</th>
<th>Cost Sharing (Rs.crores)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>By Centre</td>
<td>By State</td>
</tr>
<tr>
<td>X Plan(2002-07)</td>
<td>15.0</td>
<td>5000-7000</td>
<td>9000</td>
<td>50:25:25</td>
<td>4500</td>
</tr>
<tr>
<td>XI Plan(2007-12)</td>
<td>20.0</td>
<td>6000-8000</td>
<td>14000</td>
<td>40:30:30</td>
<td>5600</td>
</tr>
<tr>
<td>XII Plan(2012-17)</td>
<td>25.0</td>
<td>7500-9500</td>
<td>21250</td>
<td>30:30:40</td>
<td>6375</td>
</tr>
<tr>
<td>XIII Plan(2017-22)</td>
<td>28.5</td>
<td>9000-11000</td>
<td>28500</td>
<td>25:25:50</td>
<td>7125</td>
</tr>
<tr>
<td>TOTAL</td>
<td>88.5</td>
<td>72750</td>
<td></td>
<td></td>
<td>23650</td>
</tr>
</tbody>
</table>

(x) Cost-sharing ratio between Centre, State and People/Community.

Table 4.6

X FIVE YEAR PLAN- VARIOUS DEPARTMENTS-ALLOTTED FUND- ACTUAL EXPENDITURE INCURRED

<table>
<thead>
<tr>
<th>DEPARTMENT</th>
<th>(2002-2007)</th>
<th>Rs (In crores)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ALLOTTED</td>
<td>ACTUAL EXPENDITURE</td>
</tr>
<tr>
<td>AGRICULTURE-RELATED DEPTS</td>
<td>2817.22</td>
<td>2559.53</td>
</tr>
<tr>
<td>VILLAGE DEVELOPMENT</td>
<td>4102.72</td>
<td>4476.14</td>
</tr>
<tr>
<td>IRRIGATION</td>
<td>25633.45</td>
<td>22169.80</td>
</tr>
<tr>
<td>ELECTRICITY</td>
<td>8166.73</td>
<td>7456.40</td>
</tr>
<tr>
<td></td>
<td>Amount (in crore)</td>
<td></td>
</tr>
<tr>
<td>----------------------</td>
<td>------------------</td>
<td></td>
</tr>
<tr>
<td>MINES AND INDUSTRIES</td>
<td>1933.20</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1297.73</td>
<td></td>
</tr>
<tr>
<td></td>
<td>65.8</td>
<td></td>
</tr>
<tr>
<td>TRANSPORTATION AND COMMUNICATION</td>
<td>4988.11</td>
<td>5058.59</td>
</tr>
<tr>
<td>SOCIAL AND COMMUNITY SERVICES</td>
<td>18449.12</td>
<td>16125.23</td>
</tr>
<tr>
<td>FINANCE SERVICES</td>
<td>2340.50</td>
<td></td>
</tr>
<tr>
<td></td>
<td>932.56</td>
<td></td>
</tr>
<tr>
<td></td>
<td>34.0</td>
<td></td>
</tr>
<tr>
<td>GENERAL SERVICES</td>
<td>660.61</td>
<td></td>
</tr>
<tr>
<td></td>
<td>399.83</td>
<td></td>
</tr>
<tr>
<td></td>
<td>121.0</td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td>69,511.66</td>
<td></td>
</tr>
<tr>
<td></td>
<td>60,875.81</td>
<td></td>
</tr>
<tr>
<td></td>
<td>87.6</td>
<td></td>
</tr>
</tbody>
</table>

**X FIVE YEAR PLAN (2002-2007):**

In Andhra Pradesh, the X Five Year Plan has 4 important objectives. They are-1) achieving hike in percapita income, 2) achieving improvement in sustained State income in all departments, 3) preventing population growth, 4) attaining total literacy. Keeping this in view, the State government allotted certain amount to various departments. First the govt., has allotted in X FYP Rs 46,414 crore but as there occurred certain changes in the departments, the amount has been enhanced to Rs 69512 crore. In the total allotted amount the lion’s share is given to irrigation and the next place is occupied by social and community services. In 2004 the State govt., decided to convert the State into Haritandra Pradesh (Green State) and decided to complete the construction of incomplete dams; the projects has been named as ‘Jala Yagnam’ Hence, irrigation has been given the first place in budget allotment. The completed projects are :-
1) Jhanjhavati;
2) Pederu;
3) Peddagadda;
4) Surapalem;
5) Tadipudi;
6) Ali sagar and
7) Gundla Kamma Dam;

In toto the per capita allotted expenditure is Rs 8498 /- and the exact project expenditure is Rs 7442 /- in X FYP.

THE OBJECTIVES OF X PLAN :-

The main objectives of X FYP are the same as the main objectives of Vision 2020.

I. 8.6% growth in per capita income;
II. 9.5% growth in Sustained State production G.N.D.P;
III. 0.90% growth in population;
IV. Attaining total literacy by 2005.
As per the above table the Andhra Pradesh govt., has proposed Rs 10,844.98 crore for irrigation and flood control and this is 23.27% in the entire budget allotment. Electricity has been allotted an amount of Rs 7150.36 crore which is 15.34% in the entire budget and in the same way for Transportation a sum of Rs 3994.19 crore has been allotted i.e., 8.37% of the budget.

For social services the allotted budget is Rs 13,164.04 cr. i.e., 28.24% in the entire allotted budget. When compared with Kerala and Chennai in the provision of various facilities Andhra Pradesh is one among the backward States in the nation. Among 28 States and 7 Union territories Andhra Pradesh occupies 28th place in literacy status.
As per the model survey the birth rate in the State is 21.3; the death rate is 8.2; infant death rate 65. at the national level these are 25.8; 8.5; and 68. these are the facts which governed the budget allotment and generated the necessity for allotting more for social services. From the allotted budget of Rs 13164.04 crore, Rs 3914.61 crore is to be utilized for the welfare of the S.Cs, S.Ts and other minority classes: for town planning Rs 1691.53 cr.; for education Rs 1478.44 cr.; for health services Rs 1330.24 cr; for Games and Youth services Rs 518.15 cr; for Social security and welfare Rs 385.73 cr.,; for the welfare of the labourers Rs 14194 cr and for technical education Rs 37.55 cr. were allotted.\textsuperscript{9}
WATERSHEDS IN KURNOOL DISTRICT

In Kurnool district the DWMA has decided to construct this Year 2011 Mega Watersheds with an amount of Rs 174 crore. This means the DWMA is going to bid goodbye to DPAP and Hariyali Watersheds for the year 2009-2010 13 mega watersheds have been granted to the district. Each Mega Watershed has to bring under cultivation 5,000 hectares of land and plans have been laid for this purpose. For each mega watershed, it is proposed to spend Rs 12,000/- and at this rate the expenditure for five years is going to be Rs 6 crore. For the approved Mega Watersheds in the last financial year, the need was Rs 78 crore and in the first year 6% of the allotted fund is yet to be released. At present the released budget amount is Rs 4.68 crore. The amount that is to be released this year is 14%. Last year for the Watershed Development Project the action plans were prepared by Nandi Group, Hyderabad. These plans are yet to be approved at higher level.

In the year 2010-11 for the district the mega watersheds were granted to a tune of 96 crores. 15 mega watersheds have been granted a few days ago and recently another watershed is granted which makes the total no. of Mega Watersheds 16. The DWMA officials have made an elaborate survey to identify the places where these M.Ws are to be constructed. Under the guidelines of Ground Water Resources Development officers, the mandals where these M.Ws are to be implemented have been identified and the list is to get the approval of the District Collector.
Table 4.8
XI FIVE YEAR PLAN-VARIOUS DEPARTMENTS
ALLOTTED FUND -PERCENTAGE. YEAR - 2007-2012

<table>
<thead>
<tr>
<th>DEPARTMENT</th>
<th>ALLOTTED (In crores)</th>
<th>PERCENTAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Social welfare</td>
<td>11,02,327</td>
<td>30.24</td>
</tr>
<tr>
<td>2. Power</td>
<td>8, 54,123</td>
<td>23.43</td>
</tr>
<tr>
<td>3. Transportation</td>
<td>5, 72,443</td>
<td>15.71</td>
</tr>
<tr>
<td>4. Agriculture &amp; Related Activities</td>
<td>6,74,105</td>
<td>18.49</td>
</tr>
<tr>
<td>5. Industries and Mines</td>
<td>1,53,600</td>
<td>4.21</td>
</tr>
<tr>
<td>6. Information</td>
<td>95,380</td>
<td>2.62</td>
</tr>
<tr>
<td>7. Science &amp; Technology and Environment</td>
<td>87,933</td>
<td>2.41</td>
</tr>
<tr>
<td>8. Economics &amp; Common Services</td>
<td>62,523</td>
<td>1.71</td>
</tr>
<tr>
<td>9. Common Services</td>
<td>42,283</td>
<td>1.16</td>
</tr>
<tr>
<td>TOTAL</td>
<td>36,44,718</td>
<td>100%</td>
</tr>
</tbody>
</table>

Source: - Government of India, Planning Commission (Delhi, 2009)
Volume 1 Annexe 3 A.P. 58.
REFERENCES

CHAPTER-4


2. Collaborative workshop on Water Supply and Sanitation and Watershed Development: Positive and Negative interactions. 5-14 May-2001

3. I bid P.5.

4. I bid P 30.


6. I bid P.28

7. I bid P. 29

8. I bid pp 23, 24