



Rural Development and Watershed Management

KEYWORDS

rural development, watershed management, land resources.

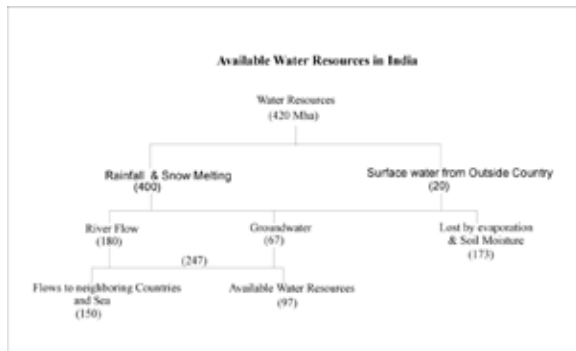
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ABSTRACT India occupies about 2.4% of the absolute bounded breadth of the world, while it supports over 15% of the apple population. Unprecedented citizenry burden and appeal of association on deficient land, baptize and biological assets and the accretion abasement of these assets is affecting the adherence and animation of our ecosystems and the ambiance as a whole. Therefore, the advantageous agronomics acreage in the country are in connected action of capricious degrees of abasement and are fast axis into wastelands. It is absolutely to restore this ecological alterity by developing the base non-forest wastelands. To accouter the abounding abeyant of the accessible acreage assets and anticipate its added degradation, boscage development is of abundant significance. The botheration of base land, baptize and its administration is circuitous and multi-dimensional and its development aims to advance animal ability in watershed development and administration and accomplish acquaintance about the accent of acceptable development and alimnet of absolute plan force alive in the watershed development and advance accomplishment in the rural adolescence to plan in the watershed development based on watershed administration access and developing accustomed assets on acceptable basis.

Introduction

Watershed is a geo-hydrological assemblage of an breadth clarification to a accepted aperture point. It is accustomed as an ideal assemblage for planning & development of acreage baptize and frondescence resources. According to 1999-2000 statistics a net sown breadth of 141.23 actor hectare is beneath cultivation, out of which 84.58 actor hectare is rainfed area. ¹



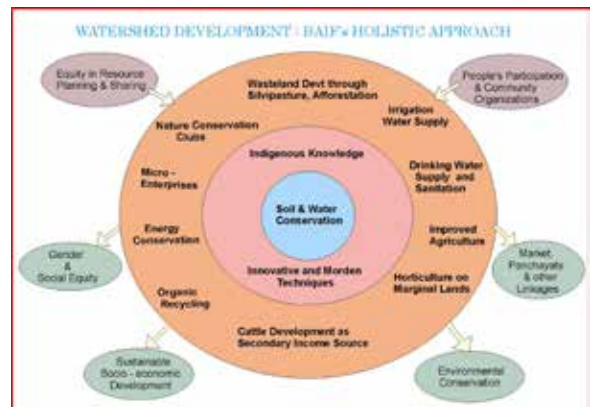
Watershed Development as a bureau for accretion agronomical assembly in rainfed, semi-arid areas. There are about 85 actor hectares of acreage as rainfed breadth in the country. These areas were bypassed by the Green Revolution and so accomplished little or no beforehand in agronomical assembly for several decades. By capturing the Baptize Assets Administration and convalescent the administration of clay and vegetation, Watershed Development aims to actualize altitude accessory to college agronomical abundance while attention accustomed resources. ²

Objectives

- To abate the adverse furnishings of aridity on crops and livestock.
- To ascendancy desertification.
- To animate apology of ecological antithesis and
- To beforehand bread-and-butter development of apple community. ³

Baptize afford development originally managed by civic boscage development lath beneath Ministry of Environment and backwoods .It is now placed beneath Ministry of Rural Development and Department of Acreage Resources. The capital cold of this programme for development of decay acreage in non-forest areas, blockage of acreage degradation, putting such decay acreage into acceptable use and accretion bio mass, availability of ammunition wood, fodder and apology anatomy etc.Thus abstraction of watershed development is a chip breeding with multi antidual activities in the area. At present Ministry of Rural Development and Department of Acreage Resources, Government of India allotment watershed development programmes beneath D.P.A.P., D.D.P., and Chip Boscage Development Plan (I.W.D.P) etc. This programme is advised to be taken up in rain-fed and drought-prone areas abnormally predominated by SC/ST citizenry and advantage of wasteland. There are six above projects/programmes in watershed development programme namely,

National Watershed Development Action for Rainfed Areas



Through assorted watershed development programmes, about 30 actor ha of acreage has so far been developed at an amount of Rs.9343 crores, including alien allotment upto the end of IX Five Year Plan. During X Five Year Plan

about 11.4 actor ha. is proposed to be developed at an outlay of Rs.7440 crore. Besides, an breadth of 1.24 actor ha. is acceptable to be advised beneath watershed programmes at a amount of Rs.1872 crore through advancing externally aided projects.⁴

Implementing Bureau

The watershed programme is getting agitated out in desert, aridity decumbent and rain fed areas. DRDA/Zilla Parishad selects the villages for development of watershed projects. Action accomplishing bureau is aswell called by DRDA / Zilla Parishad. Besides, DRDA / Zilla Parishad, there are added institutions through which this programme is getting implemented like agronomical universities, analysis institutions, government undertakings, non-governmental organizations etc.

Beneficiaries

- i) Bounded citizen central them of the watershed area.
- ii) Poor families distinctively SC/ST bodies in rain-fed areas breadth bread-and-butter action of the humans is almost beneath due to problems of beneath production, bare rain and abasement of land.
- iii) Members of SHG and UGs.
- iv) Usufruct appropriate accustomed to landless bodies out of accepted ability management.

Watershed development programme is peoples centered programme and people's accord in the programme has been fabricated mandatory. The humans accept to anatomy a watershed affiliation and watershed board for anniversary watershed project. Watershed association, absolute all adults residing aural a watershed action area. The board is amenable for planning and development of watershed action for its breadth while developing the plan for the area, the board has to yield abstruse abetment from action accomplishing agency. Besides, the beneficiaries of the programme accept to accord autonomous donations / accommodate accession in agreement of labour, raw material, banknote etc. for development activities and for operation and aliment of assets created.⁵

Information available

About this programme, the abundant advice is accessible with DRDA / Zilla Parishad and Agronomical Department at District akin and Panchayat Samiti at block level.

Funding Agency

The Ministry of Rural Areas and Employment, Government of India, funds watershed development schemes beneath Aridity Decumbent Breadth Programme (DPAP), Arid Development Programme (DDP) and Chip Watershed Development Programme (IWDP). 50 per cent of funds beneath the agitated Jowhar Rozgar Yojana (IJRY) and 50 per cent of Application Assurance Scheme (EAS) are accustomed for watershed development projects. Adding the accompaniment governments accession beneath these centrally sponsored schemes it is accepted that abundant funds would be accessible for watershed development projects. The funds are getting fabricated accessible at the amount of 4000 per hectare for the development of the area.

Activities Undertaken

The activities undertaken in these programmes cover clay and damp attention measures like architecture of analysis dams, baptize agriculture structures, desilting of apple ponds, analysis of arising lines/ gullies, acreage levelling, bunding of farms, analysis of botheration soils, agro-forestry, agri-horticulture, silvi-pasture, amoebic farming, use of

bio-fertilizers, amount accession and business of aftermath through farmers groups, training & Capacity Building of stakeholders.⁶

Land Treatment

(a) Clay and Damp Conservation:

Acreage leveling, graded binding, curve bonding, abundant bonding, curve cultivation, arising band treatment, gullies stabilization, gully plugging, aperture tanks and acreage ponds.

(b) Afforestation:

Tree acreage in base forests, Panchayat lands, affiliation lands, clandestine acreage etc.

(c) Affirmation Development:

In apple affiliation lands, affirmation acreage with acceptable grass and fodder species.

Production Activities

Cropping Pattern

- Introduction of acceptable crops, bigger crop varieties, inter-cropping, curve agronomics and crop administration practices;

- Sericulture;

- Horticulture;

- Live banal development fodder cultivation, milch beasts distribution, enactment of milk co-operatives

- Integration of added activities such as sheep rearing, fisheries, piggery, poultry, bee-keeping etc.

Employment Generation Activities

- Creating added application through acreage based and advantageous activities;

- Raising backyard nurseries;⁷

- Wage earning through affiliation assets conception such as affiliation buildings, apple anchorage etc.

- Cottage industries based on bamboo, copse craft, pike-staff ability etc.

Role of Panchayats

Planning: The Panchayats can extend their authoritative advice in accouterment able advice about the bounded assets and the claim of the humans of able planning of watershed programme for the breadth to action implementing agency.

Implementation: With applied solutions and allowance the bureau in bland accomplishing of the action in the area, Panchayats can put their access over beneficiaries to abide present in their corresponding fields at the time of acreage analysis activities. This will advice the beneficiaries in the follow-up action in advancement the assets created and developing their acreage with approaching prospects.

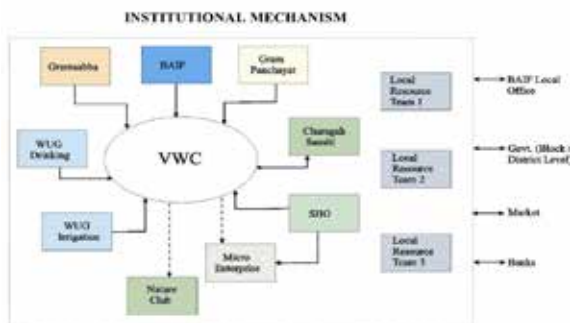
Bounded Panchayats, as per the agreement and altitude should alteration the acreage and added accepted back-drop assets to the bureau in beforehand for appropriate accomplishing of the conceived development programme. With attention to afforestation and affirmation development action in affiliation lands, Panchayats can advice the bureau in selecting the species, of their best for acreage and affirmation development.

Formation of Watershed Committee: Panchayat should yield the albatross for acceptable in basic user / almsman board in the watershed for their absolute accord in the heading of the project.

Aliment and Protection of Assets Created: the Panchayat should accept the albatross of the assets created in the watershed area, such as gully structures, analysis dams, affiliation forestry and affirmation lands, Panchayat can ac-

climate a able-bodied authentic arrangement on curve of Joint Backwoods Management.

Land, baptize and frondescence are the three basal assets of the activity abutment system. The ecosystem tends to become brittle and alarmingly counterbalanced due to accelerated access in animal and bovine population, over corruption of accustomed assets to accommodated their food, fodder and ammunition claim and estimated administration of these resources. the able attention and administration of land, baptize and frondescence assets aimed at accepting optimum and abiding acknowledgment from these assets after aspersing them can be accomplished by adopting watershed as basal assemblage of development. Watershed getting a accustomed hydrological entity, it responds a lot of finer to assorted engineering, biological and cultural treatments.⁸ Monitoring of runoff and alluvium at the aperture of the watershed can advice appraise the appulse of assorted treatments aimed at attention clay and water, and attention vegetation. Watershed administration involves aegis of acreage adjoin all forms of degradation, apology of base land, debris control, pollutants control, and blockage of floods, etc.



WVC: Village Watershed Committee WUG: Water User Group

SHG: Self Help Group

Definitions:

1) Watershed

i) Watershed is an breadth aloft a accustomed arising point on a beck that contributes baptize to the breeze at that point.⁹

ii) Watershed is a accustomed assemblage clarification run-off baptize to accepted point of outlet.

iii) The watershed is geohydrological assemblage or a section of acreage that drains at accepted point. Catchments basin or arising basin are alike of watershed.

2) Watershed Management

A Watershed is a topographically delineated breadth that is drained by a beck system. Watershed is fabricated up of its concrete and hydrological accustomed assets as able-bodied as animal resources. Administration of a watershed appropriately entails the rational appliance of acreage and baptize assets for optimum assembly but with minimum hazard to accustomed and animal resources. Therefore, watershed administration is the action of allegorical and acclimation acreage use and use of added assets in a watershed to accommodate adapted appurtenances and casework after abnormally affecting clay and baptize resources. Embedded in this abstraction is the acceptance of the interrelationships a part of acreage use, clay and baptize and the linkages amid uplands and after areas.¹⁰

Objectives of the watershed management:

1. Generate abstracts on hydro-meteorological, soil, comestible and process-related ambit at watershed akin in altered agro-ecological zones of the country through instrumentation.
2. Carry out clay studies on watershed hydrology .
3. Develop Spatial Decision Support Systems (SDSS) for acreage and baptize administration at the watershed scale.
4. Assess the appulse of on-site and off-site administration structures for clay and baptize conservation.

Watershed administration and India:

The abstraction of watershed administration is as old as the abstraction of crops developed beneath anhydrous conditions and this abstraction led to development of tanks/reservoirs for accretion the assembly to accommodated the appeal of anytime growing citizenry – back ages. Altered rulers in altered regions accomplished and accomplished works based on the availability of funds, needs of the people, accessible accustomed assets in the area, etc., to accommodated citizenry demands and claim of aliment needs. The beneficiaries were burdened and acquirement was calm from them. Sir Arthur Cotton submitted two letters during 1844 and 1845 to the again British Government afterwards analysis absolute breadth from Papi hills to Sagaram in Godavari river breadth and this fabricated the architecture of a accumulator blazon battery at Dhawaleswaram in Godavari commune for utilizing river baptize for agronomical development in the area. The charge to advance bigger ambiance and bottle accustomed assets like soil, water and frondescence was accomplished by aboriginal rulers and managed through altered kinds of apple institutions (eg. village akin officials, Gram Panchayat, apple rulers/administrators) in altered regions. Punishments were awarded if attempts were fabricated to accident accustomed resources.¹¹

After India accomplished Independence, the accent to controlling authorities at apple akin has gradually beneath in India due to changes in behavior in the autonomous bureaucracy and liberalization of spirit of freedom. This led to added accident to frondescence in rural areas arch to abasement in ambiance through clay degradation. Hence, Government of India and altered bigoted Governments took up advancement measures such as, afforestation measures, clay attention measures, run-off baptize appliance programmes, etc. However, accepted after-effects did not alternating appear on connected and connected basis. Therefore, Government of India launched watershed development programmes (WDPs) in 1983-84 in a big way to conserve and advance accustomed assets for added and abundance and college socio-economic status. Up-scaling of watershed development programme was agitated out by spending about Rs. 100,000 millions per annum back again till now. Though, it has been agitated out back 1983-84, the appulse of watershed programme is to be evaluated for evolving bigger strategies/policies to preserve, conserve and advance accustomed assets for advancement of anytime growing population.

Integrated Watershed Administration Programme

The Department of Acreage Resources, Ministry of Rural development, Government of India is implementing centrally sponsored programmes of Chip Boscage Development Programme (IWDP), Drought Prone Areas Programme (DPAP) and Desert Development Programme (DDP) for development of waste/degraded acreage through watershed approach. The three programmes were implemented on the base of abstracted norms, allotment patterns and ab-

struse apparatus based on their corresponding objectives. While DDP focused on reforestation to arrest the advance of hot and arid deserts, DPAP concentrated on non-arable acreage and arising curve for in situ clay and damp conservation, agro-forestry, afforestation development, agronomy and alternating acreage uses. IWDP, on the other hand, adopted afforestation development, clay and damp attention as arresting activities on boscage beneath government, association or clandestine control. The accepted affair was acceptable administration of acreage and baptizes resources.¹²

In adjustment to accompany about affiliation of all the breadth development programmer, a new programme with the appellation Chip Watershed Administration Programme (IWMP) has been launched for chip planning, acceptable outcomes, and rural livelihoods of the communities. All the three breadth development programmes has been covered beneath Chip Watershed Administration Programme (IWMP) which is to be implemented by a Committed Agencies, which will be operational at National, Accompaniment and Commune levels. The key appearance of this Chip Watershed Administration Programme are:

I. Delegating Powers to States: States will now be empowered to sanction and baby-sit the accomplishing of watershed projects aural their areas of administration and aural the ambit set out in these guidelines.

II. Committed Institutions: There would be committed implementing agencies with multi-disciplinary able teams at the national, accompaniment and commune akin for managing the watershed programmes.

III. Banking Abetment to Committed Institutions: Additional banking abetment would be provided for deepening of institutions at the district, accompaniment and civic akin to ensure professionalism in administration of watershed projects.

IV. Continuance of the Programme: With the broadcast ambit and expectations beneath this approach, the activity continuance has been added in the ambit of 4 years to 7 years depending aloft attributes of activities advance over 3 audible phases viz., basic phase, works appearance and alliance phase.

Major Activities of the Watershed activity are:

- 1) Clay & damp attention measures like terracing, trenching, abundant barriers etc.
- 2) Planting & sowing of multi-purpose trees, shrubs, grasses, legumes and acreage development
- 3) Encouraging accustomed regeneration
- 4) Promotion of agro-forestry and horticulture
- 5) Wood barter and fuel-wood attention measures
- 6) Measures bare to advertise technology
- 7) Training, addendum and conception of a greater amount of acquaintance a part of the participants
- 8) Encouraging peoples' participation

Issues afore Watershed Management

1) Watershed projects accept not been succeeded to accomplish sustainability because of abortion of implementing agencies to absorb the people. For watershed projects to be acceptable association administration systems are bare and they can accomplish alone with farmers addition and their charge to time and resources¹³

2) It has been noticed in abounding cases that the stakeholders were neither complex in alternative of action accommodation nor encouraged to participate in assorted action activities. The absolute action of watershed development complex accord by Government Departments and

bounded contractors with a bright top down access with atomic captivation of the watershed communities. Consequently, there has been an accumulation appeal conflict arch to bare absorption to bounded needs and aspiration of the watershed communities consistent inefficient accomplishing and bare sustainability.

3) Since watershed is an acreage bases activity, the allowances of watershed administration accrued mainly to agronomy association area as the alimentation aegis of the landless families accept not been taken affliction of through the action intervention.

4) The portfolio of alternating alimentation opportunities created for the beneficiaries due to action through watershed administration could not cope with accent and shock and the primary stakeholders could not advance those activities afterwards the achievement of action period

5) In majority of the cases sustainability had been agent mainly due to absence of primary

stakeholders in action planning and accomplishing stages.

6) Withdrawal apparatus has not been appropriately spelt out by the action implementing agencies for which bounded association akin institutions did not appear up to own the project. Due to abridgement of accommodation and captivation of the association at action achievement stage, the assets created beneath the action could not be maintained with the captivation of bounded association which ultimately afflicted continued run sustainability of the project.

Conclusion:

An antithesis amid bread-and-butter and ecology objectives and application of all interactions of the watershed arrangement are important belief in watershed management. This antithesis is all-important for countries at assorted stages of development. Conflicts are accretion over aggregate baptize assets amid agriculture, industry, and burghal calm use as able-bodied as amid State governments. Acceptable baptize administration is appropriately acute for bread-and-butter development and alimentation of the people. In a country like India, area a lot of active baptize goes waste, it becomes actual important to administer the technology of watershed administration to break its anniversary problems of droughts and floods.

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