

Chapter 3: Drought Proofing

3.1 Schemes at a glance

Activities under Watershed development and Biju Krushak Vikash Yojana (BKVY) were designed to achieve improved soil moisture regime and irrigation facilities through conservation of runoff water, harvesting rain water and recharging aquifers. Responding to the area-specific patterns like geographical location and social dynamics, a variety of watershed development programmes were launched at different times for development of wasteland in the drought prone and rain fed areas. Each watershed was to cover at least 500 hectares of treatable land involving people of the watershed area through Watershed Association (WA) and was to be completed within 4-5 years. The project at the field level was to be implemented by Watershed Committee (WC) consisting of 10-12 members of the WA under the supervision and technical guidance of Project Implementing Agencies (PIAs) appointed by the District Watershed Mission from among the officials of different departments of the Government. The land owners within the proposed watershed would be the user group (UG) who were to contribute 10 *per cent* of estimated expenditure (5 *per cent* in case of community land and land belonging to the SC / ST categories) to 'Watershed Development Fund (WDF) managed by the WC for maintenance of the watershed. The District Collector would be the Watershed Mission leader in the district. Watershed Development Teams (WDTs) consisting of three / four members from different disciplines (engineering, forestry, agriculture, animal and social sciences etc.) were to motivate the watershed communities for formation of WAs, WCs and provide them technical guidance on operation of watersheds. The landless people were to set up self help groups (SHGs) for livelihood support by undertaking economic activities within the watershed area.

Different watershed programmes¹ funded through Centrally Sponsored Plan Schemes of Ministries of Agriculture and Rural Development, GOI, were under implementation in the region with different cost norms during 2002-07.

Under the Biju Krushak Vikas Yojana, construction and management of new and derelict lift/flow irrigation projects were to be undertaken in minor irrigation sector through farmers' participation on 90:10 cost sharing basis between the State Government and the farmers for increasing agricultural yield in the area. The projects were executed by the Orissa Lift Irrigation Corporation (OLIC), Orissa Agro Industries Corporation (OAIC) and the Minor Irrigation Divisions on the basis of estimates approved by the State level committee for each project out of ACA / SCA funds.

¹ (i) Integrated Watershed Development Programme (IWDP) : Rs 6000 per hectare, (ii) Drought Prone Area Programme (DPAP) : Rs 6000 per hectare, (iii) National Watershed Development Project in Rain-fed Areas (NWDPA); Rs 4500 per hectare, (iv) Employment Assurance Scheme (EAS): Rs 4000 per hectare and (v) RLTA : Rs 6000 per hectare.

3.2 Programme implementation

3.2.1 Overlooking priority in selection of watersheds

Watershed guidelines provided selection of watershed projects in villages as per priority list finalized by Orissa Remote sensing Application center (ORSAC) using important indices like degree of land degradation, status of underground water, run off potential and sediment yield. The number of watershed projects targeted and undertaken in the three districts of Malkangiri, Nuapada and Sonepur are shown in the following table:

In three districts, 275 lower priority watershed projects were taken up neglecting 109 top priority projects

Name of the district	Watershed projects identified by ORSAC with priority				Watershed projects taken up			
	I	II	III	Total	I	II	III	Total
Malkangiri	88	445	324	857	32	37	1	70
Nuapada	86	254	144	484	43	126	64	233
Sonepur	42	41	104	187	32	29	18	79
Total	216	740	573	1528	107	192	83	382

As could be seen from the above table, in the selection process the implementing agencies overlooked the priority by implementing 275 low priority projects (II and III phases) by ignoring 109 top priority projects.

3.2.2 Funds management

The total amount received from the Government of India and amount earmarked by the State Government for different watershed programmes and amount provided for BKVY projects and expenditure there against during 2002-07 are shown in the table below:

(Rupees in crore)

Name of Schemes	Number of projects sanctioned	Number of projects taken up	Funds received by the implementing agencies	Expenditure incurred	Unspent balance
Watershed development	1775	1775	287.86	263.35	24.51
BKVY	2029	1547	93.99	77.07	16.92
Total			381.85	340.42	41.43

GOI assistance of Rs 43.11 crore under watershed programme curtailed

It could be seen from the table that Rs 41.43 crore remained unspent (March 2007). The reason for non-utilisation of funds was attributed by the implementing agencies to delayed receipt of funds.

Release of funds by GOI for CSP schemes of watersheds depended on utilization of funds received earlier and release of State share under the programmes. Due to non-utilization of funds in time, there was reduction in GOI assistance of Rs 43.11 crore during 1999-2006 (**Appendix-II**).

3.2.2.1 Diversion of earmarked funds under watershed projects

As the State Government failed to contribute the matching share of the CSP scheme of watersheds under DPAP, an equivalent sum of Rs 11.30 crore was diverted from ACA / SCA affecting the developmental activities envisaged under

RLTAP under other sectors. Further, ACA funds of Rs 3.50 crore allotted during 1998-99, for preparation of project reports of 151 watersheds, remained unutilised with the State Government and was ultimately utilised during 2002-03 as cash component under Food for Work (FFW) programme due to failure of the State Government in providing sufficient funds for state share of the central programme.

3.2.2.2 *Inadmissible payment of transportation charges*

The DRDA, Nuapada incurred expenditure of Rs 35 lakh to meet transportation charges of food grains under the Employment Assurance scheme (EAS) for construction of watersheds, though the same was not to be charged to the scheme but to be met out of State budget.

3.2.2.3 *Convergence / dovetailing with other programmes*

Guidelines stipulated that funds from other programme within the permissible work of Watershed Development scheme under ACA/ SCA could be dovetailed and not the vice-versa. Deviating from this, five Soil Conservation Divisions (Bolangir, Sonapur, Rayagada, Koraput and Malkangiri) dovetailed the ACA / SCA funds of Rs 1.51 crore meant for watershed area towards payment of cash component of FFW programme implemented for creation of water bodies outside the watershed areas in anticipation of funds from the State Government. However, the State Government did not release any funds to make good of the diversion.

3.2.2.4 *Blocking up of funds*

Under BKVY scheme, the Water Resources Department (WRD) released Rs 80.64 lakh to the Executive Engineer, OLIC, Kalahandi (EE) during 2002-03 for setting up 13 lift irrigation (LI) projects². Due to high costs of electrification in Kalahandi and submersion of identified area due to coverage of the same area under Indra irrigation project in Nuapada district, the EE could not take up the work and suggested (August 2003) for alternative projects. Although the Government approved (January 2006) alternative projects, the same could not be taken up as of June 2006. No specific reason was assigned for non utilization. Due to defective survey and inadequate provision of funds for energisation of LI projects in the estimates, the amount remained unutilised (October 2006).

3.2.2.5 *Non-accountal of interest money*

Funds received under different schemes of Watershed Development Programme by the PIAs and WCs were kept in saving bank account for subsequent utilisation. On scrutiny of records of eight DRDAs it was noticed that in four DRDAs³ interest of Rs 42.76 lakh earned on scheme funds was credited to their general savings bank accounts instead of depositing in the savings bank accounts where the scheme funds were lodged. Out of this, the DRDA, Sonapur already incurred

Soil Conservation Divisions dovetailed ACA / SCA funds of Rs 1.51 crore for watershed area towards cash component of FFW programme

BKVY funds of Rs 80.64 lakh remained unspent with two OLIC Divisions for over four years

Interest money of Rs 42.76 lakh earned on scheme funds was irregularly kept outside the scheme accounts

² Kalahandi-6 projects: Rs 37.80 lakh and Nuapada-7 projects: Rs 42.84 lakh

³ DRDAs : (i) Bolangir : Rs 18 .90 lakh, (ii) Koraput : Rs 10.32 lakh, (iii) Rayagada : Rs 8.51 lakh and (iv) Sonapur : Rs 5.03 lakh.

expenditure of Rs 5.03 lakh for various contingencies. Depositing interest, earned on scheme funds, in the general account and utilising the same for other purposes were irregular.

3.3 Project Execution

Out of 1775 watershed projects undertaken for implementation during 1998-2007, 1325 projects were scheduled to be completed by March 2007 against which only 273 projects could be completed in all respects during the above period resulting in non completion of 1052 projects. As many as 567 projects, on which Rs 84.78 crore were spent, were closed prematurely by the implementing agencies due to delayed execution and want of funds. Similarly, out of 2029 BKVY projects sanctioned during 2001-07, only 1547 projects were taken up of which 1149 were completed by the implementing agencies and 398 projects remained incomplete as of March 2007.

3.3.1 Short release of funds

Under BKVY, Rs 16.92 crore remained unspent leading to 398 projects remaining incomplete

The State Government provided an out lay of Rs 362.88 crore for execution of the above 1325 projects under different watershed schemes during 1998-2007 against which the actual amount released was only Rs 269.60 crore. Of this, Rs 247.47 crore were spent leaving an unspent balance of Rs 22.13 crore with the implementing agencies. Under the BKVY, 1547 projects were taken up for execution during the above period for which Rs 93.99 crore were released and the executing agencies spent only Rs.77.07 crore leaving an unspent balance of Rs 16.92 crore with them (March 2007). This clearly indicated that neither the State Government nor the implementing agencies showed necessary enthusiasm in implementation of the programmes.

3.3.2 Shortfall in treatment of land under the programme

Premature closure (567) and non-completion (485) of watersheds led to short treatment of 2.39 lakh hectares of land

The RLTA envisaged treatment of 7.09 lakh hectares of land under the 1325 watershed projects scheduled for completion by March 2007. However, only 4.70 lakh hectares could be treated due to partial completion of 485 projects and premature closure of 567 projects, which, in turn, resulted in short treatment of 2.39 lakh hectares. Under the BKVY, out of the target of 39,441 hectares, only 27,906 hectares could be treated and 11,535 hectares were left out due to non completion of 398 projects.

Thus, delay/non-completion of projects led to non-achievement of targeted benefits under watershed programme, which ultimately contributed to the failure of drought proofing efforts.

3.3.3 Abandonment of watershed projects after entry point activities.

There was loss of Rs 4.42 crore spent on entry point activities on abandoned projects

Normally watershed projects are to be undertaken in areas where other irrigation projects are not in operation. Review of the watershed projects undertaken in the districts of Sonepur (8), Koraput (16), and Kalahandi (29) under IWDP, DPAP, EAS and NWDPRAs schemes showed that, in the areas covered under these projects, three irrigation projects (one in each district) were in operation. Therefore, after incurring entry point expenditure of Rs 2.81 crore on the aforesaid projects, the District Watershed Missions (DWMs) and DRDAs abandoned these projects. Thus, lack of field study in selection of project sites caused a loss of Rs 2.81 crore. Similarly, in Nowrangpur district, 31 projects were abandoned after incurring expenditure of Rs 1.61 crore for initial activities. The fund flow statement furnished by the Project Director, DRDA indicated that non release of funds by the State Government was the reason behind the abandonment of the projects.

3.3.4 Poor functioning of user groups and self-help groups

The guidelines envisaged that the direct beneficiaries of watershed projects should form sufficient number of user groups (UGs) covering all the users. Indirect beneficiaries of the projects should form self help groups (SHGs) for getting involved in some form of economic activities so as to generate their livelihood. The watershed projects undertaken in the KBK districts envisaged that 80 percent of the activities on works were to be done through UGs and SHGs. Against the total population of 16.50 lakh covering the eight districts, only 2.96 lakh were involved in 28864 UGs and 1.55 lakh members in 14194 SHGs keeping around 12 lakh population beyond the periphery of participation. Further, it was noticed that though all the SHGs were to be provided with revolving fund to undertake economic activities, the same were provided to 1195 SHGs only. Thus, there was failure in mobilizing people's participation.

Though community assets worth Rs 2.17 crore had been created under the test checked projects, user contribution in the form of watershed development fund (WDF) was not sufficient to undertake the post operation maintenance activities. Similarly, Watershed committees / watershed associations did not take any initiative in convening periodical meetings, undertaking timely repair and maintenance of assets created. Besides, no records were maintained to show collection and account of users contribution. Register with list of assets and their utilization was also not maintained.



Dilapidated office building of the Gudighat watershed in Muribahal Block (Bolangir district)

3.3.5 *Idling of BKVY projects due to non energisation*

32 out of the 73 test checked BKVY projects constructed at a cost of Rs 1.79 crore could not be made operational due to non-energisation.

Under BKVY programme, irrigation projects were to be executed on cost sharing basis of 90:10 between the Government and beneficiaries. These projects were to be executed by forming 'Pani Panchayats (PP)', a registered group of farmers. Test check of 73 PPs in eight districts of KBK showed that none of the beneficiaries have contributed their share of project cost and no attempt was made by the implementing agencies to collect the same for completing the works. Out of 73 projects, 32 projects constructed at a cost of Rs 1.79 crore during 2001-05 could not be made operational (March 2006) due to non-energisation.

A review of 14 minor irrigation projects executed under BKVY disclosed that a sum of Rs 22.45 lakh was diverted from MLA Local Area Development Fund to make good the deficiency in the contribution by the beneficiaries to the project cost. Thus, the idea of creating assets through sharing of efforts and participation by beneficiaries did not materialise.

3.3.6 *Non constitution of PP fund for post project operation and maintenance*

Pani Panchyat fund was not created and assets not insured in any of the 73 test checked BKVY projects

The project reports of minor irrigation projects under BKVY stipulate that the beneficiaries of the project shall constitute a fund designated as Pani Panchayat (PP) fund for the post operation and maintenance and insurance against theft and natural calamities. However, in the 73 test checked projects it was noticed that in none of the PPs, assets were insured against theft or natural calamities. As a result, loss arisen out of theft and damage of transformers in seven BKVY projects⁴ could not be made good through insurance claim. No records were maintained to assess the extent of loss also.

3.3.7 *Construction of brick line channels not done*

Out of the 73 BKVY projects test checked, in eight lift irrigation projects sanctioned during 2002-03 executed by Lift Irrigation Divisions (Bhawanipatna: five and Koraput: three), though there was provision for brick line channel to ensure water to the fields of the ultimate beneficiaries, the same was not done due to non contribution of beneficiary share (March 2006).

The consultant's case study disclosed that the BKVY projects were fully controlled by the Government official right from the project proposal to the delivery of materials at site. The users were alienated from the project, which scaled down the spirit of 'our project' and 'community ownership', when the project was handed over to them. Thus, the basic principle of participation, involvement, ownership and transparency was missing in the entire process.

⁴ (i) Kalahandi district: Kuchagaon, Konagaon, Marnabahali and Talapipalli, (ii) Nowrangpur Sandasa I, Sindhiguda and Pupugaon.

3.4 *Ineffective Monitoring*

The RLTA action plans provided, monitoring and evaluation at district level by the District Collector and Watershed Mission. The department was supposed to monitor at the State level. However, there was no evidence on record of monitoring in any of the level. BKVY programme guidelines also provided that monitoring and evaluation committees at the State and district level should be formed for regular internal monitoring and evaluation of the projects. District level monitoring had to be conducted by a committee headed by the District Collector and the State level monitoring by a committee headed by the Chief Secretary.

In spite of clear provisions, no attempt was made to conduct regular monitoring to find out the deviations and to take corrective actions for the successful implementation of the projects. No monitoring reports were prepared at any stage of the implementation of the projects.

3.5 *Abstract of audit findings.*

The planning for drought proofing was not realistic as geophysical data of ORSAC was overlooked for prioritization of watershed projects. Out of 2872 projects (watershed and BKVY) scheduled for treating an area of 7.49 lakh hectares at a cost of Rs 456.87 crore, only 1422 projects could be completed; 1450 projects were either prematurely closed or remained incomplete. Deficiencies in the nature of diversion of funds (Rs 16.01 crore), infructuous expenditure due to abandonment of watershed projects (Rs 4.42 crore), and idling of BKVY projects due to non-energisation (Rs 1.79 crore) were noticed. Contribution in respect of 'Pani Panchayats' and 'Watershed Development Funds' did not take off creating apprehension about future maintenance of projects.

3.6 *Impact assessment*

The State Watershed Mission fixed (March 2001) benchmarks for determining the impact of the watersheds like average level of water in the open wells in May/June below surface, area cultivated under different crops in khariff and Rabi seasons, productivity of principal crop, etc. However, no efforts were made to assess the success of projects against the benchmarks fixed.

Out of 752 beneficiaries interviewed by Audit, 208 beneficiaries (28 per cent) stated increase in the ground water level. The beneficiaries under BKVY stated that there was increase in productivity. Majority of the beneficiaries also stated



A small pond in Maligaon in Laxmipur Block

that there was an additional employment opportunity during the period of construction.

The beneficiary survey by the XIMB disclosed that the drought proofing measures had a marginal increase in labour man days, as many of the watersheds with small water structures and low water storage capacity were not found durable. Under the BKVY projects, the feeder source for lift irrigation points did not have sufficient water during Rabi season. Marginal farmers having land in the periphery of ayacuts also did not benefit and there was irregular supply of electricity.

Impact assessment made by the XIMB showed that 40 *per cent* of the beneficiaries felt drought-proofing measures achieved as *poor*⁵ levels of outcome while 20 *per cent* of beneficiaries rated the same to a *fair* level of outcome. The remaining 40 *per cent* rated the outcome as satisfactory or better than satisfactory.

3.7 Recommendations

- Budgetary support to the watershed schemes should be increased with timely release of funds to the implementing agencies for completion of the projects.
- The ORSAC remote sensing data should be used in selection of watershed villages and preparation of action plan.
- The system of post project participatory management should be strengthened by ensuring users contribution of 10 *per cent* in full as envisaged in the watershed and BKVY schemes.

⁵ Failure: < 2.1, Poor: 2.1 - 2.5, Fair: 2.6 - 3.0, Satisfactory: 3.1 - 3.5, Good: 3.6 - 4.0, Very good: 4.1 - 4.5 and Excellent: 4.66 - 5.0.