

Annexure - I

NEW INITIATIVES - A CONCEPT PAPER



**DAMODAR VALLEY CORPORATION
DVC TOWERS, VIP ROAD
KOLKATA - 700 054**

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NEW INITIATIVES – A CONCEPT PAPER

1.00 Introduction

DVC was constituted by an Act of Central Legislature (DVC Act – 1948), as the first multi purpose integrated river valley project, with the mission to harness the natural resources and potential for socioeconomic development and general well being of the people through chartered corporate objectives viz: (i) Flood control (ii) Irrigation and Water Management (iii) Generation and distribution of Electricity (iv) Afforestation and Soil Conservation and (v) Health care and Social welfare.

Initial thrust was on taming the river Damodar to bring relief to the distressed people devastated frequently by ravaging floods and utilize the water resources for constructive use, including afforestation, schemes for control of soil erosion and social welfare programme. Thus 4 (four) major dam projects (Maithon, Panchet, Konar and Tilaiya) came into operation by late 50's followed by construction of barrage at Durgapur and irrigation canals in the downstream by mid 60's.

To keep pace with the national priority in promoting industrial development of the region, focus was shifted to power generation/distribution which gathered momentum from 60's onwards with creation of new infrastructure through setting up of Thermal Power Stations at Bokaro, Chandrapura, Durgapur and Mejia with development of associated transmission system to cater to the growing demand and emerge as a major power utility in the region.

Any organization in a long life span is liable to have ups and downs. DVC is no exception in that respect. It had its moment of glory, times of distress, lean and purple patches. Most importantly, it has weathered the rough time successfully and continue to be a profit making unit and serving to the national cause. However, a lot more has to be done in accomplishing the unfulfilled mission and rise to greater heights to live up to the expectations of the people.

It is time now to rejuvenate, infuse new ideas, embark on new initiatives hither to unexplored to accelerate the development process.

With this in background, a concept paper has been prepared on the perspective plan capturing various initiatives. The concept paper maybe useful document to set the process rolling.

2.00 Integrated Development & Utilization of Damodar Valley Water Resources

2.01 Background

The original concept of DVC for harnessing the water potential of Damodar – Barakar Basin could not be materialized fully due to various reasons. Only about 34 per cent of the original storage capacity could be implemented and water resources utilization could be made accordingly.

The benefit of irrigation and flood control from partially implemented master plan has been received by West Bengal from the present system who also made the major capital contribution. Excepting municipal and industrial use from the DVC system, no major water usage has been implemented in erstwhile Bihar now the state of Jharkhand.

A unique feature of Damodar basin is its rich mineral deposits almost all through the upper reach. The exploitation of mineral resources like coal etc also require water which can claim a reasonable share when compared to irrigation and other municipal uses as is the case in other basins in the country. This feature has to be necessarily kept in mind while developing a comprehensive water use policy for the basin.

Comprehensive development action had been planned more than 60 years ago and that has been partially implemented. With the experience of developments that has taken place coupled with changed aspiration of the stake holders, it is now time to generate new initiatives for further development and management of the valley resources.

2.02 Present Constraints on Utilization

As far as the investments for the development projects are concerned, the cost of Konar & Tilaiya has been shared mainly by the Govt. of West Bengal and insignificantly by the Govt. of Jharkhand (or Govt. of Bihar). Similarly, cost of Tenughat has not been shared by Govt. of West Bengal. A rationalization of the investments can allow the existing system to be used in an integrated way thereby augmenting the benefits from the assets created. For an optimal utilization, a unified control and management is essential. Hence, by any re-allocation of Konar, Tilaiya and Tenughat water with unified control by DVRRC, both the States of Jharkhand & West Bengal stand to benefit a lot.

Some of the constraints impeding the full utilization of the existing system are enumerated below:

- Irrigation system from Konar reservoir has not yet been implemented.
- Water utilization from Tilaiya is yet to be finalized.
- Balpahari scheme has not yet been fully formulated for taking up its implementation,
- Full land acquisition at Tenughat has not yet been made to operate the same at design parameters level.
- Non-acquisition of land on reservoir periphery between reservoir El. 495' to 500' for Maithon and El. 425' to 445' for Panchet dam has reduced the flood moderation and hydropower benefits from the projects.
- Optimization of the existing system is affected due to exclusion of Tenughat reservoir from a unified operation plan.

2.03 Present Status

Apart from the Damodar Valley Act, there is a private agreement between the Govt. of Bihar (presently Jharkhand) and the Govt. of West Bengal signed in 1978 for utilization of water of Damodar - Barakar Basin. In spite of the agreements, the development has been incomplete.

The present status may be summarized as below:

- (a)** The essential clauses of the agreement between Jharkhand & West Bengal could not be implemented because of problem of further land acquisition at Maithon & Panchet.
- (b)** The State Governments are of the view that benefits of Damodar waters should reach both the states for irrigation purpose and past decisions of not sharing costs of dams need to be reviewed and corrected in the interest of the people of the states.
- (c)** Action for harnessing full benefits from Tenughat dam is yet to be planned.

2.04 Initiatives under way

At present, the utilization of the water is largely concentrated in the lower Damodar catchment below Maithon and Panchet. The spread of the usage in the upper area is largely for industrial usage. In order to spread the usage in the hitherto low usage areas, the tributaries of river Damodar & Barakar (viz. Bokaro, Bhera, Jamunia, Usri, Barsoti, Ijri, Gowai, etc) which carry a considerable amount of surface water flow during monsoon season can be harnessed by providing small reservoirs on the tributaries. These reservoirs in turn can be utilized for irrigation mainly for Kharif & rabi crops in the agricultural areas around them and to meet the future growth of industries as well.

The Govt. of Jharkhand has already taken up some minor irrigation projects on the tributaries of Damodar and Barakar as submitted by

them to DVRRC which need a comprehensive review, including the potential of utilizing the existing water resources created in Tenughat, Konar & Tilaiya for proper utilization of the system for benefit of the State of Jharkhand as well as to augment the potential for benefit of flood control and irrigation in the State of West Bengal also.

2.05 New Initiatives of DVC

(a) The work of preparing feasibility report of Balpahari project on the Barakar River at upstream of Maithon has been entrusted to CWC. CWC has been asked to take up the Detailed Project Report (DPR) simultaneously on a fast track basis with fund being provided by DVC. The benefit from Balpahari Project has already been discussed in several DVRRC Committee meetings, which mainly accrue to Jharkhand. If the Balpahari is implemented, the potential of the Barakar Basin would be utilized effectively for irrigation and municipal & industrial requirements in Jharkhand with unified control by DVRRC.

(b) The following table shows the additional benefits over and above those being exploited now at a glance in the event of implementation of new initiative on water resources utilization in the valley:

Additional Benefits at a glance

Name of Project	Irrigation utilization	M & I utilization	Flood Control
Jharkhand			
Konar	1,42,000 acre feet	Rural Water supply schemes	-
Tilaiya	2,10,000 acre feet	Rural Water supply schemes	-
Balpahari	1,05,000 acre feet	73,000 acre feet	-
Tenughat	To be determined		
West Bengal			
Konar	-	-	-
Tilaiya	-	-	-
Balpahari	-	-	Improved flood control
Tenughat	To be determined	-	Improved flood control

(c) **Proposed course of action:** Action is required to be initiated for utilizing all the water potential created in the DVC system by making joint review. The measures can be broken up into long term and immediate categories.

(d) **Immediate Action:** A consensus policy decision needs to be taken at the highest level of the state governments. A Committee may be set up with Chief Secretaries of the participating State Governments, Chairman, CWC and Chairman, DVC for working out the details on the following:

- Rationalization of the cost sharing of various projects can be made thereby providing equitable stakes in the existing developments to all the parties.
- Operation of all the five existing dams at Konar, Tilaiya, Tenughat, Maithon & Panchet and the proposed dam at Balpahari should be unified for the benefit of the participating states and the nation as a whole.
- An approach paper for formulation of a master plan for valley development needs to be prepared and discussed amongst the stakeholders to finalize the terms of reference of the master plan study. Thereafter, the study can be taken up and completed in a time bound fashion for adoption by the stakeholders.
- Short term means to be formulated for resolving the demands between various uses so as not to hold up the development of other resources due to want of water.

2.06 Long-term Action

- The long-term master plan once prepared, should be adopted in a time bound manner and taken up for implementation.
- By reviewing the performance of the existing systems of irrigation and industrial utilization, measures for improving the efficiencies of use and distribution mechanisms to be identified and implemented in parallel with the master plan formulation.
- Identification of funding mechanisms and implementation mechanisms with a participatory approach for implementing the pending and new measures.

3.00 Afforestation & Soil Conservation – A Mission Approach

3.01 Important provisions under the DVC Act, 1948: The Act provides for the promotion and operation of schemes for irrigation, water supply, flood control, afforestation and soil erosion control in the Damodar river system, as well as the improvement of flow conditions of Hugli. Also promotion of public health and the agriculture and economic well being, establishment, maintenance and operation of labs and research farms for research on economic utilization of resources and construction of dams, barrages, drainage canals etc are within the ambit of the Corporation. Prevention of water pollution in the area of control, resettlement of displaced persons, supporting establishment of co-op. societies and other organizations for better use of facilities and promotion of pisciculture are some of the ancillary works. The officers of the Corporation have been empowered under other relevant Acts suitably.

3.02 The Need for the Plan

- (a) The land in the valley area is under the control of different govt. and private agencies. Therefore more integration between the agencies of Participating Govts. is required for effective implementation of various programmes.
- (b) Catchment area of Damodar river requires greater treatment coverage—afforestation, soil conservation, flood control measures, social outreach schemes etc. within a short duration.
- (c) The priorities of watersheds fixed by the AISLUS in the early nineties have changed and needs to be revised.
- (d) There is a need to intensify monitoring of the watersheds and evaluate the earlier works, with modern technologies.
- (e) The dam reservoir capacity needs to be improved.
- (f) There is need for collaborative research on economic utilization of the resources.

- (g) The soil erosion and runoff needs to be checked in the upper catchments so that the sediment yield is reduced (Tables showing progressive sedimentation and capacity loss of Maithon and Panchet Reservoirs in the attached Annexure).
- (h) For proper implementation of the schemes, the involvement of the local people is necessary for planning and execution.
- (i) Extensive awareness for the public on the need for soil and moisture conservation and afforestation is required.

3.03 Thrust areas of the plan

- (a) Soil and Moisture Conservation (SMC): This is one of the priority areas of the comprehensive plan. The SMC works have been done in the upper as well as the lower valleys of Damodar-Barakar catchment mainly in the very high and high priority watersheds under the CSS River Valley Project (RVP). The priorities fixed on the sediment yield index (SYI) by the AISLUS have changed over time owing to mining, deforestation and faulty agriculture practices. This needs a re-look.

The following actions are proposed:

- i. Re-prioritization of the 716 micro-watersheds of the valley based on Rapid Reconnaissance Survey jointly by AISLUS and the DVC.
- ii. Constitution of an institutional framework for better integration between the Forest dept., Agriculture dept., the local bodies and the DVC. Collation and analysis of data obtained from 17 sediment monitoring stations of the DVC, upgradation and augmentation of monitoring stations and introduction of regular rainfall data collection, if necessary.
- iii. Development of a phased work plan showing the watershed wise treatment proposed for SMC works. Very high and high priority (re-prioritized) watersheds may be taken in the first 3 years and medium and low priority watersheds over the next 2 years.

- iv. The SMC work plan may cover very high and high priority (re-prioritized) watersheds over the first 3 years and medium and low priority watersheds over the next 2 years. The work plan should also include a maintenance plan, which should include renovation of the older structural works.
 - v. Runoff plots should be laid out for estimating soil loss in sample areas of upper and lower valley, preferably near about the monitoring stations, if not already done.
 - vi. Since the DVC has a clear mandate of working in the Damodar-Barakar valley area, it should take the lead in preparation of comprehensive watershed project reports (if necessary by outsourcing), covering forest and non-forest areas, with a definite time frame for saturation.
- (b) Afforestation works: No treatment of watershed will be complete without concomitant afforestation works. Therefore following actions may be taken:-
- i. Review the status of the afforestation works done earlier. For this purpose the Forest Survey of India (FSI) should be approached.
 - ii. The FSI, which brings out Bi-annual reports on the green coverage state wise, may prepare the status paper for the Damodar valley and the adjacent area of operation, differentiating the forest and non-forest areas and their change analysis. The Forest departments of the participating governments should be involved for this purpose.
 - iii. Updation of the drainage maps may also be done. The SoI/ IESWM may be involved in this work.
 - iv. The work plan for the SMC works should include afforestation in non-forest as well as forest areas. However the work plan should

- be developed in consultation with the forest and agriculture depts. of the participating govts. and also the local bodies.
- v. Afforestation should include maintenance for at least 3 years. The DVC may explore the possibilities of buy back arrangements from the private and community lands post-harvesting, on contractual basis. Plantation and harvest from forest lands should be done as per the approved working plan prescriptions of the forest division.
 - vi. The problem areas like mines or highly alkaline soils should be treated separately.
- (c) Resource Centres: A resource center for soil conservation may be developed for compilation of all data on SMC/afforestation/social integration programmes and all other technical data on rainfall, sediment monitoring, runoff, ground water etc. and analyze them; develop and maintain demonstration plots on model SMC works and afforestation, digital database and digital library and to develop information network between various centers of the DVC. The Centres may promote awareness on the soil conservation, environmental management issues, rainwater harvesting, scientific agricultural practices within the valley and the areas of operation and also develop models of and promote rainwater harvesting.
- (d) Area of Operation: The Act provides that the Corporation may carry out functions and exercise powers in 'Areas of Operation', outside the defined valley area. However this requires to be notified by the Central govt. after consultation with the provincial Govts. The Corporation may therefore consider extending activity in areas adjacent to the Damodar valley for treatment of abandoned mines, deforested areas; and for supply of water in drought prone areas. Also Social Integration programmes for the socio-economically backward areas and awareness programmes for conservation of natural resources may be taken up.

3.04 Implementation –A Mission approach

The implementation of the plan would require greater co-ordination between the various wings of the Corporation and integration between the participating governments and the Corporation. Since the activities of the Corporation spread over private, vested and forest areas, it is imperative that a common forum and an institutional mechanism should be developed for better implementation of the programmes. With this view in end, a Mission—“**Damodar Valley Mission**”, may be constituted with the following objectives:

(i) Aims and Objectives:

(a) To make Damodar valley and the area of operation of the Corporation, greener environment friendly and to provide a common forum for the Corporation and the participating govts., for greater integration for effective implementation of the programmes.

(b) To promote scientific management of soil and water conservation, environment and ecology and to advise on scientifically sound and technologically proven soil & moisture conservation measures and afforestation techniques by the PRIs/local bodies or other statutory bodies.

(c) To coordinate between various Govt. departments of the participating govts., municipal bodies, PRIs, statutory bodies and other institutions on the soil and moisture conservation of Damodar valley as well as the areas of operation.

(d) To support training and capacity building of various categories of officers, NGOs, representatives of the local bodies etc., and facilitate generation of awareness.

(e) To support research & development activities on soil conservation and related projects, economic utilization and management of natural resources and setting up of Resources Centres, Rainwater harvesting projects under community participation.

(f) To give policy guidance on SWC as well as Integrated Watershed Management (IWM).

(ii) Composition of the Mission:

There should be a General body and an Executive Committee.

(a) General Body: It may be chaired by the Chief Secretary of Jharkhand state. The Chairman/Secretary DVC should act as the Member-Secretary and there should be suitable representations from the Ministries of Environment & Forests, Power, Agriculture, Departments of Forest, Environment and Agriculture of the states of Jharkhand and West Bengal, Central Govt. and NGOs and experts from accredited institutions.

It shall be responsible for the overall supervision, control and general superintendence over the functioning of the Mission.

(b) Executive Committee: It may be chaired by the Development Commissioner of Jharkhand and may include the, Principal Chief Conservators of Forests and Directors of Agriculture of Jharkhand and West Bengal States, Director (S.C) DVC and other suitable officers of the DVC or other organization as may be decided by the Chairman DVC. The Chief Environment Officer, DVC may act as the Member Convenor. The Executive Committee shall be responsible for the day to day activities and co-ordination of the activities of the Mission and integration with the Social Integration Programme wing of the DVC. The Executive Committee shall also carry out the policy decisions of the Governing body. It should co-ordinate with the participating state govt. agencies and the Ministry of Rural Development so that the activities under various rural development schemes viz: Rashtriya Samavikash Yojana and Employment Generation schemes do not overlap.

3.05 Source of Fund:

The Mission will access funds from Ministry of Agriculture, GoI, Ministry of Environment & Forest, GoI, Participating State Govts., other Donor Organization and DVC for the purpose.

4.00 'DVC Foundation'

For

Social Integration Programme (SIP)

4.01 Introduction

As a commitment for socio economic development of the inhabitants in the area within 10 kms around main projects, DVC has launched a 'Social Integration Programme' (SIP) in 1981 that covers broadly two types of schemes: 'continuing schemes' involving recurring expenditure (e.g. promotion of primary and non-formal education, improvement in quality of primary health and health awareness, ensuring safe drinking water, development of agriculture and allied activities, training for income generation, sports and cultural activities, or social forestry), and 'infrastructure development works' involving one time expenditure (e.g. planned development of infrastructure-roads, culverts, bridges, drains, school buildings, community centers, health centers, training centers, ghats, micro lift irrigation systems, rural electrifications). Under the SIP, more than 100 villages in West Bengal and more than 250 villages in Jharkhand are being covered till date.

Under the SIP, activities are being identified in consultation with reps of the Gram Panchayats (in West Bengal), village communities and peoples' reps (in Jharkhand); scrutiny of identified works at the local level are undertaken in consultation with the BDOs, SDOs, and other development agencies of the area. Chief Coordinator, DVC prioritizes in consultation with project heads. There are collaboration with the NGOs, and consultation with the state Governments for avoiding duplication.

A study by Xavier Institute of Social Service, Ranchi (Sept 2003) on the performance of the SIP had identified the strength and weakness of the program. The study pointed out the fact that the SIP has made significant contribution by providing basic social services in the field of health, education, etc. and over a period of 20 years, the program has facilitated

building up of basic infrastructures and civic amenities which have made significant impact in the villages and their habitants in the areas of DVC's operations. The weakness of the SIP as identified by the study, includes lack of flexibility required for rural development work, constraints in budget allotment, lack of effective participation of people, unsatisfactory reporting system, lack of drawing up program beyond development of physical infrastructure, provision of civic amenities, and basic social services, etc.

In order to design, manage and implement the SIP optimally and more broad based through participation of various stakeholders and using expert input, the DVC intends to create a Foundation named "DVC Foundation for Social Sector Management" with a view to cover all aspects of socio economic development of the inhabitants in the prescribed area of DVC's operation.

4.02 Objectives

Specifically, the Foundation will have the following objectives:

- a. To initiate, continue, and support program to strengthen social integration program in the DVC's area of operation
- b. to oversee implementation of socio economic program through transparent and consultative process
- c. to provide a clearing house for exchange of information and ideas with a view to enhance socio economic development of DVC's area of operation
- d. to engage various stakeholders in promoting and enhancing dialogue during preparation and implementation of the plan for socio economic development in the area, and build their capacity
- e. to aid and advise the DVC on issues in the field of socio economic development as and when referred to by the DVC.

4.03 Structure

The activities of the Foundation will be guided by a Steering Committee with the following composition of members:

- a. Chief Secretary, Government of West Bengal – Chairman.
- b. Development Commissioner, Government of Jharkhand- Vice Chairman.
- c. Chairman, DVC-Member.
- d. Three Representative each of the concerned departments of the participating Govts.
- e. 2 representatives of reputed research institutes working in the field of sustainable development either at the state level or at the national level.
- f. 2 representatives of NGOs working in the area of DVC's operation
- g. 2 public representatives in the area of DVC operation one each from West Bengal and Jharkhand
- h. Secretary, DVC- Member Secretary to the Foundation

The Steering Committee will meet at least once in every quarter.

4.04 Functions of the Steering Committee

The Steering will have the following functions:

- a. formulate the vision/mission statement on the SIP and review the same at regular interval
- b. Based on the past experiences elsewhere in the country or abroad, draw up a long term and short term strategy for the SIP to uplift socio economic conditions of communities, and supplement socio economic development program of state governments in the DVC's areas of operations,
- c. prioritize activities for the SIP, frame guidelines for the implementation of programs process, and oversee their implementation,

- d. review the policy and programs on a continuing basis,
- e. evaluate impact of the SIP at regular intervals,
- f. create awareness in the area on issues relating to sustainable development
- g. encourage participation of various stakeholders in the process of undertaking various programs of the Foundation,
- h. facilitate coordination of various agencies including government departments.

4.05 The Foundation Secretariat

The Foundation will have a Secretariat, which will manage the day to day activities of the Foundation and implement its activities drawn up by the Steering Committee. There will be a Secretary to the Foundation. There will be dedicated staff for implementing the program. The Foundation will bring out the annual report by June 30 every year for the activities during the preceding year, and submit the same to the DVC.

4.06 Funding

The Foundation will have separate accounts. It will receive funds from the DVC, and submit its utilization annually to the DVC at the end of the financial year.

5.00 Capacity Addition Programme

DVC has taken a series of measures to augment its existing Thermal Capacity in Jharkand and West Bengal to ensure availability of adequate quality power in the States and also to improve the socio-economic conditions of the people living in the concerned areas of operation. The steps taken by DVC may be summed up as follows:

5.01 Capacity addition during 10th Plan

i) Mejia Thermal Power Station Extn. Unit-4

The unit (210 MW) has been commissioned and is under commercial operation since 13 February 2005.

ii) Mejia Thermal Power Station Extn. Unit-5&6

The construction of 2x250 MW Units is in full swing and will be commissioned by end of 10th Plan.

iii) Chandrapura Thermal Power Station Extn. Unit-7&8

The construction of 2x250 MW Units is in full swing and will be commissioned by end of 10th Plan/early 11th Plan.

5.02 Capacity addition during 11th plan

i) Durgapur Steel TPS (2x500 MW)

• Statutory Clearances:

- All clearances received except clearance from MoE&F.
- In last ECT meeting (21.3.06), MoE&F asked for 'Notification' to be issued by West Bengal Govt. along with other environmental study.

• Land:

- Total Land: 1276.125 acres.(apprx.)
- DVC Board accorded approval for expenditure towards acquisition of 979.955 acres of Rayati land with permission for release of 50% of estimated amount as advance payment to Govt. of WB, subject to MOEF clearance for the project.

- **Coal linkages:**

- MoC, GoI allocated Barjora (North), Kharga Jaydev & Kasta (East) coal blocks of ECL command area for captive coal mining.
- Requested MoP to include Kasta (West) & Pachwara (South) coal blocks to meet total coal requirement. Gazette Notification published.
- JV Company- DVC-EMTA formed to develop the allotted Coal blocks.
- Mining Plan of Barjora (North) block submitted to MoC and for Khagra Joydev & Kasta (East) will be submitted shortly.

Assistance needed from state/district authority:

- Issue of 'Notification' declaring the proposed project area as Industrial Zone by the Commerce & Industries Deptt., Govt. Of West Bengal is required for environment clearance by MoE&F, GOI.

ii) Koderma TPS (4X500 MW) in Phase-I&II

- **Statutory Clearances:** All clearances have been received except final Water Clearance from DVRRC. In principal approval has been obtained from DVRRC. Formal concurrence is awaited from the Govt. of Jharkhand.
- **Land:** Total Land: 1855.28 acres. Cost estimate of Land recd. from District Authority. Fund towards land acquisition will be shortly deposited with the District Authorities.
- **Coal linkages:** Application has also been submitted to Ministry of Coal against its notification for allotment of Captive Coal Mine Blocks TUBED for CTPS# 7&8 and Koderma TPS.
- **Assistance needed from State/District Authority:**
 - Formal concurrence on Water clearance.
 - Possession of Land.

iii) Ramgarh TPS (4X500 MW) in Phase-I&II

- **Water Clearances:** DVC vide letter dtd. 13.2.2002, requested DVRRC for allocation of water. Allocation of 73.56 cusec of water

required for the project was discussed in DVRRC meeting held on 3.7.02. Reminder letter to Member Secretary, DVRRC sent on 1.4.04. Sanction yet to be issued by DVRRC.

- **Land:** M/s MECON will indicate the total requirement of land after finalization of Detailed Project Report (DPR).
- **Coal Linkage:** DVC on 19.11.04, requested Min. of Coal to allot Kirandhari A, B & C and Tokisud Coal Mining Blocks of CCL command area.
- **Assistance needed from state authority:** Concurrence on Water clearance

iv) Maithon Right Bank TPS (1000 MW)

- **Implementation:** By M/s Maithon Power Ltd (MPL), a joint venture company of DVC and Tata Power Company (TPC).
- **Statutory Clearance:** All necessary clearances received for 4X250 MW combination units and it will be ratified with new unit size configuration by M/s. MPL.
- **Land:** Total land: 1120.82 acres (including forest land of 436.41 acres). 70% Land (excluding forest land) till date received.
- **Coal Linkage:**
 - BCCL confirmed the supply of 50% coal requirement from 6 Nos. of mines (Shatabdi, Muradih, Golakdih, Bera, Dahibari & Basantimata).
 - At the instance of DVC, Ministry of Power has recommended Ministry of Coal for allotment of Coal Blocks in favour of DVC under special dispensation available to PSUs for joint coal mining operations in order to ensure availability of coal for the project.
- Maithon Power Ltd. (MPL) has committed that they will start the work on the ground very shortly.

v) Bokaro Steel TPS (2X250 MW)

- **Implementation:** By Bokaro Power Supply Company Limited (BPSCL), a joint venture of DVC and Bokaro Steel, SAIL.
- **Statutory clearances:** The Group of DVRRC accorded water clearance in its meeting held at Maithon on 20.12.2004. Final sanction from DVRRC is awaited.
- **Land:**
 1. Total Land: 1475 acres (SAIL's land)
 2. Transfer of land from SAIL to BPSCL is to be arranged.
- **Coal Linkages:** MoC allotted Gondulpara Coal block to TVNL on 50:50 share basis. MoP recommended Babupara & Chatti Bariatu coal blocks in CCL on captive basis for CTPS Extn U-7& 8, Kodarma TPS, Bokaro Steel TPS & Panchet Hill TPS.

Assistance needed from state authority: Encumbrance from the identified land to be removed/ rehabilitated.

vi) Bokaro TPS in place of Bokaro-A TPS vintage units

Exploring the possibility of replacing these old units by new 2X300 MW capacity Units on fast-track basis as the existing Vintage Units even after Renovation & Modernization with investment of more than 2 crores per MW will be economically unviable in terms of the standard parameters set by CERC.

vii) Chandrapura TPS in place of CTPS Units-4, 5&6

Exploring the possibility of replacing the units by two new unit(s) of 210/250/300/500 MW Capacity on fast-track basis as the existing Vintage Units even after Renovation & Modernization with investment more than 2 crores per MW will be economically unviable in terms of the standard parameters set by CERC.

viii) Raghunathpur (Purulia) TPS (2000 MW)

- **Detailed Project Report (DPR):** Order for preparation of DPR for New Site (Raghunathpur in place of Panchet Hill) is under process.
- **Statutory Clearances:**
 - Comfort letter regarding land availability received.
 - Clearance from CWC/DVRRRC received for Panchet Hill which shall be converted for Raghunathpur.
- **Land:** Total Land: 3000 acres. approx. has been identified.
- **Coal linkages:**
 - MoC allotted Gondulpara Coal block on 50:50 share basis with TVNL. The agreement between DVC & TVNL has been signed.
 - These Coal blocks will be developed by JVC, TVNL EMTA Coal Mines Ltd.
 - MoP recommended Babupara & Chatti Bariatu coal blocks in CCL on captive basis.
 - MoC yet to allot Tubed coal block.

ix) Maithon Left Bank TPS (2X500 MW)

- **Detailed Project Report (DPR):** Final DPR completed.
- **Statutory Clearances:**
 - Water clearance & NOC from AAI received.
 - REIA study completed.
- **Land:**
 - Total Land: 1392 acres. Survey completed & Layout as per revised location of site has been finalized.
 - Soil Testing of land is under progress.
- **Coal linkages:** Fresh Proposal for captive coal block allotment is to be made.

R & R involvement of the Project is under study.

6.00 Rajiv Gandhi Grameen Vidyutikaran Yojana (RGGVY)

6.01 The Project:

DVC has been entrusted with massive rural electrification project in the states of Jharkhand and West Bengal under Rajiv Gandhi Grameen Vidyutikaran Yojana (RGGVY) scheme of G.O.I.

6.02 Coverage:

Jharkhand

- Districts: Dhanbad, Bokaro, Giridih, Hazaribagh, Koderma, Chatra, Gumla and Simdega.
- Number of villages: Approximately 10,000 villages.

West Bengal

- District: East Midnapur.
- Number of villages: 807 mouzas.

6.03 Scope of Work:

- Construction of new 33/11 KV sub-stations.
- Augmentation of transformer capacities in existing 33/11 KV sub-stations of JSEB and WBSEB.
- Construction of 33 KV lines.
- Construction of 11 KV lines with distribution transformers and associated LT lines.
- Providing free service connections to BPL households.

6.04 Schedule for Completion:

Jharkhand : March, 2009.

West Bengal : March, 2007.

6.05 The status:**Jharkhand**

- Central office at Ranchi has been set up headed by one Deputy Chief Engineer. Other necessary infrastructural support and requisite manpower has been provided.
- Five divisional offices to be set up at Hazaribagh, Dhanbad, Chatra, Giridih and Gumla. Divisional offices at Hazaribagh and Dhanbad will start functioning from 1st week of May, 2006. Divisional offices at remaining three places will be set up progressively within October/November, 2006.
- DPRs for Dhanbad, Koderma & Bokaro districts submitted in Feb/March, 2006. DPRs for Giridih and Simgeda districts shall be submitted by 25th April, 2006. Rest of the DPRs will be submitted within 31st May, 2006.
- Deployment of additional manpower is in process.
- Parallel engineering activities initiated including introduction of tender procedural reforms to set the project on a fast track.

West Bengal

- Divisional office has been set up at Tamluk supported by 2 No. site offices at Contai and Bhagabanpur.
- Survey completed in all 807 mouzas.
- 8 mouzas completed in all respect and energized.
- 157 mouzas are completed and ready for energisation.
- Works in 129 mouzas are under progress.

6.06 Assistance required:**Jharkhand**

- Input data/information and other technical details for 33/11KV sub-station – by JSEB.
- Compliance of REC observation against DPRs submitted for 3 districts – by JSEB.
- Acquisition of land for sub-station – by JSEB/ Govt. of Jharkhand.

- Statutory clearances like forest, railway, PWD clearances etc./approvals/compliance including ROW related problems – by JSEB.

6.07 Setting up of a Monitoring Committee for Jharkhand:

A committee is proposed for constitution to oversee timely availability of land, forest clearance and assisting in issues like right of way, local problems etc. The committee may comprise of representatives from DVC, REC, JSEB, Forest & Environment Deptt. and Revenue & Land Reforms Deptt. of Govt. of Jharkhand with Secretary (Energy), Jharkhand at the helm of the committee.

7.00 T&D Infrastructure in Jharkhand – Planning & Execution

7.01 Planning: DVC has drawn up a comprehensive plan for the development of T&D system matching with the generation capacity augmentation. The plan includes creation of additional infrastructure including Sub-stations / transmission lines at various load centers in the state of Jharkhand to provide stable power and promote industrial growth.

NEW SUBSTATIONS

TRANSMISSION LINES

JHARKHAD

- | | |
|--|---------------------------------------|
| (a) 132KV Hazaribagh Sub-station
(with future provision for upgradation at 220KV) | Approximately 1200 Ckm
(132/220KV) |
| (b) 220KV Ramgarh Sub-station | |
| (c) 220KV Gola Sub-station | |
| (d) 220KVDhanbad Sub-station | |
| (e) 220KV Giridih Sub-station | |

WEST BENGAL

- | | |
|--------------------------------|---------------------------|
| (a) 220 KV Barjora Substation | 220 KV & 132 KV – 500 ckm |
| (b) 220 KV Burnpur Substation | (approx.) |
| (c) 220 KV Panagarh Substation | |
| (d) 220 KV Uluberia Substation | |
| (e) 132 KV Jamuria Substation | |
| (f) 132 KV Poradiha Substation | |

7.02 Execution:

JHARKHAND

a) 132 KV Hazaribagh Sub-station with associated transmission lines:

Status: Sub-station already commissioned to cater additional 100 MVA load.

b) 220 KV Ramgarh Sub-station with associated transmission lines:

Status: Sub-station already commissioned to cater additional 100 MVA load.

c) 220 KV Gola Sub-station with associated transmission lines:**Benefits:**

- Reinforce supply system around Ramgarh with load of around 180 MVA.
- Promote future load growth (100 MVA) in the area.
- Facilitate power evacuation from the extension unit Nos. 5 & 6 at Mejia TPS.
- Facilitate future extension of the Transmission system to Ranchi area, subject to approval of the Govt. of Jharkhand.

Status:

- Proposal of land acquisition (13.47 acres GM land) lying at Ranchi Secretariat since December, 2003.
- 80% of the compensation cost for 4.23 acres GM land deposited in July, 05.
- Provisional compensation payment against 8.67 acres Raiyati land made in July, 05.

d) 220 KV Dhanbad Sub-station with associated transmission lines:**Benefits:**

- Relieve existing old, overstressed 132 KV sub-station at Putki and Pathardih.
- Reinforce supply system with present load of around 330 MVA with better stability and redundancy.
- Promote future industrial development (100 MVA) in the area.
- Stabilize the power supply network for Dhanbad township and adjoining area.

Status:

- Proposal of land acquisition (9.93 acres GM land) lying at Ranchi Secretariat since January, 2004.

e) 220 KV Giridih Sub-station with associated transmission lines:**Benefits:**

- Reinforce & stabilize supply system to cater present load of around 90 MVA.
- Promote further load growth (100 MVA) in the area.
- Facilitate future power evacuation towards Koderma.

Status:

- 80% of the estimated cost of compensation for 11.23 acres Raiyati land deposited in August, 2005. Proposal under process at District level.

MAJOR LINES**a) 220 KV BTPS – Jamshedpur – Gola – Ramgarh line**

Forest land :	Protected Forest	-	1.66	ha.
	Jungle Jhari	-	25.74	ha.

Status: In-principle clearance received from MOEF. Compensation claim paid to DFO, Bokaro & Ramgarh in January, 2006. Formal clearance and working permission awaited.

b) 220 KV MTPS-Gola Line

Forest land:	Protected Forest	-	10.195	ha.
	Jungle Jhari	-	22.358	ha.

Status: Forest clearance proposal submitted to DFO, Ramgarh, Bokaro & Dhanbad in November, 2005. Application submitted to respective Deputy Commissioners for NOC in respect of Jungle Jhari land – clearance awaited.

Assistance needed from State/District Authority:

Early dispensation of the land acquisition and forest clearance proposals.

WEST BENGAL**(a) 220 KV Barjora Substation with associated transmission line**

Substation commissioned with 2x50 MVA capacity at 33 KV level – power supply to the tune of 50/60 MVA projected (by WBIDC) to mature from the industrial park – 4/5 applicants in advance stage of setting up factories.

Status: Tender for 132 KV infrastructure based on earlier projection in the stage of settlement – proposal under review as present projection is not encouraging.

(b) 220 KV Burnpur Substation with associated transmission line

Status: Associated transmission line commissioned – substation is ready in all respect to be energized – transfer of IISCO load (present 22 MVA – projected 75 MVA).

(c) 220 KV Panagarh Substation with associated transmission line

Status: Project deferred in absence of load growth contrary to initial projection by State Govt.

(d) 220 KV Uluberia Substation (with 132 KV infrastructure) with associated transmission line

Extension of DVC grid to expand consumer base in the lower valley – improved system management by creation of a separate load centre away from the existing concentration.

Status: WBIIDC assured allotment (20 acres) in Chandipur Industrial Area in April, 2002 – matter under persuasion. Power supply already extended to one consumer by temporary tapping from the grid, anticipating setting up of the substation.

(e) 132 KV Jamuria Substation with associated transmission line

Load based substation outside CEA master plan – taken up at the instance of Jamuria Development Authority for power supply to the prospective industries to be set up. projected load growth – 100 MVA (by JDA).

Status: Order placed and the completion expected by October 2007.

(f) 132 KV Poradiha Substation (P.S. Santuri, Dist. Purulia) with associated transmission line

Load based substation outside CEA master plan – taken up to ensure stable and augmented power supply to the existing consumers around Panchet (with demand at 132 KV level also) – projected demand 50 / 60 MVA.

Status: 10 acres vested land allotted by State Govt – rendered unsuitable because of adjoining highly polluted industries – alternative site identified (village Balidih) – proposal with Dist. Authority after field verification – further progress expected after election.

8.00 Development Of Tourism In Damodar Valley Area in the State of Jharkhand.

Vast expanse of land within the DVC command area in the state of Jharkhand is enriched with blessings of nature. Flowing rivers, waterfalls, reservoirs surrounded by hillock, dense forest and wild life add colour to the nature's splendor. All the ingredients make a huge promise and prospect for development of tourism. In pursuit of such an objective, DVC entrusted ITDC to conduct a preliminary survey a couple of years back. In its report, the ITDC has identified the sites having huge potential for tourism development, taking advantage of the natural resources and other infrastructural facilities. The prospective tourist centres, as identified, are –

8.01 PANCHET

Huge reservoir; blessed with nature's bounty; surrounded by hills to a large extent the area is still untouched by the vagrancies of modernization; villages close encircling the area give a look of an ancient tribal settlement; migratory birds visiting the area during winters; one hot water spring.

8.02 MAITHON

Large water reservoir with a number of islands; approx. 250 kms from Kolkata (5 hrs. drive); surrounded by small hillocks with a picturesque natural beauty; well maintained Millennium Park; Kalyaneswari temple.

8.03 TILAIYA

Large water body surrounded by hills; natural scenic beauty; accessible by rail Kodarma; close to mineral rich areas with a mix of an affluent population.

8.04 HAZARIBAGH

National park; pleasant weather conducive for healing; rail connectivity, close by religious spots like Bhadri Kali Mandir, Rajrappa; few water falls, Hazaribagh lake; the availability of natural herbs;

In view of the bright prospect and opportunity, DVC intends to venture into “ Development of Tourism” (so far un-tapped) in collaboration with the participating state governments, as a commercial activity. Accrued economic benefits (Direct & indirect) will aid the socio economic development of the region.

ANNEXURE**Progressive Sedimentation/ Capacity Loss of DVC Reservoirs****Maithon Reservoir****(in '000 acft)**

Year of Survey	Dead (upto EL 435 ft)	Live (EL 435-480 ft)	Flood (EL 480-495 ft)	Overall (upto EL 495 ft)	Sedimentation Rate (acft/sq mile/yr)
1955 Original	167.4	492.3	309.8	969.5	-
1963	140.4	465.3	312.6	918.3	3.2
1965	135.5	461.0	313.2	909.7	3.0
1971	130.8	441.5	308.7	881.0	2.8
1979	112.5	425.3	306.4	844.1	2.6
1987	95.1	398.5	301.7	795.2	2.7
1994	76.9 (54.0%)	381.8 (22.4%)	296.5 (4.3%)	755.2 (22.1%)	2.7
2001	75.6 (55.0%)	357.9 (27.3%)	270.6 (12.6%)	704.1 (27.4%)	2.8

Panchet Reservoir**(in '000 acft)**

Year of Survey	Dead (upto EL 435 ft)	Live (EL 435-480 ft)	Flood (EL 480-495 ft)	Overall (upto EL 495 ft)	Sedimentation Rate (acft/sq mile/yr)
1956 Original	191.5	204.5	885.7	1281.7	-
1962	149.7	184.4	883.4	1217.5	2.8
1964	140.7	182.4	880.3	1203.4	2.6
1966	140.0	178.0	877.9	1195.9	2.2
1974	124.1	168.2	871.7	1164	2.1
1985	101.4	157.4	872.7	1131.4	1.4
1996	96.6 (49.6%)	149.0 (27.2%)	855.5 (3.4%)	1101.0 (14.1%)	1.36