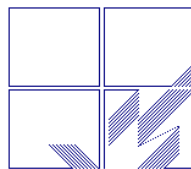


PROFILE

Watershed Management



JPS Associates (P) Ltd.
New Delhi



ABOUT JPS ASSOCIATES

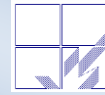
JPS Associates is a consulting firm specializing in management, development, agriculture & natural resources management, and engineering. The company was founded in 1987 and incorporated as private limited company in 1995. JPS has amassed a reputation for improving and enhancing performance excellence of some of the most reputed clients and has been working in development projects directly with and funded by international and bi-lateral development agencies like the World Bank, Asian Development Bank (ADB), United Nations Development Programme (UNDP), United Nations Environment Programme (UNEP), International Labour Organisation (ILO), Global Environment Facility (GEF), European Union (EU), United States Agency for International Development (USAID), Department for International Development (DFID), Japan Bank for International Cooperation (JBIC), Japan International Cooperation Agency (JICA), French Development Agency (Agence Française de Développement- AFD), Canadian International Development Agency (CIDA), Australian Agency for International Development (AusAID), Kreditanstalt für Wiederaufbau (KfW), Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH and Norwegian Agency for Development Cooperation (NORAD). Our government clients include national institutions, central government, state government, local government and parastatals such as public sector undertakings and public sector banks.

We are a team with diverse range of expertise and experience. The Head Office in New Delhi is the driving force behind the Company activities, centralising the management specialists and design staff and providing overall direction and supervision to the on-going projects. We also have an extensive network of retained experts, who add strength to our team in sharing commitment to deliver exceptional results for our clients.

We leverage our more than 30 years of experience, deep knowledge of processes, insights, and best practices internalised through implementing about 1000 projects. These are supported by strong IT/technology, reengineering, analytics and global delivery capabilities to deliver a comprehensive client solution. From strategy through implementation, our hands-on approach has achieved success in delivering quantifiable and value-driven results. Our partnership with our clients ensures a lasting effect which is ultimately their asset and knowledge. Our reputation for being leaders in specialised fields of central and local government has built us a solid clientele in our home base India, and a reach into the international arena.

JPS is an ISO 9001: 2015 certified company. We pursue our quality policy and all business units integrate the policy and further strengthened by quality surveillance and project monitoring team.





WATERSHED MANAGEMENT

FIELDS OF SPECIALIZATION

Management

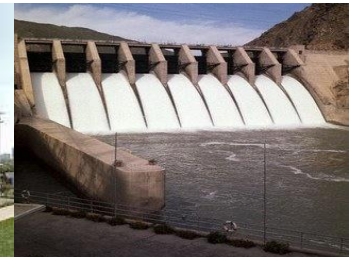
- Governance, Public Services and Policy
- Organisation Development & Institutional Strengthening
- Monitoring and Evaluation
- Information Management & E-Governance

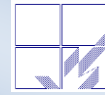
Development

- Social Development & Surveys
- Public Health
- Urban Development Planning
- Regional and Rural Development Planning
- Tourism
- Natural Resource Management
- Environmental Management
- Agriculture and Agri-Business

Engineering

- Water & Environment Engineering
- Transportation
- General Engineering

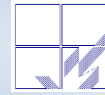




RANGE OF SERVICES:

JPS provides specialist sector specific services which are presented under each business units. The general services include the following:

- Policy
- Project Planning and Preparation
- Program Management Consultancy Services
- Master Planning & Conceptual Designs
- Field Surveys & Investigations
- Pre-Feasibilities and Feasibilities Studies
- Detailed Designs/ Detailed Project Reports
- Financial Management & Accounting Services
- Project/Program Monitoring & Evaluation
- Capacity Development and Institutional Strengthening
- Human Resources Planning
- Manpower Analysis
- Business Planning
- Information Management Services/ Management Information System (MIS)
- Environmental Impact Assessment And Management
- Socio-Economic Studies & Social Impact Assessment
- Community Development
- Resettlement & Rehabilitation
- Livelihoods and Sustainable Development
- Efficiency Improvement/ Cost Reduction Study/ Profitability Improvement Studies
- Tender Documentation
- Concession Agreements
- Bid Processing
- Procurement Assistance
- Owner's Engineers and Independent Engineers Services
- Project Management / Construction Supervision
- Third Party Quality Control/ Quality Assurance
- Impact Assessment Studies



WATERSHED MANAGEMENT SERVICES:

Services for;

- Improving the management of land and water, and their interactions and externalities.
- Resource leveraging and mobilization in the upland area with the objective of sustainable utilization of resources and improved livelihoods.
- Improving environmental services and reducing negative externalities for downstream areas.
- Addressing technical, institutional, and policy issues needed to ensure equitable sharing of benefits among stakeholders and sustainable watershed management
- Topographic, Soil & Socio-Agro-Economic Surveys
- Participatory Rural Appraisals (PRA) and Rapid Rural Appraisals (RRA)
- Hydrological Studies
- Preparation of DPRs
- Sustainable Development of Watersheds
- Participatory Planning, Implementation, Social and Environmental Management, Maintenance of Assets
- Wildlife Management and Habitat Improvement
- Remote Sensing Application on Land Use, Erosion Intensity and Preparation of Watershed Management Plans
- Capacity Building and Strengthening of the Watershed Community
- Decentralization of Project Management and Implementation
- GIS Based Planning and Monitoring
- Centralised Management Information System (MIS)
- Baseline Surveys, Mid-term Reviews and Impact Assessment
- Scientific Research and Training



Location: Himachal Pradesh

Client: Himachal Pradesh Power Corporation Ltd.

Funding Agency: Himachal Pradesh Power Corporation Ltd.

Period: November, 2015 - February, 2016

Associate Firm: Nil

RELEVANT EXPERIENCE

Formulation of Catchment Area Treatment Plan in Respect of Surgani - Sundla Hydro Electric Project (48MW) in Distt. Chamba, Himachal Pradesh

Brief Description of Project:

Surgani - Sundla HEP is proposed as a run of the river scheme on Suil River, which is a tributary of Ravi River and it is a downstream development of Baira Suil HEP and upstream development of Chamera-I. Tail waters of Baira-Suil HEP will be utilized for power generation in Surgani Sundla HEP. This 48 MW project in River Ravi Basin of H.P. is one of the projects which has been taken up by HPPCL for implementation.

Services Provided:

1. To formulate detailed Catchment Area Treatment Plan (CATP) for Surgani - Sundla HEP (48 MW) in consonance with guidelines notified by Govt. of Himachal Pradesh vide letter No. FFE-B-F-(2)-72/2004-Pt-II dated 30.09.2009 and which has to be in sync with Comprehensive CAT Plan prepared for entire Ravi River Basin in the year 2014 and approved by Himachal Pradesh Forest Department.
2. The CAT Plan of Surgani - Sundla HEP (48MW) is required to be formulated by following a systematic approach of collecting the base line data, current position of catchment area, causes of degradation and proposing suitable treatment measures to address the cause of degradation in the catchment area which is already collected and analysed in the Comprehensive CAT Plan Study of Ravi river basin.
3. The Catchment Area Treatment Plan depicting major treatment activities and their locations in different Micro Watershed (MWS) in free draining catchment area of SSHEP is to be prepared in the scale of 1:15000.
4. Initially the draft CAT Plan of Surgani-Sundla (HEP (48MW) is required to be submitted for checking of the same by HP Forest Department. The necessary corrections if required are envisaged to be incorporated in the draft CAT Plan by JPS.
5. The formulation of CAT Plan of Surgani - Sundla Hydro Electric Project (48 MW) is to be a sub-set of the comprehensive CAT Plan of Ravi river basin unless there are compelling reasons to deviate from the provisions of CCP or ground positions has appreciably changed to warrant departure from CCP prescription.

Location: Himachal Pradesh

Client: Principal Chief Conservator of Forests, Forest Department, Government of Himachal Pradesh

Funding Agency: Government of Himachal Pradesh

Period: August, 2010 – 2014

Associate Firm: Nil

Preparation of Comprehensive CAT Plan for the Ravi River Basin in Himachal Pradesh for Forest Department, Government of Himachal Pradesh

Brief Description of Project:

The Ministry of Environment & Forests has stipulated preparation and implementation of Catchment Area Treatment Plan in cases related to diversion of forest land for medium and major irrigation projects and for hydroelectric power projects under Forest Conservation Act, 1980. The Catchment Area Treatment Plan is an essential document as it portrays the ecological health of the catchment area and various soil & moisture conservation and watershed management programmes required to arrest soil erosion to improve free drainage in the area and to rejuvenate the degraded ecosystem in the catchment. With the demand for power on the increase, especially in the northern region, there has been considerable stepping up in the harnessing of the hydro power potential of Himachal Pradesh. The treatment of the catchment areas of the river is mandated to the H P Forest Department, which implements the approved



Catchment Area Treatment Plans (CAT Plans) funded by the individual Hydro-Electric Power Projects (HEPPs). The Government of Himachal Pradesh, however, has switched over from individual project based planning to a more holistic approach involving river basin based planning and management.

The broad objectives for comprehensive catchment area treatment for Ravi river basin are:

- Checking soil erosion and land degradation by taking up adequate and effective soil conservation measures, both engineering as well as biological, in erosion prone areas (mainly under very severe and severe erosion intensity categories);
- Rehabilitation of degraded forest areas through afforestation and facilitating the natural regeneration;
- Rehabilitation of degraded slopes and landslide prone areas;
- Improvement of land capability and moisture regime in the watersheds;
- Promotion of land use to match land capability of the sub-watersheds;
- Prevention of soil loss from the catchments to reduce siltation of reservoirs;
- Prevention of soil erosion from downstream areas so as to reduce the siltation of streams, path roads and agricultural fields;
- People's involvement in the treatment and management of catchment, including payment for eco-services to the local communities;
- Upgradation of the skills in planning and execution of land development;
- Improvement of pasture land by introducing improved palatable grasses;
- Plantation of wild fruits species and creation of water resources for wildlife management; and
- Capacity building of the personnel of HPFD in handling the dynamic process involved vis-a-vis technology transfer and knowledge sharing.

Services Provided:

The consultancy comprised of the following tasks:

- Preparation of baseline data for the Ravi river basin (from the source of the Ravi river upto upstream of Ranjit Sagar Dam and its catchment in HP) having approximately 5450 sq km catchment area with the primary objective of obtaining a realistic picture of the status of each micro-watershed in their catchments. For this, a holistic approach of using GIS based maps and satellite images as well as other land based information using primary and secondary sources was adopted. Moreover, GIS Base Maps were prepared on micro-watershed basis with in-built capacities for updating continuously, with enough storage for historical trend data for each parameter for the River basin. The baseline would serve as a tool for assessment of the current situation, inventorisations, future planning of works in the catchment areas and their subsequent monitoring as well as an important benchmark for environmental impact assessment in future. The micro-watershed shall be the basic spatial unit of data collection and shall allow for flexibility to convert into distinct beat, range, division and district level data.
- Undertaking a detailed environmental and socio-economic baseline comprising of the following activities:
 - Preparation of Base Maps using GIS;
 - Collection of baseline data from the Forest Department;
 - Collection of other secondary data;
 - Collection of primary data;
 - Finalisation of GIS Overlays
- Collecting primary and secondary data in respect of the following:
 - Geographical features such as boundaries of watersheds, slope (contours, elevation), drainage and major landslides;



- Hydrological, geo-hydrological and hydro-meteorological data, precipitation, run-off, water resources in the basin covering quality and quantity aspects of surface as well as ground water resources;
 - Land use and land classification;
 - Forests and vegetation (forest types; density; legal status including identification/demarcation of division, range and beat boundaries; pastures; plantations; area available for plantation; nallah treatment and other soil and water conservation works undertaken in the past five years; unculturable area; and protected areas);
 - Infrastructure (roads, highways, power projects, industries, trekking routes etc);
 - Towns, villages, settlements, demographic (human and livestock) and socio-economic data;
 - Soil and erosion intensity (gradation and/or prioritization of MWS into high, medium and low erosion intensity classes); and
 - All other features relevant to basin-wide planning.
-
- Analysis of the current situation based on the development trends in the State for categorization of micro-watersheds in the river basin on erosion intensity and their susceptibility to sediment loads and analyzing the micro-watershed level forest coverage and quality data and identify patterns that are responsible for higher sediment loads;
 - Organising stakeholders meetings for each sub-watershed to seek feedback on the reasons for such patterns of sediment loads as well as the potential and possible methods and activities to reduce the sediment load;
 - Identifying (i) in what type of context, what kind of treatment measures or combination of typical treatment measures will be required (ii) where treatment will give best results (benefit/cost ratio) (iii) the cost of these treatments in different physical contexts and (iv) the methods of monitoring and evaluation of success from each type of treatment in each physical context;
 - Based on an analysis of development trends in the State, identifying whether degradation of forest areas, erosion (such as from road construction) and sediment load will be increased, and which micro-watersheds in the river basis are more susceptible to such increased sediment loads;
 - Based on the above data, preparing an integrated Catchment Area Treatment Plan for the river basin, complete with micro-watershed treatment plans, implementation arrangements, cost estimates, monitoring and evaluation strategy etc;
 - All MWS specific action plans were prepared for a perspective period of 10 years (with a scenario of unconstrained resources) detailing a full menu of treatment actions required, based on the particular need (sediment load) of the micro-watershed;
 - For each MWS, estimating resources depending on the nature of work, site contexts, and for assured survival of plantation (with estimate of capital costs and maintenance costs separately);
 - Suggesting, in discussion with all relevant stakeholders, the implementation arrangements for the basin-wide CAT plan including detailed prioritization of the areas and treatments;
 - Preparing model contract documents (for Panchayats, public or private agencies) to be entered with the responsible government agency;
 - Describing a system of community supervision including how any breach of forest rules and regulations will be monitored and prevented;
 - Preparing a financing plan based on an estimate of the trend of plan expenditure of the State Forest Department in last 10 years and suggest the financing mechanisms to implement the basin-wide CAT plan;



- Preparing a model format for preparing an annual plan by every implementing agency together with the principles of evaluation their performances;
- Making provision in the GIS Base Map for a number of overlays on financial management system including (i) fund requirement (ii) annual plan and fund release (iii) residual fund requirement and cumulative requirement (iv) all expenditures (from all sources) including current and cumulative expenditure, indicating instances of failure to implement or release funds on time;
- Preparing an effective Monitoring Plan and Review and Evaluation Mechanism for implementing the basin-wide CAT plan that is linked to GIS Base Map for automatic updation for periodic monitoring, specifying the locations/streams to be monitored, the frequency, the methodology, and the responsibility for monitoring along with a detailed plan for community monitoring and an online community grievance reporting system and disclosure of Annual Plan to the public for each Forest Division or Panchayat; and
- Preparing a Plan for prevention of further degradation of catchments, covering disposal of construction and excavated waste or muck in hill slopes, minimizing muck disposal and protection of dumping sites to acceptable standards for each road agency or road project, including rural roads.

Location: Himachal Pradesh

Client: Principal Chief Conservator of Forests, Forest Department, Government of Himachal Pradesh

Funding Agency: Principal Chief Conservator of Forests, Forest Department, Government of Himachal Pradesh

Period: Jan., 2011 – March, 2011

Associate Firm: Nil

Recasting Work/Action Plans of On-going Catchment Area Treatment Plans for Ravi River Basin in Himachal Pradesh, Government of Himachal Pradesh

Brief Description of Project:

The Forest (Conservation) Act, 1980 stipulates that all Proposals for diversion of forest land for hydro-electric projects of 10 MW capacity or above shall invariably be accompanied by detailed Catchment Area Treatment Plans (CAT Plans). Accordingly, in Himachal Pradesh, many CAT Plans have been approved by the Government of India. Many CAT Plans, though compiled in the late 1990s and early 2000, could not be implemented in a timely manner, as the funds for these were deposited in the Ad-hoc CAMPA, which was not operational. The funds are gradually being released to the State since 2009, enabling the implementation of these CAT Plans. This time gap in the preparation of the CAT Plans and their actual implementation has rendered the documents outdated and impractical to execute. Even for CAT Plans approved at a later date, many changes have taken place during the last few years because of altered ground realities, review of technical/administrative decisions and new advances/ techniques in the field of soil and water conservation, necessitating the recasting of these CAT plans.

The HP Forest Department proposed to undertake recasting of the annual actions plans of the ongoing CAT Plans, based on ground realities, incorporating recent learning in silt management and in consonance with the stipulations on the subject of Catchment Area Treatment, in all the river basins of the State. Recasting of the current CAT Plans has become necessary as the time gap in the preparation of the CAT Plans and their actual implementation has rendered the documents outdated and impractical to execute. The recast Action Plans would prioritise the more cost-effective vegetative measures & bio-engineering methodology over civil structures and target-oriented plantation to encourage soil moisture retentivity, reduce soil erodibility and improved soil & water conservation measures. The objective was to start implementation of the recast Action Plans from April, 2011, by getting the APOs for the year 2011 – 12 approved, as per these recast Action Plans.

The consultancy only involves recasting of the balance unspent amount of the particular CAT Plan, after detailed reconnaissance of the catchment area, in order to maximize the impact of the treatment measures aimed at long term stabilization of the catchments. It does not involve complete re-writing of the CAT Plan document. JPS was expected to draw up year-wise, component specific work program for biological and engineering measures, complete with detailed planning of all sub-elements (nursery,



afforestation, enrichment and subsequent maintenance, bio-engineering measures, fencing options, especially live- hedges, water conservation/ moisture retention, reclamation of landslides/landslips, pasture improvement) along with specific methodology to be adopted, and also define clear-cut interventions while making provision for the mandatory stipulations like Payments for Environment Services (PES), Monitoring and Evaluation (M&E), Eco-tourism etc. as per GOHP notification dated 30.09.2009. Under the existing CAT Plans, many treatment measures which were prescribed have not had the desired impact and needed to be substituted with alternatives, emphasizing bio-engineering treatment over civil/masonry structures, moisture retention works and propagation of indigenous, multiple-use species that would incentivize local support for soil and water conservation endeavours. Each CAT Action Plan was to be recast for implementation over the next 10 years and the prescriptions so made to spread the treatment/ funds in a balanced way over all micro-watersheds.

Services Provided:

- Delineate the sub-watersheds/micro-watersheds falling in each CAT Plan. Also mark the drainage lines, villages, plantations (last 15 years), nurseries, fire-prone areas, roads, forest buildings, rest houses and treatments already done/ existing on the GIS map available;
- Realignment of Forest Beat boundaries with the nearest MWS boundaries;
- Field reconnaissance of all major works/ drainage lines mentioned in the existing CAT Plan:
 - a. If works already done & existing, the GPS coordinates/ photographs of the same to be mentioned as also the efficacy of works, scope for further improvement through bio-engineering techniques;
 - b. Prescription of new works and reconsidering addition/deletion of unexecuted works as per existing CAT Plan. These to be suitably spread spatially (MWS wise) and temporally (over the next 10 years). Greater emphasis to be on cost-effective bio-engineering methodology and less on civil/ stone structures (at least 50% of the soil conservation budget should be earmarked for bio-engineering and approximately 50% of this for raising bio-engineering species in nurseries in accordance with bio-engineering instructions issued by the HPFD;
- Emphasis on nursery management: A separate chapter on nurseries is to be prepared. This is to be based on visits to all nurseries in the catchments and suggestions for increasing area under nurseries and improvement of infrastructure – water storage, vermi-compositing etc. and future planning to be made; and
- As per the GoHP notification provision for the following should be made:
 - i. 10% of the balance remaining for PES: The recast Plan must clearly list out the works to be done sub-watershed wise against the provision. The PES input be concentrated in areas practicing agriculture/horticulture;
 - ii. 5% for Monitoring & Evaluation: The Plan to include a Monitoring Schedule (for Third Party Monitoring) for the period of the revised CAT Plan. The recast monitoring schedule to also prescribe on-going monitoring of silt, catchment wise along with the sites/agency responsible for this. The HEP concerned/BBMB, would be appropriate sources as they possess the requisite resources/data for the catchment and hence all silt monitoring sites are to be located near to these establishments. In case silt monitoring has to be done by Forest Department, the sites should be at such places where presence of H.P. Forest Department exists in the shape of Forests Guard Hut, Forests Rest House, Range Office or Nursery etc;



Location: Una,
Himachal Pradesh,
India

Client: Swan River
Integrated Watershed
Management Project,
Forest Department,
Government of
Himachal Pradesh

Funding Agency:
Japan International
Cooperation Agency
(JICA)

Period: Apr.2008–2016

Associate Firm: Nil

- iii. Training & Capacity build-up of forest staff/ locals with specific relevance to the recast CAT Plan provisions.

Management Consultancy for Swan River Integrated Watershed Management Project (SRIWMP) for Forest Department, Government of Himachal Pradesh

Brief Description of Project:

In India, damages to the agricultural production and human lives caused by soil erosion and floods are substantial enough to require adequate counter-measures for soil and water management in the affected areas. It is more important to protect small, but valuable cultivable land in the intermediate area between the mountainous regions and the flat plains. The captioned Project is envisaged as an integrated watershed management project containing such activities as afforestation, flood management, soil management and agricultural land protection in such low areas in India, with the experience envisaged to be expanded to other areas. Swan River Integrated Watershed Management Project is being implemented with financial assistance from Japan International Cooperation Agency over a project area of 61,900 hectares, covering 95 Gram Panchayats in Una district of Himachal Pradesh. The catchment area of Swan River in Una District is a typical low mountainous area and suffers from damages to agricultural fields/ lands caused by deforestation and consequential soil erosion and deteriorated flood damages, which are more serious than other districts. As such, Una district was selected as the target area for the model case to stabilize and develop the watershed area of Swan River catchment and to check the flood losses in Una District of Himachal Pradesh.

The Swan River Integrated Watershed Management Project envisages works like afforestation, soil conservation, institution building, livelihood improvement activities etc which would be carried out by involving community members and with active involvement of PRIs and other community based organizations such as Mahila Mandals, Yuvak Mandals, Self-Help Groups etc. The main objective of the Project is to work in an integrated manner, i.e. in collaboration with other departments such as Agriculture, Horticulture, Animal Husbandry & Irrigation and Public Health so as to achieve and stabilize and develop watershed area of Swan River catchments and to check the flood losses in Una district of Himachal Pradesh.

The objectives of the captioned consultancy services are to assist Project Implementation Unit (PIU) and other departments to implement the Swan River Integrated Watershed Management Project through (a) advisory services and (b) services by task concept mainly during the first half of the project period in close collaboration with the Forest Department and other line departments. The Project envisages interfacing with the Forest Department through the Office of Chief Conservator of Projects (Externally Aided Projects). JPS is accountable to the Project Director, the leader of PIU.

The broad scope of services are under the consultancy assignment are as follows:

- 1) **Advisory Services:** Preparation of operational and technical manuals, technical survey for selection of the target villages, assistance in review of planning, implementation, O&M of civil structures, synthesization of project experiences and lessons, and advice for overall project management; and
- 2) **Services by Task Concept:** Site selection, design, cost estimation and monitoring of major civil works for soil and river management.

Services Provided:

Advisory services for project management and implementation, including the following:



- a) Assisting in the formulation of operational and technical manuals related to the project;
- b) Assisting in technical (geographical, topographical, soil, land use, etc) surveys for selection for the target villages;
- c) Assisting in detailed plan for soil protection and land reclamation and civil works for soil and river management;
- d) Assisting in review of planning, implementation, O&M of civil structures;
- e) Assisting in bidding (LCB) in compliance with the guidelines of JBIC;
- f) Assisting in the supervision and evaluation of Project progress;
- g) Assisting in annual planning and budgeting;
- h) Assisting in the report preparation such as the progress reports;
- i) Assisting in the development of a financial system, including reporting of accomplishments from the line offices and flow of funds to the front line offices;
- j) Assisting in synthesization of project experiences and lessons replicable to other areas, and
- k) Assisting in liaison with JBIC regarding Project implementation

Services by Task

The consultants are envisaged to conduct site selection, detailed design, cost estimation and monitoring the following structures, which will be constructed by contractors;

- a) Silt detention dams (large scale check dams)
- b) Spurs and embankments
- c) Ground sills

JPS is envisaged to assist in the preparation of the following reports and documents:

- Inception Report including the organizational procedures/decision making procedure, time schedule, obligation of the client and consultant, etc;
- Report on priority area selection;
- Detailed plan for soil protection and land reclamation and civil works for soil and river management;
- Detailed design and tender documentation;
- Tender evaluation reports;
- Progress reports (monthly and quarterly);
- Necessary technical reports; and
- Other necessary reports and documents.

TA 4814-IND Project Processing and Capacity Development-Package 10: Preparing the North Eastern Integrated Flood and River Bank Erosion Management Project for Water Resources Department, Government of Arunachal Pradesh**Brief Description of Project:**

The Assam Integrated Flood and Riverbank Erosion Risk Management Investment Program (AIFRERMIP) was aimed to enhance the effectiveness and reliability of flood and riverbank erosion risk management (FRERM) systems in three existing flood embankment systems (or subprojects) protecting urban, suburban, and other strategic areas of Assam. The Program also aimed to strengthen the policy, planning, and institutional bases to support better FRERM operations. Comprehensive and adaptive structural and non-structural FRERM measures were provided in the three subproject

Location: Arunachal Pradesh, India

Client: Water Resources Department, Government of Arunachal Pradesh

Funding Agency: The Asian Development Bank

Period: Jan, 2008- June, 2008

Associate Firm: Kellong Brown & Root Pty Ltd



areas. The captioned technical assistance (TA) supported the preparation of the North Eastern Integrated Flood and Riverbank Erosion Management Project (NEIFREMP) for Arunachal Pradesh (AP), with four components:

- Sector review, strategy and action plan preparation for integrated flood and riverbank erosion management (FREM) at the state level
- Sample subproject selection and feasibility studies
- Institutional development and investment roadmap
- Investment packaging

Services Provided:

JPS supported the development of a comprehensive framework for FREM, adopting an integrated approach on the basis of river basins in AP, and incorporating regional perspectives. Investment programs were aimed at ensuring improvement in management systems from scheme identification to maintenance with beneficiary participation, with an emphasis on higher cost effectiveness, efficiency, transparency, and sustainability. This also was supported by appropriate non-structural programs along with strengthening of policy and institutional framework. Services provided included the following:

- Sector Review and Preparation of Strategy and Action Plan
- Sample Subproject Selection and Feasibility Studies
- Sample Subproject Selection and Exploration of Design Options
- Beneficiary Participation and Social Assessments.
- FREM Technical Assessment and Design
- Complementary Program Assessments
- Safeguards Assessments
- Feasibility Studies and Sub-Project Implementation Plan
- Institutional Development Roadmap and Investment Programs
- Integrated FREM and IWRM
- Sustainable Maintenance Funding
- Investment Programming and Roadmap
- Project Packaging
- Organisation of Workshops and Seminars

Location: Madhya Pradesh

Client: Chief Conservator of Forests and Project Director, UNDP-GEF Land Degradation Project, Forest Department, Government of Madhya Pradesh

Funding Agency: Forest Department, Government of Madhya Pradesh/UNDP

Period: July, 2007 - October, 2007

Associate Firm: Nil

UNDP-GEF Land Degradation Project: Integrated Land use Management to Combat Land Degradation and Deforestation in Madhya Pradesh-Participatory Meetings/Planning Workshops

Brief Description of Project:

The Global Environment Facility (GEF) financed US \$ 0.34 million for the project development facility phase of the project titled Integrated Land Use Management for Combating Land Degradation and Deforestation in Madhya Pradesh in the selected districts of Madhya Pradesh for addressing the issues of land degradation and desertification. The Project under preparation aimed at helping the GoMP in the implementation of its strategy for the forestry sector through its initiatives in the field of natural resource conservation and management, livelihood generation and sustainable socio-economic interventions through land use measures, forest development for landscape rehabilitation, introduction of sustainable alternative use of technology capabilities of various stakeholders involved in forest management and biodiversity conservation .

The objective of the consultancy assignment was to carry out participatory survey and conduct planning workshops for government officials, CBOs/NGOs at District level and



Communities at village level in order to promote sustainable land management through integration of watershed management, JFM and landscape approaches and promotion of sustainable technologies, such as the integration of bamboo regeneration, livestock breed improvement and control, and the promotion of alternatives sources of fuel-wood (i.e. biogas). Under this project 20 workshops / FGDs covering 5 Districts at community level, 2 workshops for government officials and 3 workshops for CBOs/NGOs representatives were conducted.

The outcome of the consultancy meetings/workshops was the preparation of thematic profile of the stakeholders/target groups, covering:

- Review and evaluation of existing strategies, action plans, government policies and thematic assessment reports;
- Investigation of past and present participatory meetings/planning workshops and development initiatives to understand the impact of activities like watershed management, natural resources management- especially for fire control, grazing and pasture land development, rehabilitation of degraded lands, livelihood measures etc; and
- Identification and prioritization of key site-specific needs of the project at the individual, institutional and systemic level.

Services Provided:

- Conduct of baseline survey covering 1,500 respondents across 4 districts;
- Conduct of 20 workshops/FGDs i.e. 5 in each district at the community level;
- Conduct of 2 workshops for government officials in each of the districts;
- Conduct of 3 workshops for CBO/NGO representatives in the selected districts;
- The preparation of thematic profiles for each target group, which includes:
 - Collating and reviewing relevant documentation including the text and subsequent modifications/decisions to the Project objectives;
 - Articulating a clear understanding of requirements under each Project objective as well as opportunities available to MPFD;
 - Reviewing and evaluating the relevant strategies, action plans, government policies and thematic assessment reports;
 - Investigating past and ongoing participatory meetings/planning workshops and development initiatives to understand the impacts of activities like watershed management, natural resource management (especially for fire control, grazing and pasture development, rehabilitation of degraded lands, livelihood measures, etc);
 - Profiling Project objective and needs-related roles and responsibilities of identified sites within the district;
 - Profiling a representative sample of each of the identified sites, which are considered to have potential to implement the Project needs;
 - Identifying and describing the key site-specific needs of the Project at the individual, institutional and systemic levels;
 - Recommending key site-specific needs and priorities on the basis of comprehensive criteria and indicators for their selection;
 - Identifying the constraints in addressing the prioritized site-specific needs within each thematic profile and at what level these occur;
 - Identifying and describing key constraints of the identified sites within the Project districts related to the target groups and recommend the minimum and/or optimum activity inputs and levels required for effective implementation of the Project obligations;



Location: Rajasthan

Client: Office of the
Superintending
Hydrogeologist, (S&R),
Ground Water
Department, Government
of Rajasthan

Funding Agency:
Government of Rajasthan

Period: 2005-2006

Associate Firm: Nil

- Identifying opportunities for site development to address the identified constraints for each Project objective;
- Analysis of project related needs, targeting the sites and which include areas such as natural resources management, entrepreneurship skills & livelihood skills.

Ground Water Management in Pilot Project Areas of Rajasthan under Rajasthan Water Sector Restructuring Project (RWSRP) for Ground Water Department, Government of Rajasthan

Brief Description of Project:

The main development objectives of the Rajasthan Water Sector Restructuring project (RWSRP) were to: a) strengthen the capacity for strategic planning and sustainable development and management of surface and groundwater resources in Rajasthan; and b) increase the productivity of irrigated agriculture. The captioned assignment involved social assessment to identify the social issues associated with the proposed approach of community based ground water management, understand its ramifications and problems, develop a strategy to involve local communities in the overall planning, implementing (including operation and maintenance of structures and systems developed) and monitoring the pilot activity under the groundwater component of the project, provide an integrated and participatory framework for gathering, analyzing, prioritizing and incorporating socio-economic information in developing, implementing and monitoring the pilot activity of the ground water component of RWSRP.

Services Provided:

- Developing a framework for promoting and strengthening community-based approaches to groundwater management involving all the stakeholders with an emphasis on the participation of vulnerable groups (e.g. women, landless, tribals) to have a greater voice in decision-making, through focus group discussions.
- Identifying different groups of stakeholders (including the beneficiaries, those who can influence the project outcome like NGOs and CBOs, project promoters and implementers, affected persons etc.), their concerns, roles and responsibilities in planning, implementing and monitoring the pilot projects.
- Developing strategies to mobilize communities to form ground water user groups at different levels (Village/Gram Panchayat (GP)/pilot area) and examine and suggest institutional arrangement for the implementation of the pilot projects to ensure the representativeness, effectiveness, and sustainability of ground water institutions.
- Address issues of gender and other vulnerable groups.
- Focus on the agricultural situation in the project area and its relationship with the ground water.
- Budget the ground water usage by assessing the use of ground water by various stakeholders and by purposes - agriculture, drinking, industrial activities, construction, etc. and identify problems faced and areas of minimizing ground water requirements and possible reallocation of water.
- Assess the hydrological situation in terms of both surface and ground water resources. The assessment of ground water resources included a census of wells in each of the pilot areas, types of wells (manual, mechanical and electrical), density of wells, water level by seasons, and usage of well water by purpose (drinking, agriculture, industries, etc.) and problems faced by the owners/users.
- Identify the type and extent of adverse impact on people occupying/using lands required for physical works under the Project, irrespective of the ownership of land required.
- Ensure participation of tribal communities in the project.
- Analysing the possible legal framework for regulating and managing ground



water, institutional strengthening, capacity building on community based ground water management and outlining key enabling policy reforms that would be required in the short, medium and long-term.

- Outlining institutional arrangements and capacity building required to successfully implement the ground water pilot projects, taking into account the operations of other community based groups (like watershed development committees) and develop adequate linkages between ground water committees and other users groups/Panchayat Raj institutions.
- Integration of awareness building to regulate ground water usage, social conflict resolution mechanisms, participatory decision-making as well as community training in a number of skills including participatory monitoring and evaluation, book keeping, financial management, etc. in IEC strategy, training strategy and programme proposed for groundwater component.
- Provide a framework including parameters/indicators and institutional arrangement for monitoring the implementation of pilot projects.

Location: All over the Country

Client: Integrated Watershed Development Project Office, Government of Himachal Pradesh.

Funding Agency: Integrated Watershed Development Project Office, Government of Himachal Pradesh

Period: 2001-2003

Association Firm: Nil

Integrated Watershed Development Project Hills II (Financial Management Technical Support Consultancy) for IWDP Office, Government of Himachal Pradesh

Brief Description of Project:

The objectives of the assignment were:

- To improve the productive potential of the Shiwaliks and the Karewas by evolving watershed treatment technologies and community participation approaches. Watershed protection and development includes watershed treatment; fodder and livestock development and rural infrastructure development; and
- To assist the states with institutional development and consolidate progress already made in harmonizing approaches to watershed development management among various programmes operating in the Shiwalik hills. Institutional strengthening includes policy reforms, studies on human resource development; beneficiary capacity building; income generating activities for women; information management; monitoring and evaluation; and support for strengthening project management

Services Provided:

- To ensure that all financial management aspects (including necessary financial and accounting aspects) of the project in the state are satisfactorily handled.
- Provide required technical support to project financial staff, including hands-on operational support, and be responsible to ensure that the service standards for financial management activities indicated in the Project Financial Management Manual are met.
- To provide training to project financial staff and enhance skills of project financial staff in improved financial management practices and develop their skills for operating the improved computerised project financial management system.
- Developing financial management capabilities of Village Development Communities (VDCs) by way of assisting the project staff in overseeing the financial management aspects of the VDCs to ensure that the VDCs develop the financial management skills required for their institutional development.



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