

UP Sodic Lands Reclamation II Project (UPSLR II P) – An Overview

At the time of initiation of UPSLR II P, Uttar Pradesh (UP) had nearly 1.7 crore ha. area under cultivation and accounted for 10% of India's net sown area and 25 % of the total irrigated area. It produced nearly 20 % of India's foodgrains. A major concern in the state was the declining productivity of foodgrains, especially of rice and wheat. This was mainly due to water-induced land degradation (salinization, sodification, groundwater depletion) and loss of soil fertility with the sustained removal of nutrients associated with more intensive cropping and the inappropriate use of heavily subsidized nitrogenous fertilizers. Average annual rate of growth of crop yields between the periods 1980-90 and 1990-95 declined, for wheat from 2.4% to 1.6% and for rice from 5.2% to 1.0% respectively.

UPBSN was at the juncture of reclaiming about 1.0 lakh ha sodic land in 17 districts with the help of World Bank and EU in 1998-99. There was still about 12 lakhs ha. sodic land remaining in the State. Buoyed with success of earlier projects UPBSN initiated the 2nd phase of Project with the WB funding to reclaim 1.5 lakh ha sodic lands initially in 10 districts, which later on extended to 18 districts..

Project development objective:

The main development objective of the project was to reverse the process of sodicity through sustainable reclamation of sodic lands and prevention of further increase in sodicity in selected districts of the State. The fulfillment of this objective contributed significantly to poverty alleviation in these areas.

Main components of the project were: (1) On-farm development and land reclamation; (2) Rehabilitation and Maintenance of Main Drains; (3) Technology Dissemination; (4) Upgrading farm to market roads; (5) HRD and institutional capacity building of support services; (6) Adaptive Research; and (7) Project Management.

Project Profile

Project Name	Uttar Pradesh Sodic Lands Reclamation II Project
Credit No.	Cr 3152-IN
Funding Agency	IDA
Duration	April 1999 to September 2007
Date of Project Agreement	November 3, 1998
Expected Date of Effectiveness	April 1, 1999
Original Project Completion Date	September 30, 2005
Revised Project Completion Date	September 30, 2007
Project Closing Date	September 30, 2007
Location	18 districts - Aligarh, Hathras, Azamgarh, Allahabad, Bulandshahar, Etah, Etawah, Auraiya, Fatehpur, Hardoi, Jaunpur, Kanpur Nagar, Kanpur Dehat, Mainpuri, Pratapgarh, Raebareli, Sultanpur & Unnao
Total Villages	3591
Beneficiary Profile	
• <i>Schedule Caste/Sch. Tribe</i>	111564 (30.3%)
• <i>Backward Caste</i>	172167 (46.8%)
• <i>Marginal Farmers</i>	209318 (57%)
• <i>Small Farmers</i>	133916 (36.4%)
• <i>Large Farmers</i>	24387 (6.6%)
<i>Total</i>	367621

Key performance indicator:

The key performance indicators to monitor this objective as envisaged in PAD were:

- a. Increased crop yields (paddy 3.5 tons/ha; wheat 2.7 tons/ha) and increase in cropping intensity in reclaimed areas (up to 200%);
- b. Increased market value of land (4 times);
- c. Increased household income (up to Rs 12,000) of small and marginal farmers who (would) constitute about 75% of the beneficiaries;
- d. Establishment of improved drainage network in the ten (original) districts (which will also improve agricultural production in adjacent non-sodic areas);
- e. Upgrading 700 km farm to market roads; and
- f. Increased community participation.

Physical Achievements

Technical Components	PAD Targets	MTR Targets	Revised Targets	Achievements
OFD & Land Reclamation	1,50,000 ha.	150,000 ha.	180,000 ha.	1,89,715 ha
Main Drain Rehabilitation	EW 5737 km PW 5492	7000 km PW 2499	7000 km PW 3150	7,620 km PW 3060
Technology Dissemination	Institutions at State, district Block & Village	Institutions at State, district Block & Village	Institutions at State, district Block & Village	IWG at State, DICC & ATMA at District, FFS at Block & SIC at Village level
Farm-to-market Road	700 km	720 km.	1121 km (933 + 188 km under maintenance pilot)	1112 km (925 + 187 under maintenance pilot)
Human Resources Development & Institutional Capacity Building	55,000 farmers 500 staff 1252 Panchayat Bhawans	55,000 farmers 500 staff 1252 Panchayat Bhawans 810 additional modules	55,000 farmers 500 staff 1272 Panchayat Bhawans 810 additional modules	2,81,951 farmers 24761 Staff 1271 Panchayat Bhawans 810 additional modules
Adaptive Research	22 Researches	21 Researches	30 Researches	30 Researches

Other Achievements

- 67% C class (barren sodic) lands brought under double crop for the first time against the PAD target of 50% and MTR target of 65%;
- Joint allotment to couple & possession of 6731 ha sodic lands to 16926 landless families;
- Possession of old allotment of 51929 ha sodic lands to 109716 families;
- Standardization of Pressmud (a low cost alternative amendment of gypsum) done & Pressmud was used in 8637 ha sodic lands against the PAD target of 2500 ha;
- 30 Project specific short term competitive Agriculture Research Programme (CARP) researches conducted under the project;
- 7566 kms of Sodic II and 6393 kms of Sodic I rehabilitated drains maintained;

- 3591 SICs formed and 2471 amalgamated with Water Management Committee (WMC) of Gram Panchayat, providing constitutional status to them;
- 48167 WUGs formed, 97% (external M&E reports) continue sharing irrigation water;
- 31766 new borings developed creating 1.27 lakh ha of additional irrigation potential;
- 238 FFS (Farmer Field Schools) formed covering 2823 villages of 152 blocks;
- 21 % women representation in the FFS Management Committee;
- 3620 Mahila Mitra Kisans (MMKs) facilitated women participation in SICs and dissemination of agricultural technologies;
- Diversification in 16 % area in the successive years of reclamation in crops viz. pulses, oilseeds, spices, sugarcane, vegetables etc.
- Use of Green Manure and FYM in 48915 ha and 41048 ha respectively.
- Adoption of organic manures & bio- fertilizer
 - NADEP Compost in 1350 ha. by 1900 farmers;
 - Vermi-compost in 950 ha by 2225 farmers;
 - Azotobactor in 2136 ha by 6186 farmers;
 - Rhizobium in 1670 ha by 3394 farmers; and
 - Phosphatica in 2264 ha by 4086 farmers.
- Horticultural plantations of ber, guava and aonla in 7463 ha;
- 7193 WSHGs formed with a cumulative saving of Rs 857.7 lakhs;
- 6743 WSHGs linked with Banks & loan of Rs 1770.84 lakhs disbursed;
- 165 clusters, networking 1716 SHGs were developed to support weak groups in auditing, record-keeping, conflict resolution & initiation of marketable MEDs;
- 262 SHG members promoted as Shakti Dealers under Hindustan Lever Ltd.;
- 3213 MSHGs formed with a cumulative saving of Rs 443.95 lakhs;
- 2898 WSHGs linked with Banks & loan of Rs 896.60 lakhs disbursed;
- 19 HOFED committees formed for the development of horticulture;
- 360 Sodic Haats (rural market hub), of which 46 sodic haats equipped with infrastructural facilities;
- 206 project villages linked with mandi samitis;
- 1197 Zero Energy Cool Chambers constructed to enhance shelf life of perishable products;
- 125 milk routes developed linking 338 villages resulted in creation of alternate employment opportunities with daily turnover of 31754 ltrs of milk;
- 370 members trained in grading and packaging of which 80 initiated new enterprises and 70 scaled up their existing activities;
- 7 AGMARK licenses obtained.
- Project contributed significantly in uplifting about 24% poor beneficiaries above the poverty line
- Paddy productivity increased from 6.56 qtl / ha to 32.23 qtl / ha
- Wheat productivity increased from 2.32 to 26.91 qtl / ha.
- Cropping intensity increased from 43% to 202% with about 86% of the farmers experiencing increase in cropping intensity.
- The increase in productivity and cropping intensity resulted in producing about 1062,000 MT additional food grain per year.
- Almost 100% farmers are using improved seeds and nearly 70% are using FYM.
- Annual household income of marginal farmers has increased from Rs.17507 to Rs.24549 & that of small farmers from Rs. 22841 to Rs. 34738 p.a.

- Employment-generation increased by 155 man-days / household / year and wages increased by about 25%.
- Migration reduced by 53 days per year in case of male farmers and 33 days per year for females.
- IRS – IC satellite data found that *93% plots under crop cover in all the sodic classes*
- Floral diversity increased from 12 to 81 species and faunal diversity improved from 52 to 250 species including Insects, Arthropods, Molluscs, Mammals, Aves, Amphibians and Reptiles.
- Micro level biomass also increased from 52 mg/gram to 418mg/gram in the reclaimed area.
- It was found that there was an improvement in soil quality in the surface horizon (0-15 cm) with significant reduction in pH and EC values in all the districts.