

Summary of Impact Assessment Report

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Pemgiri Cluster, Ahilyanagar, Maharashtra

Crompton Consumer Electricals Limited (CGCEL) aligns its Corporate Social Responsibility (CSR) initiative with the principle that long-term business sustainability is intrinsically linked to the development of the communities and environment it serves. The company's CSR framework prioritises Water Conservation, Skill & Entrepreneurship Development, and Community Care. Within the Water Conservation focus area, CGCEL partnered with Vanarai, a well-established NGO, to implement a targeted project. The project's outcomes were evaluated through a third-party Impact Assessment conducted by SoulAce Consulting.

Project Title: Soil and Water Conservation Programme

Location: Pemgiri and Pimpalgaon Matha, Sangamner Block, Ahilyanagar District, Maharashtra

Implementation Partner: Vanarai

Project Timeline: FY 2023-2024

Assessment Year: FY 2025-2026

Beneficiaries: 1,000 beneficiaries

Sample Size: 250 households

Project Objectives:

1. Increasing community participation in sustainable watershed development and further management.
2. Preventing soil erosion, increasing soil moisture, raising groundwater levels, and conserving the biomass cover of the area.
3. Expanding assured irrigation coverage and cultivable areas through reliable water access.
4. Raising agricultural productivity and farm incomes through improved Kharif/Rabi yields and orchard-based livelihoods.
5. Ensuring year-round drinking water security for households and livestock and reducing tanker reliance.

Project Rationale:

1. Sangamner, Ahilyanagar, faces acute post-monsoon water scarcity due to its geographical location, with limited and erratic rainfall patterns. Water resources are depleted, leading to severe water scarcity in the region.
2. Sangamner is predominantly an agricultural area, and the agricultural sector relies heavily on water for irrigation. Lack of water availability severely impacts crop production and yield, leading to financial losses for farmers and the local economy.
3. Climate change is causing changes in rainfall patterns, making it more unpredictable and erratic. Effective conservation and management of water resources is essential to adapt to these changes.
4. By implementing water conservation measures, improved availability of water resources creates opportunities for more sustainable economic development and reduced distress migration.

Key Interventions:

Intervention	Quantity
Cement Nala Bund (Repair/Strengthening)	4 Nos
Farm Ponds (Construction)	40 Nos
Slurry Tanks	100 Nos

Key Findings of the Assessment:

1. Change in Surface Water Storage and Groundwater Recharge:

Parameter	Cement Nala Bund (CNB)	Farm Ponds (FP)
Location	Pemgiri & Pimpalgaon	
Intervention Type	CNB	FP
Total Area of Watershed (km ²)	17.46	14.97
Soil Group	D	D
Volume of Storage Created (m ³)	17,369	56,174
Total rainfall over the intervention area (m ³)	1,99,43,427.09	1,70,99,660.44
Q-Total runoff over the intervention area (m ³)	59,83,028.13	51,29,898.13
Avg. % fullness throughout intervention period	59.78	36.58
Runoff volume stored in interventions	Pre-evaporation Loss (m ³)	10,383.35
	Post-evaporation Loss (m ³)	6,230.01
% of runoff stored by interventions	Pre-evaporation Loss (m ³)	0.17
	Post-evaporation Loss (m ³)	0.10
% of rainfall stored by interventions	Pre-evaporation Loss (m ³)	0.05
	Post-evaporation Loss (m ³)	0.03
Surface water contribution to GW recharge (40%) (m ³)	2,492	NA
Recharge due to interventions (as % of total rainfall)	0.01	NA
Recharge due to rainfall - Total period (m ³)	8,97,564.53	NA
Recharge due to rainfall - Total period (%)	4.50	NA
Recharge due to rainfall - 7-yr avg (m ³)	15,86,961.04	NA
Recharge due to rainfall - 7-yr avg (%)	5.39	NA
Total runoff capacity (Multiples of intervention volume)	344.47	91.14

- o The average groundwater level in wells increased by 8.6 feet in the summer and 8.5 feet in the rainy season.
- o Post-intervention, 40.4% of farmers reported water levels above 30 feet in summer (compared to 1.8% before), and 60.9% in the rainy season (compared to 41.3% before).

2. Change in Cropping Intensity and Agricultural Production:

- o Single-crop farmers decreased from 78.2% to 1.3%; two-crop farmers increased from 15.6% to 55.1%; three-crop farmers rose from 4.9% to 16.9%; year-round cultivation increased from 1.3% to 25.8%.
- o Cultivable land expanded for 79.7% of respondents, with 42.7% reporting an increase of 0.25-0.50 hectares.
- o For Kharif crops, 45.3% reported a 10-14% yield increase, and 35.6% reported a 15-19% increase. Similar improvements were noted for Rabi crops, with 42.7% reporting a 10-14% increase.

- o Farmers reporting 'no assured irrigation' dropped from 36.0% to 22.2%, while 60.0% of farmers added 5-15% more land under assured irrigation.

3. Change in Agricultural Income and Livelihood Diversification:

- o 39.1% of farmers reported a 10-15% increase, 30.2% reported a 15-20% increase, and 15.6% reported a 20-25% increase in annual agricultural income.
- o 84.9% of respondents adopted fruit-bearing trees. Orchard's income rose with 39.1% reporting 5-10% gains, 37.3% reporting 10-20% gains, 13% reporting 20-30% gains.
- o 93.8% reported cultivating vegetables post-intervention. Annual income from vegetable farming increased with 29.6% reporting 10-20% gains reported.
- o 65.1% used desilted material on fields. Fertilizers use declined, with 27.8% reporting large reductions and 63.9% reporting moderate reductions in chemical fertilizer consumption.

4. Change in Drinking Water Security and Household Water Access:

- o 74.2% of households are no longer dependent on water tankers (compared to 97.3% pre-intervention dependency).
- o 73.3% reported only 1 month of scarcity, 20.9% reported 2 months, compared to 62.7% facing 3 months or more before intervention.
- o Annual household expenditure on water from tankers decreased from ₹3,000-₹50,000 to either zero or minimal cost (₹1,000-₹2,000).

5. Change in Livestock Water Security and Allied Agricultural Activities:

- o 97.3% of respondents reported sufficient water availability for cattle post-project, up from only 15.1% pre-intervention.
- o Improved fodder availability due to water conservation led to expansion in livestock rearing and a reduction in fodder expenses.
- o Enhanced irrigation and fodder security supported better livestock health and contributed to rural livelihood stability, with reduced distress migration as farm incomes stabilized.

OECD-DAC Framework Assessment:

Relevance (5/5): Project directly addressed core problems through watershed restoration, assured irrigation, and WADI-based livelihoods, matching community priorities and agro-ecological realities.

Coherence (5/5): Strong alignment with SDG 2 (Zero Hunger), SDG 3 (Good Health), SDG 5 (Gender Equality), SDG 6 (Clean Water), SDG 8 (Decent Work), SDG 12 (Responsible Production), SDG 13 (Climate Action), and SDG 15 (Life on Land).

Effectiveness (4.5/5): Outputs translated into measurable outcomes exceeding intended results. 24x7 drinking water, higher groundwater levels, expanded Rabi cultivation, and reduced tanker dependence.

Efficiency (4.5/5): Community co-contribution (₹20,000 per farmer), transparent asset allocation through a lottery system, and routine *gram sabha* coordination minimised transaction costs and accelerated delivery.

Impact (4.5/5): Households report increased cropping intensity, steadier farm incomes, improved drought resilience; social capital rose through inclusive governance, with women and youth gaining agency and confidence.

Sustainability (4.5/5): Prospects are strong given local ownership through cash co-contribution, active user groups/SHGs, and village norms for water use. Durability hinges on ring-fenced O&M funds, periodic refresher trainings, and convergence with government schemes.

Key Recommendations:

- A village water committee (*Pani Panchayat*) with SHG women as full members can be constituted, under which simple water-sharing rules are drafted, and a separate ring-fenced bank fund is maintained solely for the repair and maintenance of water assets.
- Pre and post-monsoon maintenance calendars and Structure Health Cards can be implemented. Priority de-siltation and outlet repairs can be completed before monsoon; vulnerable points protected with energy dissipation measures.
- Expansion of farm ponds and recharge features can be done using hydrological prioritization and O&M readiness criteria. MGNREGS/IWMP convergence can be utilized for scaling and establishing an emergency repair facility.
- FPO/producer groups can be strengthened to enable grading, aggregation, and collective sales for vegetables and orchard produce, reducing post-harvest losses and value leakage.
- Quarterly technical clinics for leak detection, outlet calibration, orchard care (IPM/INM), and on-farm water budgeting can be conducted. Training of youth para-technicians can be done to sustain community-level technical support.
- Drip scheduling, mulching, and water budgeting practices can be standardized. Mainstream soil health practices, including compost, green manure, and microbial inputs, should be further used to reduce chemical fertilizer dependency.
- Documentation of the implementation playbook (designs, costs, schedules, vendor lists) can be done so that nearby villages can replicate and adapt quickly. Plans for early exit can be made by strengthening *Pani Panchayats* with written O&M compacts and a handover checklist six months before project closes.

End Note