

**PROJECT PROPOSAL
ON**

**Ensuring access to safe drinking water for Iron/Fluoride Contaminated Villages of
Daspalla Block, Nayagarh District, Odisha**

**Submitted to –
CLEAN WATER HELP**

Submitted by



JEEVAN REKHA PARISHAD

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Bhubaneswar Odisha

Project Proposal

Header	Description
Name of the organisation	Jeevanrekha Parishad-JRP
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Registration No	1-Society Reg Act -1860 2-12 A Income Tax 3-80G Income Tax Act 4-FCRA 5-NGO Darpan 1-12260/17/93-94 2-AAATJ4933FE20214 3-AAATJ4933FE20212 4- 105020202 5-OR?2017/0168917
Registered Address	Plot no 387, Damana Square, C.S.Pur, Bhubaneswar, Odisha-751016
Office Address	Do
Organisational Background	
Headquarters	Bhubaneswar-Odisha
Founding date	April 7, 1993
Founder	Ms. Madhusmita Mishra and Prof (Ms) Bedabati Mohanty
About the organisation (brief history, vision mission, key programs run, strengths of the organisation, any other relevant information)	Full name: Jeevan Rekha Parishad (JRP) also known as Lifeline Council. Location: Odisha, India. Works especially in five districts: Khordha, Puri, Bhadrak, Cuttack, Nayagarh. Year of establishment: 1993. Founders: Started by a group of 11 women social activists after completing their university studies.

Vision & Mission

Vision: A self-reliant society based on justice, equity and sustainability where every human being has the equal opportunity to maximize his/her potential.

Mission: To bring rural and tribal communities together, to educate them on environmental justice, human rights, sustainable development through community participation, advocacy, and action research.

Thematic Areas / Key Programmes

JRP runs a variety of programmes across multiple domains. Major ones include:

Health & WASH (Water, Sanitation, Hygiene) - Ensuring clean drinking water, sanitation facilities in rural, tribal, island & slum areas. JRP in collaboration with CareToday TV Fund, Jeevika Trust-UK and RWSS, Government of Odisha has constructed 500 Bio Toilets and 3000 Household Toilets and 32 School Toilets in different parts of Odisha Also under Water and Livelihood (WELL) project has connected pipe led gravity based stream water to 100 tribal families residing on hill tops. Under Water Advocacy project empowering 25 tribal villages in Daspalla for demanding water Rights and water justice from Government..

Education & Child Rights - Primary and vocational education; awareness of child rights; working especially with vulnerable children in tribal / slum contexts. Running a Residential Tribal Girls High School in Bhubaneswar for 450 girls and Two Slum Schools for 100 Ragpickers.

Livelihoods & Women's Empowerment-Income generation programmes, self-help groups, entrepreneurship for women and youth. For an example 550 tribal women have been provided Honey Bee Boxes, Beekeeping Training and they are engaged as Bee Entrepreneurs with good income.

Environment & Biodiversity - Natural resource management; conservation; climate justice; protecting wetlands & lagoons (e.g. Chilika); working on forest/ ecosystem conservation. Running Community managed Sustainable Eco Tourism Centre in

	Berhampur Island Village employing 20 Fisherwomen. Human Rights & Good Governance -Advocacy, awareness, networking in human rights; peace education; engagement with government / other civic institutions. Disaster Management & Health Nutrition – Relief and Rehabilitation Interventions during emergencies like cyclone, flood; nutrition programmes; work on industrial worker health (e.g. silicosis, TB, Chemical safety) etc. Strengths & Unique Features 1. Grassroots engagement & local focus: JRP works directly with rural, tribal, slum communities, involving them in planning, implementation, and decision-making. 2. Multi-thematic approach: Instead of focusing only on one domain (say health or education), JRP works across environment, livelihoods, rights, WASH etc. This helps in addressing interlinked challenges. 3.Partnerships and networking- It collaborates with national/international bodies, like MasterPeace Global, Earth Guardians , European Commission programmes, etc.. 4. Experience and credibility: Having been established since 1993, it has long experience in this field. Also has a strategic plan (2022-27) which implies structured planning. JRP has been awarded as special consultative status with the Economic and Social Council UN. 5. Focus on marginalized sections: Tribal communities, women, children, slum dwellers are central in their work. Challenges & Areas for Growth While not all challenges are explicitly documented, some likely ones based on the kind of work they do: Resource limitations: Like many NGOs, funding continuity, human resources, scaling up of programmes are likely constraints. Geographical remoteness: Working in remote tribal and island villages raises logistical, infrastructure, and access challenges.
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	Sustainability: Ensuring long-term sustainable change, beyond project cycles, is always a key issue. Policy and governance barriers: Advocacy works can be slow; implementing policies at local level may need more support or facing bureaucratic hurdles.		
Previous Experience in safe drinking water (Past 10 Years)	Project	Year	Donor
	WELL-Water Environment and Livelihood – Protection of Ratgandha Stream water in Daspalla for use for Drinking water, sanitation and cultivation among 100 tribal families .	2022	Jeevika Trust-UK
	Community Led Sanitation Programmes – Construction of 500 bio toilets in 500 households in Daspalla, Chilika and Banki, Cuttack	2019- 23	CareToday Fund
	Toilet Construction under Swacha Bharat Abhijan in Daspalla, Chandaka ,Banki	2018- 21	RWSS, Government of Odisha
	Water Handpumps Installation in 25 villages in Chilika, Krushna Prasad Area	2017-18	SIMAVI, The Netherlands

	Project MOUSHAMI- Rain water Harvesting in 10 Schools with Safe Drinking water and Sanitation Facilities	2018	Jeevika Trust and Waterloo Foundation, UK
	Water Advocacy Project in Daspalla Block	2024- 26	Jeevika Trust and Waterloo Foundation
Locations present across	JRP works in 5 districts of Odisha covering Khurda, Puri, Keonjhar,Nayagarh,Bhadrakh covering 150 villages .		
Project Proposal			
Name of the project	Improving access to safe drinking water through installation of two Iron Removal Plants in Daspalla, Nayagarh District of Odisha		
Location of the project	The project will be for a period of 6 months with target to install two filtration units, in the vulnerable heavily Iron and fluoride affected communities in NayagarhDistrict of Odisha. Two villages namely Gurha,Falpaju, of Dasapalla block will be part of the project. Under the expansion of the project other two Iron and fluoride water affected villages like Bhagamunda and Gunduribadi will be covered..		
Need of the Project (Write in 500 words with reference to primary and secondary data available.)	Researchers have found that high concentration of Iron in ground water has been observed in more than 1.1 lakh habitations in the country. Ground water contaminated by iron has been reported from Assam, WestBengal, Orissa, Chhattisgarh, and Karnataka. Localized pockets are observed in states of Bihar, UP, Punjab, Rajasthan, Maharashtra, Madhya Pradesh, Jharkhand, Tamil Nadu ,Kerala and North Eastern States.		

	Odisha, which depends extensively on groundwater sources for rural drinking water supply, has been seriously bugged with the water quality' problem. In the year 2024-25,1104 villages reported Iron contaminationhttps://ejalshakti.gov.in/WQMIS/Report/Contaminant-wise The numbers in the proposal of contamination is conservative as it is not comprehensive and is based on samples tasted and verified in government laboratories. In the proposed project, Dasapalla block of Nayagarh is selected considering their vulnerability and high contamination of drinking water sources. Both proposed villages of Dasapalla block have been already identified as water quality hit villages during our initial survey. These villages are laying within the operational area of Jeevan Rekha Parishad. Collecting tube well water and keeping for sedimentation for 20 minutes gives a result of changing of water colour. It turns a colour same as petrol. There is no option to access for safe drinking water. Like food, water is essential need to survive but contaminated water invites internal diseases for the dwellers around the communities. There is an acute need for accessing safe drinking water for the vulnerable communities.
Goal and Objectives of the Project	Overall goal- Ensure sustainable access to safe, iron-safe drinking water for all households in targeted iron-affected/ Fluoride affected villages of Nayagarh District, improving health and livelihoods. Objectives and Indicators- 1. Assessment & mapping (0–1 month) Conduct a village-level survey and hydrochemical testing to identify and map iron and Fluoride contamination hotspots in all target villages, establishing a baseline for water quality and access. Indicator: 100% of target villages surveyed; water sample results documented in a geo-referenced database.

	2. Provide safe drinking water to households (3–4 months) Deploy appropriate household and community water treatment solutions (e.g., community RO/iron-removal filters, household aeration+filtration units, bone char carbon before the terafil filter to reduce fluoride contamination or safe piped systems) so that at least 90% of households in targeted villages have access to potable water meeting BIS/WHO iron standards within 18 months. Indicator: % of households receiving treated water; % of samples meeting iron limits (<0.3 mg/L BIS/WHO). 3. Establish sustainable operations & maintenance (O&M) (by month 04–05) Form and train local Water User Committees (WUCs) and appoint O&M technicians so that community systems operate reliably with a documented O&M plan, cost-recovery mechanism, and local responsibility. Indicator: WUCs formed in 100% of villages; at least one trained technician per cluster; operational uptime ≥ 90%. 4. Improve community awareness and behaviour (ongoing months 1–2) Deliver IEC and behaviour-change activities (hygiene, safe storage, water testing literacy) to reach ≥ 95% of households, increasing household adoption of safe-water practices. Indicator: % households demonstrating correct safe-water storage and treatment practices in follow-up surveys. 5. Reduce water-related health burden (02–06 months) Reduce self-reported incidence of water-related symptoms (e.g., gastrointestinal illness, perceived metallic taste/related complaints) by 40% in target communities within 24 months of intervention. Indicator: Baseline and follow-up health surveys showing % reduction. 6. Institutional linkages & policy uptake (02–06 months) Establish formal linkages with Daspalla Block/ District Water & Health departments and present evidence/recommendations so at least one district-level policy/practice is influenced (e.g., routine iron testing, inclusion in WASH plans). Indicator: Memorandum of Understanding (MoU) or formal adoption of at least one recommendation by local authorities. 7. Sustainability & scale-up (06–07 months) Create a model and financial plan enabling replication in neighboring iron-affected villages; document lessons and produce a simple “Iron-Safe
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	Water” implementation toolkit. Indicator: Toolkit produced; at least one neighbouring village commits to replicate using the model.
Key activities to be conducted (Briefly state the key activities or be conducted under this project in bullet points)	The project will adopt the following strategies in the project period: Provide hardware and software support for Two community based and community managed IRPs in critically water quality affected vulnerable villages. Engage with two Gram Panchayats, government offices in one Blocks namely Daspalla and of Nayagarh, district to integrate this model for water security in their respective Panchayats. Form Two village level water committees or strengthen the existing VWSC and build their capacity to operate and maintain the IRPs on regular basis with community contribution. Build capacity of the community members for responsible use of drinking water; generate awareness of hygiene and water contamination at community and household level. Documentation of the success stories from the ground to be used for the promotion of the model.
Thematic area and expertise	JRP has been working extensively in the project area with holistic community development approach which address drinking water issue as one of its important area of intervention. JRP has the access to the proposed technology for community level low cost water purification system (Iron Removal Plants). The organization has committed workforce to implement the program in field and building sustainability. Livepure company will provide technical support for installation, after care maintenance etc.
The Model	Water purification plant: Iron Removal Plant <u>Technology Brief:</u> - Technology: Terafil filtration technology - Developed by : CSIR-Indian Mines and Materials Technology (IMMT)

	• What it purifies: Terafil candle removes 90-95% of soluble Iron, 99% of turbidity, 95-100% of micro-organisms • Level of Iron Removal: Reduces from 15 mg/l to less than 0.03 mg/l • The Plant is equipped with 1KW solar Unit and 1 HP Solar pump. • If after water test any Fluoride content is observed, we will add bone char carbon before the Terafil filter for a simple and sustainable way to reduce this without significantly modifying the filter design. <u>Plant Capacity :</u> • One plant consists of 14 Terafil candles. • Total Plant capacity is 3,560 lt. 2136 Lt. filtered water 1424 Lt. raw water in upper chamber • One plant is suitable for 50-55 Households • The plant has the filtration capacity of 1600 LPH <u>Community Ownership/Sustainability:</u> • The water source used for the plant is existing tube wells of the community with NOC from panchayat • Village level water committees formed with (10-12 persons) • Community volunteers trained on cleaning and maintenance • User HHs fee collected monthly by VWC (INR.30-50 per month) based on community decision and saved in dedicated bank account • Community manage, clean and govern the water usage of the plant
Target Groups	The issue of Iron contamination is prevalent in proposed villages of Dasapalla Block in Nayagarh District. The proposed project has a target population of as follows: Dasapalla Block: Villages: -Gurha and Falpaju covering 123 House Holds: (Gurha- 60 households and Falpaju – 63 households Beneficiaries: 543 people (343 Tribal and 200 SC) .

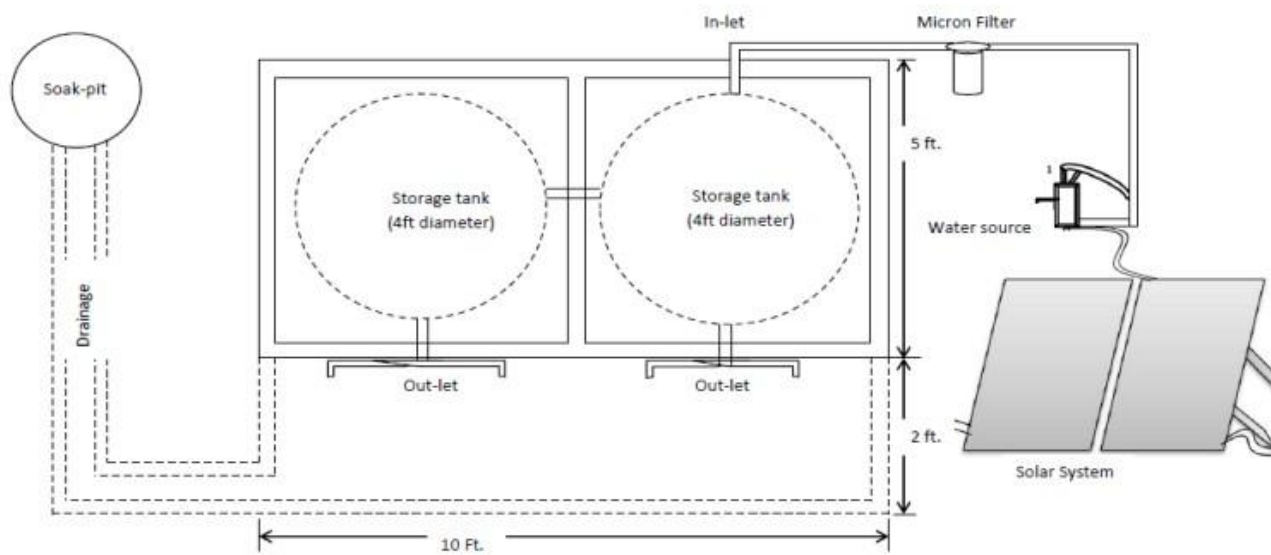
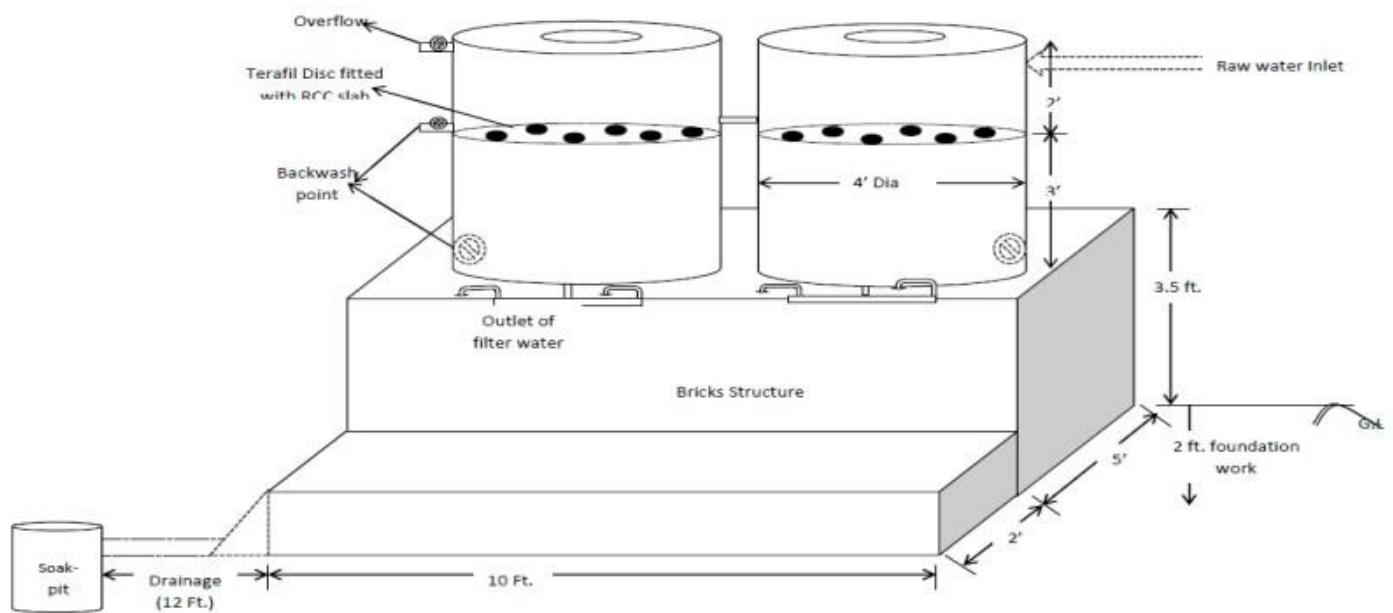
Innovation (Understanding innovation/scaling up/prototypes (technical knowhow if any)	The project will adopt IMMT's novel innovation 'terafil' filter candles with low-cost and effective superstructure model, supplemented with solar energization as per learnings from our previous phases implementation in Odisha. Since, Terafil candles have already proven their worth and efficiency. It removes about 99% of turbidity, 90-95% of microorganisms and 90-95% of soluble iron from water. Hence, it was one of the most suitable filter solutions for areas with serious water quality problems. This model of water filtration has been successfully implemented in four coastal districts of Odisha covering 138 villages in past 7 years, by Livpure Foundation and implemented by local NGOs which JRP would like to replicate in Daspalla , Nayagarh.. 20+ certified vendors of filter media are active in local market. Technical resource persons to build the plant are at reachable distance.
Budget	INR.9,43,005 /- (Nine lacs Forty Three Thousand)
Risks	Natural disasters,Pandemic related lockdowns and travel restrictions

Technical Specification of IRP

- The IRP is a 2,000 litre cylindrical water tank built alongside the raised hand pump and retrofitted with terra filters or terafil.
- The filters divide the tank into two parts. The motor pump, operated four times a day, draws water and collects it into the top section of the IRP.
- The water passes through the terafil — discs made of locally available red clay, river sand and saw dust — into the lower chamber of the IRP.
- Filtering out suspended particles, iron and other heavy metals purifies water. The filtered water collected in the lower chamber is then collected through two taps. The water collected is free of foul smell, taste and biological contaminants.
- Terafils are made of red clay, river sand and wood saw dust It has been developed by

the CSIR-IMMT, Bhubaneswar. This mixture is sintered at high temperatures to create disc-shaped porous terracotta slabs. Sintering embeds the clay particles around sand particle nuclei; the wood particles burn down during the process, forming numerous pores which are separated by semi-permeable clay walls consisting of ultrafine capillary openings.

- The minute pores in the terafil purify the water by filtering out suspended particles, iron and many heavy metals.
- The iron-contaminated water is in the form of colloids larger than 200 nanometres, whereas the size of capillary openings in the terafil disc is 200-300 nanometres. This leads to over 99% filtration of iron particles from the water.
- Water-contaminating bacteria like *Vibrio*, *Salmonella*, and *Shigella* range between 300-100,000 nanometres. The capillaries in the Terafil are ultrafine and much smaller than these pathogens, leading to the removal of micro-organisms and turbid particles.
- The risk of bacterial contamination can be removed completely by adding 2 mg of bleaching powder per litre for chlorination.
- The precipitates collect on the top surface of the Terafil disc clogging the pores in the long run; this requires regular cleaning to avoid reduction of flow rate.
- The members of WASH Committees maintain the IRP; terafils are cleaned twice a week.
- The IRP also includes a drainage, soakpit, additional micron-filter and improved cleaning provision of the lower chamber.



(PLAN for Terafil IRP with Solar System)