
Droughtbusters

In Tirunelveli, a rain-shadow area in south India, local women's groups leave a wet footprint



SEELATHIKULAM Women restore the village lake in a Rural Uplift Centre project

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The people of the CMDRR project villages in Tirunelveli District, Tamil Nadu

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DROUGHTBUSTERS

Introduction

Rural Uplift Centre (RUC), a local NGO involved in human rights and livelihoods interventions in Tirunelveli, Tuticorin and Kanyakumari districts of Tamil Nadu in south India is making a miracle happen in a rain shadow of the Western Ghats.

Nanguneri and Radhapuram taluks (revenue administrative divisions) of Tirunelveli district make up a drought-prone pocket of poverty. RUC facilitates a programme that comprehensively addresses the drought risk by promoting water harvesting, environmental conservation, alternative crops, livelihoods and disaster preparedness. Led by local self government (Panchayat) institutions and facilitated by women's groups, the villagers get their local reservoirs cleaned up and repaired so that they can store rainwater. They lobby with the government to ensure that water from big dam and canal projects reach their villages.

The Community Managed Disaster Risk Reduction (CMDRR) initiative covers 11 droughtprone villages, besides addressing the flood risk in 4 villages that lie close to the foothills.

The entry point of RUC are two community-based organisations that it promoted earlier, namely Tirunelveli District Working People Development Association and Tirunelveli and Tuticorin Districts Women Beedi Workers' Union. These groups have a history of promoting human rights and labour rights through grassroots mobilisation and advocacy. The CMDRR initiative gives RUC's local work a totally a new dimension. In the context of climate change and shifting weather and hazard patterns this intervention attains even more relevance.

The project is one of the 10 such initiatives in India supported by the Catholic Organisation for Relief and Development Aid (Cordaid). Cordaid is a Netherlands-based organisation, working with almost 900 organisations in 28 countries. Cordaid combines a century of experiences in emergency aid, development aid and structural poverty reduction. Cordaid's main expertise lies in conflict transformation, health care, economic independence, disaster risk reduction and emergency aid.



CHINTHAMANI: S. Gabriel, 70, a farmer in the background of a well. The villagers recently deepened the well and fixed a water pump to it with RUC's aid

Shadow of the Western Ghats

Tirunelveli District is a pocket of drought, but some villages the problem is flood

IN THE BACKDROP of far away blue mountains of the Western Ghats, about two hours drive before it touches the southern tip of India, Kanyakumari, the highway began to get dotted with giant windmills. Grey clouds lingered on, belying the fact that Tirunelveli district of Tamil Nadu lying in the rain-shadow area of the Ghats is a pocket of drought. The interior village of Chinthamani looked all shiny green after the rains brought by the north-eastern monsoon winds from October to December. Going back home after work, a garden hoe on his shoulder, his lunch box and water bottle in a bucket, farmer S Gabriel, 70, looked happy. Across the road a reservoir — locally called a tank, smaller than a lake, bigger than a pond — has enough water for paddy and banana fields that it feeds through neatly cut canals.

As Gabriel fetched drinking water from a tap, R. Don Bosco, 56, briefly explained how the villagers got together to fight drought. They removed silt from the tank that was in disuse for decades and deepened the well and fixed a motor to it. Bosco chairs a unique local task force that is involved in Community Managed Disaster Risk Reduction (CMDRR) initiative. The villagers take ownership of CMDRR activities and the results are spectacular. The newly cleaned-up and deepened local tanks, Melekulam and Kizhekulam, provide water to 70 acres (28.32 hectares) of plantations. "Earlier, for many years the local reservoirs were full of sand with damaged bunds around them," said the thalaivar (chief) of the village. "Now RUC has helped us to scoop out all the silt with two JCBs (backhoe loaders) and four tractors. Now the tank is deep and it stores high."

The CMDRR intervention follows the NGO's basic principles — ensuring right to life and livelihood and promoting community resilience. It probed the root causes of drought-related distress from a vulnerability point of view. The interventions covered broadly 5 aspects namely conservation of waterbodies, provision of safe drinking water, alternative cropping, livelihood support and capacity building and training in drought risk reduction. That meant cleaning up tanks that remained silted up and bunds that were damaged for a long time — about 40 years or so in some cases. The work also included digging small ponds called percolation tanks to recharge ground water that in turn feed private wells, and turning degraded land dotted with the water-sucking weed *Prosopis juliflora* into farms and orchards.



ARUMANERI: The village reservoir that remained a dustbowl for many decades now irrigates 44 acres (17.80 hectares) of farms. Thanks to a clean-up effort by RUC

Some areas in the western side of the district face a set of disaster risks quite different from their rain-deficit neighbours — sudden heavy rains, overflowing rivers and flash floods. In the 4 of those flood-prone villages the CMDRR interventions included building a rescue centre, strengthening of embankments and building or repairing bridges and culverts. They also covered diversion of canals, better drainage systems, strong houses, structures on the riverbanks and measures to prevent soil erosion such as retention walls. The interventions also included capacity building and training in flood risk reduction. The local people said floods do occur, but they now knew how to respond and ensure safety for the village.



SEELATHIKULAM: Cacti and palms show the semi-arid nature of the geography, though the green background soon after the rains hides its vulnerability to drought

A complementary aspect of the CMDRR initiative is to lobby with the Government to deepen and clear way for canals that bring water to village tanks from major irrigation projects. Villagers get additional drinking water from the Thamirabarani in a comprehensive drinking water project of the State. "Earlier we used to get water at one or two week intervals — now we get it every two to three days," said Padma, a villager in Chinthamani.

As for further aiding farming at Chinthamani, desilting was done along a two-kilometre channel that brings water from the Manimuthar Dam. "The canal work that the government gave was very important for me," said Chandra, a casual labourer. She worked in a project under the National Rural Employment Guarantee Scheme (NREGS), a central government initiative aimed at providing 100 days of work to poor people in villages, often in drought prevention and development programmes.



KOONTHAKULAM: Swarnam Nayanar, 50, and Pappa S, 37, take part in road widening as part of the National Rural Employment Guarantee Scheme that ensures 100 days of work a year to poor villagers

In addition, World Bank Schemes cover Nanguneri and Palayam Channel would bring additional water for irrigation.

Thanks to the major tank and smaller percolation tanks that harvest water, the ground water level has come up in the villages. That is good news for the farmers. "In all the 15 villages, people can irrigate at least one crop," said Maria James, the director of RUC, a lawyer by profession. "And people are prepared to face any kind of disaster with their own resources." Villagers now confidently talk about at least one sure crop of rice and a second crop of vegetables or bananas. Nobody is packing bags to migrate as they used to do earlier during drought years.



SEELATHIKULAM: Parameswari Jayavelraj, 67, milking one of her cows that she got as part of a livelihood programme supported by RUC

Tales of drought

As frequent droughts fuelled poverty, people used to sell land and migrate

VILLAGERS describe drought as a serial sad tale. Frequent droughts bring about uncertainties in the livelihoods of people largely engaged in subsistence farming of rice. A survey done by RUC with the help of Association for Stimulating Know how (ASK), a capacity building organisation based in New Delhi, showed that non-availability of timely rain could have damaged over 70 per cent of crops from 1997 to 2007. During drought, 78 per cent of the people reported no employment opportunity. Half of the villagers had to bring drinking water from elsewhere. Close to a fifth of the people had to buy water from local vendors.



Chellamma of Arasanarkulam village cuts Prosopis juliflora from a roadside wasteland for fuel. It is a weed that grows like wildfire, sucking up scarce water in drylands

It was hard in the harsh summers when the temperature would cross 40 or even 44 degree Celsius. The tanks were silted up, the ground water levels were as low as 200 to 300 feet and in many villages the water is hard. Over 60 per cent of the people had to borrow money during drought to buy food. Over 8 per cent of the people had to be content with one meal a day. In this predominantly rain-fed, single-crop, subsistence farming area, sustained availability of water now provides a clear escape route from poverty.

The additional storage of water in desilted tanks assures a first crop and gives the option of drought-resistant (alternative) crops like pulses during the second season for the local villagers. That is a dramatic shift from their earlier experience. Rice as the mainstay crop was hit by rainfall shortages and erratic rains. Over half of the people in the project villages — 53.64 per cent — have no land holding. Over a quarter of the people had less than one acre of land as the study noted. Only 5.45 percent people had more than three acres. People had to borrow money at high interests rates and often migrate in search of seasonal or casual labour. In a place where people do not have enough savings or assets to fall back on, such stresses could have a major impact. They perpetuate poverty.



LATHIKULAM: After school boys splash into the village tank. The reservoir was recently desilted and cleaned up as part of the CMDRR initiative

Due to the small size of the landholdings and weather vagaries, food production levels were very low. Over 90 percent said they had no proper yield. Eventually more than a quarter of the people had to sell their land in distress — to repay the loan and sometimes just for survival.

Studies showed that the desperation caused by drought was pushing people further into poverty. A much repeated story that one could hear in the villages is that of high-interest private credit. The RUC-ASK survey showed that over 90 per cent of the people had to borrow money at over 100 per cent interest at some point. Poor people often ended up owing the lender several times the amount of the original credit. About a fifth of the people — mostly men had to migrate seasonally looking for casual labour. A largely unregulated activity, such seasonal migration sometimes meant children having to drop out of school, especially when the mother joined the migration. Migrants often had to bear with substandard labour practices and unhygienic living conditions. In effect the CMDRR intervention had to become a comprehensive one, flexible enough to cover a broad range of socio-economic issues. Now it is a different story and the people are happy.

The RUC way of intervention

Gaining entry through a rights-based approach, winning hearts and minds



MELAPATHAI: Muthuselvi M. 43, wife of Muthuraj, with daughter Kumari, 23 in their new house built as part of RUC's flood response initiative

CMDRR is a multifaceted initiative that promotes community resilience against disasters. The mix of interventions cover community management and the range of different short and long-term measures including promotion of sustainable livelihoods. In the long term it addresses the needs of communities, especially poor and marginalised people and allows them to adapt to a changing environment and climate.



SEELATHIKULAM: Members of the Women Beedi Workers' Union at the front yard of a colleague's house. They are the facilitators of the disaster risk reduction work

Locally RUC tries to strengthen the local communities' capacity to deal with their disaster risks. It is structural and long-term improvements that make up the strategy. Capacity building involves people's learning and sharing experiences on what to do when the rain fails or when there is a flood or drought. This also means developing the capacity to speak out and negotiate with local authorities and national government on policy and policy implementation. The work covers ecological and social systems that sustain local livelihoods by conserving crops, water and natural resources. It includes food security activities like farm diversification, cattle rearing and rainwater harvesting, a priority in this semi-arid region.

RUC already had an entry point to the project villages because of its rights-based work. It worked with women, Dalits and small and marginal farmers. It had promoted two community based organisations, namely Tirunelveli District Working People Development Association and Tirunelveli and Tuticorin Districts Women Beedi Workers' Union. The former worked mainly with farm workers and the latter with women who rolled beedis or locally-made cigarettes for private firms. Through lobbying with the government and protests, the union gained minimum wages for the workers in a system that allowed labour exploitation.



CHINTHAMANI: A woman replants rice seedlings after germinating them in a traditional nursery. Timely rain and irrigation from village reservoirs play a key role in their growth

At Eduppur, village women said that earlier they got only Rs 35 for rolling 1000 beedis, but after the union's intervention — that involved lobbying with the government — things changed. The wage was raised to Rs 105, besides provident fund, bonus and scholarship for the workers' children in school.

The women's groups also fought social ills. At Seelathikulam village, the local women forced the closure of illegal liquor vends — that caused a drain on family savings and nuisance by drunken men — several years ago. "We fought and won against the liquor lobby and the beedi industry — now we can handle any challenge," said Annakili, 55, a member of the Worker's Union.

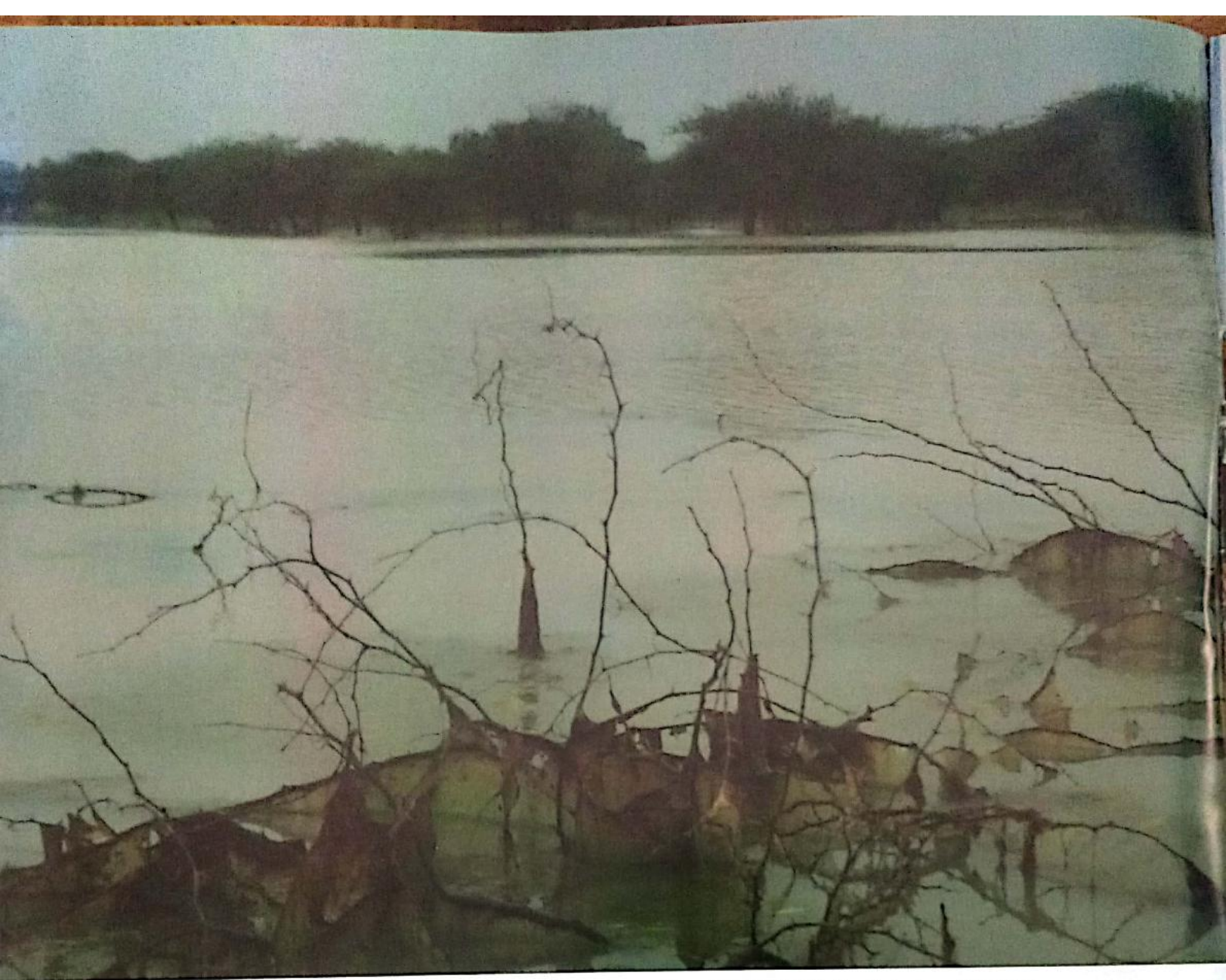
Leveraging on the villagers' confidence and goodwill, RUC identified a local representative each from the Beedi Worker's Union and the Working People's Development Society and trained them in CMDRR. The trained volunteers came back to the village and formed a 10-member task force named the Drought Risk Reduction Committee (Task Force Team).



KOONTHAKULAM: Traditional garland makers, Isakki Muthu, 55, Mookammal, 53, and their daughter Murugammal, 25, make about 100 jasmine garlands a day, besides more colourful ones for special occasions. Murugammal cannot walk and find this an appropriate livelihood

Each committee comprises women, farmers and elected representatives of the local self governance (Panchayat) institution, besides members of local people's movements. The committee then forms task forces of trained youth in each village. These task forces are catalysts for further training by the RUC in Participatory Rural Assessment (PRA). They use tools such as village mapping, focus group discussion, transect walk, wealth ranking, and lobbying with the Panchayat and other government bodies.

Jimla Pushpam, 20, of Eduppur explained the process: "First we map hazards and vulnerabilities in the village. That is an elaborate process. The village is mapped in all detail and its water sources and their interlinkages and drainage routes are identified. The villagers then sit together and figure out what exactly could be done to improve water storage — and in turn address drought." Such minute attention to local details helps in planning high-impact interventions. Ezra, a village elder in Eduppur, narrated how the community went about deepening one of the local reservoirs: "The silt was not cleared from the tank for about 20 years.



EDUPPUR: The local reservoir deepened as part of the CMDRR initiative irrigates 40 acres (16.18 hectares) of fields

With a Rs 348,000 (about 5000 euros) grant from RUC we brought in JCBs and tractors and we pooled in labour. We could remove 6,300 cubic metres of silt and use it to strengthen the boundary of the reservoir. The tank now irrigates 50 acres (20.23 hectares)."

In Eduppur and elsewhere, however, there were issues that could not be handled locally. So those issues required a different approach. For instance, this set of villages lie in what has been designated as the third reach of water from the Manimuthar Dam, an irrigation and power generation project of the State government. If only the dam's reservoir level is more than 80 feet, these villages will get water. Even then they are eligible for supply only once in two years. Led by the task force, villagers have been lobbying for better water supply.

While this advocacy work goes on, there have been other successes. Like more water receptacles and canals funded by the government or multilateral agencies like the World Bank.



KALLATHI: A percolation tank called an 'urani' in the local language Tamil collects rain water. The CMDRR team lobbied with the government for digging it

While irrigation facilities have been put in place, people not only feel confident about facing drought but also possibly other hazards. Village-level risk reduction committees with well defined roles and responsibilities, a community response fund and a task force keep the local people prepared for any event. Disaster management information centres have been established at all the 15 project villages. They provide the contact details of disaster response officials and easy web connectivity for disaster-related information. This initiative is seen as an important model to scale up and replicate.

In a nutshell

Some highlights of the project

Collecting water, grains

TANKS that had remained silted up and in disuse for years or even decades were repaired in 10 villages — Eraippuvari, Padapparkulam, Chinthamani, Eduppur, Arumaneri, Silayam, Seelathikulam, Lathikulam, Kallathi, Koonthakulam.

In Chinthamani a well was deepened and a pump and a tap were attached to it so that people could easily draw drinking water. Additional drinking water facilities were also provided in Elangal, Padapparkulam, Seelathikulam, Lathikulam, Kallathi and Koonthakulam villages.

Koonthakulam: A percolation tank was dug so that it collects rain water and feeds the ground water aquifers and, in turn, the local wells. Community food grain storage centres were constructed in all the 11 drought-prone villages.



SEELATHIKULAM: Women fetch water from collection point fed by the State government's Thamirabarani drinking water project



KALAKKAD: Nanguneri canal that was dug after policy advocacy by local leaders of CMDRR. The World Bank provided Rs 35.2 million for deepening this canal that feeds the Nanguneri major reservoir, a water source for several villages around



KOONTHAKULAM: Schoolgirls learn the basics of computer operation at the CMDRR information centre

Links to major projects:

Seelathikulam: Pipes were laid to bring drinking water from the Thamirabarani project.

Elangal: A canal was dug from the Vijayanarayanam Main Tank.

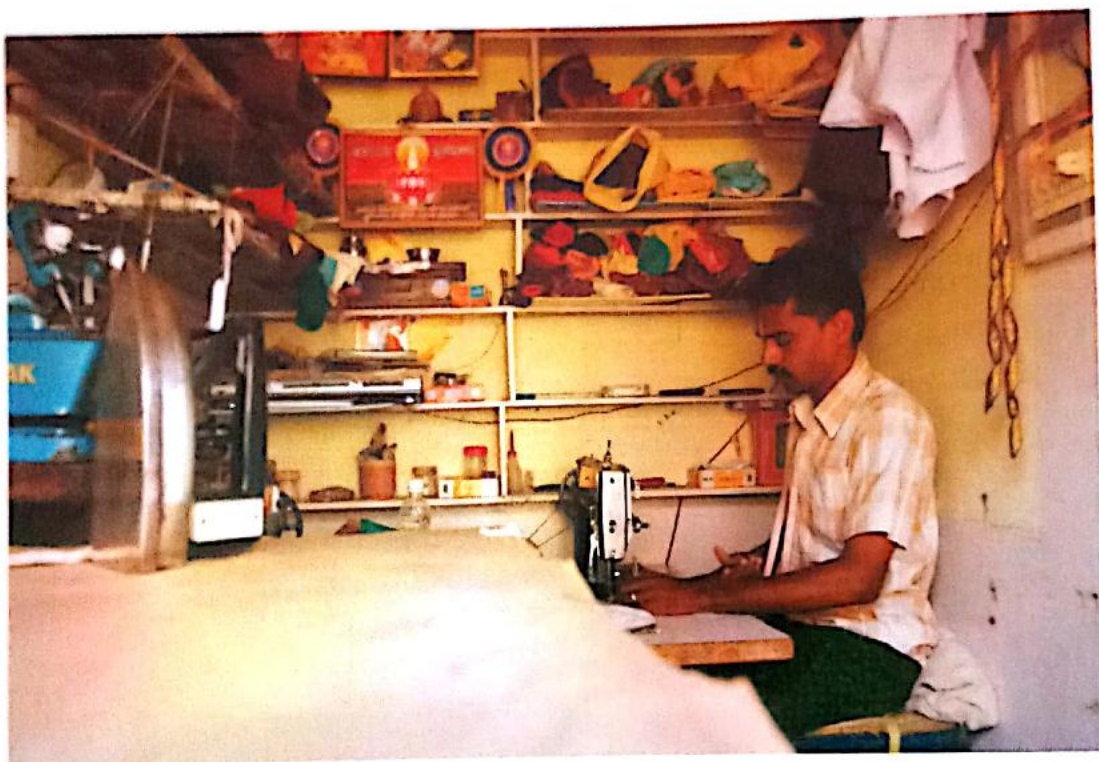
Chinthamani: A canal was cut to bring water from the Manimuthar Dam.

Koonthakulam: A major canal to access irrigation water from the Thamirabarani project.

Livelihood support:

Koonthakulam: Alternative livelihoods like garland making and gardening were promoted.

Seelathikulam: Support was provided for beedi rolling, appam (fermented rice pancake) and dried fish vending, coconut leaf plaiting, cattle rearing, milk vending and tailoring training.



NANGUNERI: Tailor C Perumal, 35, received a Rs 40,000 loan from RUC. He bought a new sewing machine and upgraded his business. He plans to buy a machine to make buttonholes

Koonthakulam: School children were trained in first aid, fire safety and web browsing

Silayam: Women's groups received training in advocacy and lobbying

Patchandram: Flood control measures included construction of a rescue centre, strong houses, structures on the riverbanks and canals to prevent land erosion

Long-term view

Climate variability and change call for better resilience

IN the rainfed farms of India, rain failure — or excess — often causes widespread damages and losses. Climate variability increases such risks and indicates the impacts of climate change in the long term, marked by extreme events and changing seasonality. For marginal farmers even small climatic shocks could mean big losses, leading to poverty and even destitution. Climate projections are fraught with uncertainties. Studies indicate that climate shifts in India will be diverse and uncertain, with some regions experiencing more intense rains and increased flood risks, while others encountering sparser rainfall and longer droughts. The impacts will vary in complex patterns across people and geographies. Scientists and policy makers look at different ways to make people resilient and able to adapt to these changes.

In the changing climate patterns water is likely to emerge as a major stress factor — so rain water harvesting, conservation, and wiser distribution patterns are necessary, experts say.

Promoting climate-resilient agricultural practices and cropping patterns is another priority.

MELAPATHAI: Organic rice farming in this flood-prone village is aided by an improved drainage systems and protection walls along the riverbank



In Tirunelveli district, there are several environmental issues that people are grappling with. They include land-degradation, wind erosion and proliferation of the water-sucking *Prosopis juliflora*. A World Bank study has noted that while scientists focus on rice, horticulture and other crops, farmers will also need support to gain knowledge and influencing policy. Besides water conservation methods, options available for farmers in semi-arid lands include adopting alternative crops, agroforestry and appropriate farming methods suited to the geography. Cattle rearing could be another option. RUC is promoting all these activities.

Shift to more environmentally appropriate crops can be supported with appropriate financial incentives and grants. While current incentives encourage farming of commercially important, but water-intensive species sugarcane, in semi-arid regions that may not be good from an environmental point of view. Smart subsidies can encourage a shift to dryland crops that are more suited to local conditions. This is one of the options that RUC through CMDRR initiative is test marketing.

ELANGAL: Rice fields here get irrigated by one of the four canals that distributes water from the Vijayanarayanam Main Tank reservoir (not in the picture)



Drought, shortages, indebtedness and migration could turn into a vicious circle. The CMDRR initiative is trying to break this cycle. Micro-credit to start new businesses, ensuring better than minimum wages, offering insurance schemes and empowering people to influence policy are some of the strategies that RUC is pursuing. Providing avenues for education and better awareness of social and environmental issues make up yet another dimension.

In the project villages, the local people are testing, learning and making their ways to deal with droughts — and floods. Their CMDRR system includes not only warning and rapid response, but also protective measures that include alternative livelihoods and better access to employment schemes, cash and food disbursements. Emergency health care could be the next intervention. In this regard, RUC's work is an example of a rights-based approach enhancing disaster resilience in a set of drought-prone — and some flood-prone — villages in a comprehensive way. Its lessons could be relevant to communities elsewhere.

KALLATHI: Pappu Madasamy, 47, grows cucumbers, sweet potatoes, tomatoes, besides rice. Cleaning up the major reservoir and small receptacles helped fill the local aquifers and wells.



Droughtbusters

Rural Uplift Centre (RUC), a local NGO involved in human rights and livelihoods interventions in Tirunelveli, Tuticorin and Kanyakumari districts of Tamil Nadu in south India is making a miracle happen in a rain shadow area of the Western Ghats. They make lost water reservoirs reappear and give new livelihood options to people.

Led by local self governance organisations, facilitated by women's groups, the Community Managed Disaster Risk Reduction (CMDRR) initiative covers 11 drought-prone villages, besides addressing the flood risk in 4 villages that lie close to the foothills.

The project is one of the ten such initiatives in India supported by the Netherlands-based Catholic Organisation for Relief and Development Aid (Cordaid).

Cordaid combines a century of experience in emergency aid, development aid, and structural poverty reduction.

KOONTHAKULAM: Egrets rest in a rice field close to the local bird sanctuary. The sanctuary tank was cleaned up as part of the CMDRR project