

KERALA FLOOD RESPONSE 2018

**TESTIMONIES OF RESILIENCE
& STORIES OF IMPACT**



Kerala Floods

An Introduction

In the August of 2018, the state of Kerala faced one of the most severe floods in many decades. Most parts of the state were completely submerged. The rains lasted a week, severely affecting the districts of Wayanad, Idukki, Palakkad, Mallapuram, Ernakulam, Alappuzha and Kozhikode. The damage to life and property was unprecedented. Landslides and flooding washed away thousands of settlements, destroyed homes and buildings. Over 480 people died, many went missing and many more were injured. Almost everyone was stranded, locked down or surrounded with flood water, without food, medical attention, clean water and power. The poor and the tribals were the first casualty of this disaster. Not only their houses were washed away, they also lost their means of earning. Farms and plantations were destroyed completely. Schools and hospitals were unfunctional for days. Medical and health services were disrupted. Loss of shelter, unavailability of food and clean water, contamination of water sources, outbreak of diseases and other health hazards were the immediate affects of the floods. The mental trauma, disruption of livelihoods and the damage to the ecosystem were the long term effects.

As the government began its relief efforts, it was joined by many other organisations. SEEDS, with the support of its donors, spearheaded a series of short term and long term interventions directly affecting the lives of thousands of people. The immediate and short term response included medical aid, food and temporary shelters. Right after this the focus shifted to the rebuilding and restoration of health facilities, schools, water sources and shelters. This was followed by orientations and training the various stakeholders in the areas of mental health, WASH, disaster preparedness, community participation and overall wellbeing. Moving towards long-term reconstruction, SEEDS started working on building resilience across communities by focusing on disaster risk reduction. This was the core of any approach taken to restore shelter, education, health services as well as the environment. While various components of these interventions were spread across the state but the district of Wayanad was where all of these came together.

With a topography that has densely forested hills with plenty of natural water sources and a mean average rainfall of 2322 mm annually, Wayanad's vulnerability to natural disasters is only compounded by impact of climate change. Unplanned construction and expansion, vertical digging

alongside the hills and the traditional shift in farming rice in paddy fields to cash rich plantation crops of coffee and rubber have only added to this fragility. Wayanad is also home to tribal communities living at the socio-economical margins of the society. The first casualty of any disaster or adversity are the poor and socially marginalised. Women and children are the other two groups to suffer the most in any calamity. SEEDS' post flood interventions in Wayanad were tailored to address the most vulnerable groups first. Driven by its vision to lower vulnerability and building back better, the SEEDS' approach focussed on building long term resilience.

225

**Shelters
Built**

10

**Permanent
Shelters**

108

**Toilets
Built**

3 Primary Health Centres Repaired & Restored

339

**Food & Ration
Kits**

507

**Non-Food Item
Kits**

177

**Family
Kits**

All interventions were customised after a thorough assessment of the needs on the ground. The participation and involvement of the district administration, SEEDS' local partners, the village panchayat and the people, in all of these activities made them unique in nature. The guidelines and strategies of the various departments of the government, the needs of the people, safety, design, utility, economical viability, and eco friendliness were at the centre of all of SEEDS' interventions. While their immediate result was restoration, the long term outcomes upgraded their climate and disaster resilience. The beneficiaries were empowered and became better prepared to deal with disasters and emergencies in the future.

5317

**School
Kits**

22

**Schools
Repaired**

3

**Anganwadis
Rebuilt**

300

Wells Cleaned

22 WASH Campaigns

13 School WASH Trainings

255

**Shelters
Built**

10

**Permanent
Shelters**

108

**Toilets
Built**

SEEDS was able to interlink the various interventions in the areas of shelter, education, public health, mental health, and environment into a wholesome programme of resilience and well being for the communities, at the same time putting the beneficiaries in charge of this process. With in a year, this multi-faceted model of building tested and researched systems of preparedness, has readied the people to face future emergencies with minimal damage, as was evident in the floods of 2019. The following stories of ordinary people and their extraordinary resolve to rebuild better are truly inspiring for those who face the wrath of climate change.

The Schools

Behaviour change and resilience building in an ongoing process. SEEDS WASH orientations and awareness has helped a lot in the way we are going to face disasters in the future.’ - P. T. Sugatha

Fifty year old Rama Devi, started to teach in 1984. In a career spanning over thirty five years, she has spent nineteen in Erumatheruv. She remembers these years through the many occasions they brought with them. From these, she recalls Onam, Independence Day and Ramazan vividly. ‘We remember a place by our days of celebration there’ she says, as she folds white paper caps that she has made for the children in her Anganwadi centre. It is Nehru’s birthday - Children’s Day - and Devi is surrounded by the children of the Anganwadi, all of whom are around 3 to 4 years of age. Most of them are dressed in white. She sits on the floor huddled between them. They take turns to climb on to her lap, some run around her and some sit on chairs close-by. On seeing a stranger, almost all move closer to her, with their little hands clutching to her saree in various places. ‘This is not our original building, it was destroyed in the floods’ she says, as she attends to the children affectionately.



Rama Devi with the children of the Erumatheruv, at the place where the old Anganwadi stood before the floods.

The village of Erumatheruv in Manantahvady municipality, Wayanad is home to over 300 families. Rice is grown alongside lush plantations of banana, pepper and coffee. The plantations are relatively new as more and more people have moved from the traditional practice of growing to rice in the fields to farming cash crops in the plantations. This has resulted in topographical changes that have a direct connection with flooding

during the monsoons. The impact of the flood in 2018 was devastating.

Rama Devi remembers the day very clearly. She had left for the relief camp as the water started to rise. She returned from the camp and saw that her own house was badly damaged. Mud from

landslides had swept away portions of the wall and the house was still filled with water. Two kilometres away, the Anganwadi centre, where Devi worked, was not in a very different condition. Water had flooded the building, some walls had sunk in and there were cracks all over the structure.

Soon after the flooding, the government assessed the buildings in the district and the Erumatheruv Anganwadi centre was declared unfit for use. The building was vacated and shut down. This is when the village church offered one of its buildings to be used as the Anganwadi. Since then this community centre has continued to host regular gatherings of village seniors as well a learning space for the children.

‘On the day of the flood I left my house with my family and went to a relief camp where we lived for 8 days’

Around twenty kilometres away from Erumatheruv, is the Government Upper Primary School (GUPS) in Mothakkara that overlooks the hills. Joby Thomas, 35, has come to pick his children from school. He lives close-by and is a mason. ‘On the day of the flood I left my house with my family and went to a relief camp where we lived for 8 days’, he says. Upon returning he found that his house has suffered a lot of damage. The walls had cracks, the roof was leaking and the toilet was flooded and broken. Similar damage

had occurred in the school. The roof was damaged and the walls had cracks. The small number of toilets the school had, were all flooded. In addition to this, a huge amount of mud had slid on to the school building from the hill behind. ‘Even after the rains stopped, I was afraid to send my children to the school, there was a chance of more landslides’, says Thomas.

Back in Mananthawady, the GUPS had also suffered damage, despite being situated on an elevation in the middle of the town. The the rain had damaged the paint and the toilets. Just like everywhere else, the schools were shut for a few days. When they reopened, the students had to study in dilapidated buildings and make-shift classrooms. Availability of drinking water and sanitation were the other major concerns. P. T. Sugathan, 56, is the headmaster of the school in Manantahvady. ‘After the floods the first thing to



The GUPS in Mananthawady

get affected were the toilets. There is a direct connection between the functioning of the toilets and school attendance. We saw that right after the floods’, he says. ‘A lot of children did not come to school for weeks after the floods. Sanitation was a problem at home too’, he adds.

22 Schools Repaired

The flood and its aftermath had resulted in a variety of issues, most of which overlapped and intersected each other. Safety, sanitation, safe water, post disaster mental trauma, dilapidated and damaged buildings were some of the immediate problems. All of these needed comprehensive and long term solutions. As a first step towards this, SEEDS, in coordination with the panchayat and the district administration, identified 22 schools and 3 Anganwadis across the districts of Wayanad, Mallapuram, Ernakulam, Thrissur, Idukki, and Alappuzha that were in immediate need of restoration and repair. The list also included the Erumatheruv Anganwadi, GUPS Mothakkara and GUPS Mananthawady. Following its goal of ‘building back better’, SEEDS put in place a comprehensive programme to tackle the immediate and long term effects of the disaster, at the same time building resilience and disaster preparedness in the vulnerable communities.

Safety, utility, economic viability and overall well being and mental health of the children were the themes on which design, and structural repair and changes were based.

Architects, disaster management and risk reduction experts, officials from the government and the panchayat as well as community members were part of the consultations that would lead to these interventions. The most unique participants in the pre-design activities were the children themselves, as they are the most important stakeholders in any intervention that was to take place in the school.

A school in Kaithakkal, that had suffered a lot of damage, was the location for a design workshop that was aimed at knowing exactly what would make a happy learning environment for the children. They were given shapes and colours to choose from and were asked to draw and paint an ideal classroom, a play area of their choice and what they would like to see in a dream school. The outcome of this exercise was then refined in group and one to one discussions, involving all the stakeholders like the teachers, parents, panchayats and district officials. Safety, utility, economic viability and overall well being and mental health of the children were the themes on which design, and structural repair and changes were based. With this, began the rebuilding and restoration of the schools across Kerala.

The interventions were tailored to suit the needs of different schools. In some cases like the Anganwadi in Erumatheruv, the building needed to be rebuilt entirely. At other places, major structural repair and changes were done. In a few places, roofs were rebuilt and sheds were installed. The buildings were then painted in patterns and colours that emerged out of the design workshop. Colourful swings and installations were made to create child-friendly and playful spaces. Needs of differently-abled children were kept in mind throughout all the interventions. Plants were added and landscaping was done to add to the vibrance to these buildings. Plans are underway to install solar panels on the roofs. Besides the apparent benefit of being eco-friendly these will make the schools self-reliant for electricity, in turn increasing their resilience in the face of a disaster.

5316

School Kits Distributed



Newly restored GUPS Mothakkara

With comprehensive safety of children in mind, the School Safety Programme was developed. These included installation of fire extinguishers, signs, evacuation maps, safe electrical fixtures, hand rails, megaphones and emergency and first aid kits inside the school buildings. Students, parents and teachers were oriented as part of the School Management Committee (SMC) on disaster response and risk reduction. Volunteers from the community were also trained as a part of this. All of these measures, not only restored the school buildings but also built resilience and disaster preparedness of the community as a whole.

The Kerala floods of 2018 had majorly affected the sanitation and drinking water facilities. These included the damaged and unusable toilets and lack of safe water in schools as well. It was observed that the unavailability of toilets is one of the major causes for girls to drop out of schools. Restoring toilets, and in some cases rebuilding or upgrading of sanitation units, was one of SEEDS major interventions in the schools. Water filters were installed for safe drinking water and WASH orientations were conducted for the students. Trainings on best practices for safe water and sanitation in the aftermath of a disaster

3

Anganwadis Rebuilt

were held. The result was more disaster resilience and reduced vulnerability among the students, in the school as well as in their homes.

Mental trauma was an unquantifiable and immeasurable effect of the floods of 2018 and children were the most vulnerable in this case. As part of SEEDS interventions, psychological counselling was undertaken for both, adults and children. It was also reported that after the floods some children suffered from PTSD and that directly affected the attendance in the schools. Along with counselling, design interventions like paint and the creating of playful, child friendly environment in the school has improved attendance in more than a few cases.

SEEDS has worked in close coordination with the district administration, the district medical officer and the directorate of education. It has also partnered with local NGO for implementation in places like Alappuzha. The involvement of the community in all of these interventions has led to the building of collective confidence and resilience. It has also created trust and awareness and has reduced vulnerability. An instance of this is the Anganwadi centre in Thurkey Bazar, where the teacher found out about the schools restoration program and came to the SEEDS office in Wayanad on her own. She requested the office to help her repair and paint her Anganwadi. Restoration and repainting was then undertaken at yet another building. While the interventions are focussed in Wayanad district, SEEDs has carried out similar work in part of other districts across Kerala.



Josy Thomas with his children at the newly restored school in Mothakkara

In Mothakkara, Josy Thomas walks around the newly restored school with his children. They inspect the newly built toilets that are being painted in lively colours. 'I am happy that my children will go to a good school. The whole place looks new. There are more toilets now', he says before they walk away.

'I am happy that my children will go to a good school. The whole place looks new. There are more toilets now'

In GUPS Manantahvady, children play on swings that have recently been installed. The walls have been painted with in patterns of blue and the roof is repaired using Mangalore tiles. The classrooms are bright and lively and the toilets are restored, clean and well lit. 'The interventions SEEDS carried out didn't impact the school routine. The painting was completed with in a day', says the headmaster P. T. Sugathan. 'Behaviour change and resilience building in an ongoing process. SEEDS WASH orientations and awareness has helped a lot in the way we are going to face disasters in the future', he adds.

The Anganwadi in Erumatheruv is being rebuilt from the ground. It will consist of two floors. Keeping the local design aesthetic intact, the roof of the top floor will be made using Mangalore tiles. Construction workers lay one brick on top of another and the structure has already started to take shape. Rama Devi has come out of the makeshift church building with all her children who follow her in an orderly queue. 'We're so excited, we can't wait for it to be ready. Hopefully it will be ready by the first day of the new year. If it is not, then we will celebrate the new year whenever it is ready' she says looking at the new building



Final stages of construction at the Erumatheruv Anganwadi.

The Shelters

'I am thankful that I have a roof over my head. We can finally sleep peacefully knowing that we will not be swept away at night. We store our firewood away from the water, and can cook now. If we get electricity my son will not have to stay in the dark all the time.' - Santha

Santha, 41, has had a life of extreme hardship. For the last 10 year she has lived on a flat elevated patch of land inside a plantation in Karpoorakad in Perrengoda. Her husband works as a daily labourer in the city on some days and as plantation worker on others. He makes around 600 rupees a day, but there are days when there is no work. Santha's parents are old and live with her on and off. Her daughters, 19 and 23 are both married and live away. Her two sons live with her.



Santha with her younger son.

The younger one is 21 and is still struggling to find work, he comes home only to eat. The older one is 25 and suffers from partial paralysis. It takes two people to move him from one place to another. Sometimes, days go by and he stays in one place, often in darkness inside the shelter. The firewood she uses to cook is often wet in the rain. There have been days when they have gone without food because something as

simple as lighting a fire to cook has been impossible. Santha and her husband spend all their money on their son's medicines and very little is left for anything else. The family is on the farthest fringe of poverty and they belong to the very marginalised Paniya tribal community that is listed as a Scheduled Tribe.

During the floods of 2018, they had gone away to the city hospital for their son's treatment. When they came back they saw that their house, which was a bare shelter with made of wood and

tarpaulin sheets was swept away completely. Whatever daily use articles they had were either damaged or buried under mud. Their makeshift toilet was no longer usable. 'We came back and saw a pile of debris. Most of it had been washed away. We had no roof, no utensils, nothing at all', says Santha.

In another plantation about 15 kilometres away, 27 year old Shehnaz T. O., who was pregnant, had left her home to go to her parents house in a village close by. She had left her 4 year old son, Bilal and her husband behind. While the husband worked during the day as a painter, Bilal was left with his grandparents who lived next door, in a *pakka* house, deep inside a coffee plantation. After getting married Shehnaz and her husband built a makeshift house with areca nut trees and tarpaulin sheets not too far away from her in-laws' house. 'It was just a few sticks and a plastic sheet. Every time it would rain, water would start leaking from one place or another', Shehnaz says. The water would either seep in or it would be blown inside by the wind. 'The house was not strong. I was scared to sleep inside it. Sometimes monkeys would come and tear the tarpaulin and



Shehnaz T. O. with her children.

we didn't know what to do', she adds. The flood completely destroyed Shehnaz's house. Her husband and son had to move to her in-law's house. She too, upon returning had to go and live with them.

During the flood of 2018 relief camps were setup across across the state. They provided shelter, food and medical aid to the survivors but had run out of capacity in hosting a large number of people for a long period. The relief camps were to act as a transitional response and a temporary solution. Eventually they were going to be closed. Upon returning more and more people found that their houses had completely been damaged or washed away in the floods. As an initial response, the government started to allot funds for rebuilding of the houses. It was discovered that a large number of people did not take these as they were not confident in building their houses on their own. To tackle this, the government of

507
**Non-Food
Item**

Kerala reached out to a number of organisations, including SEEDS. It was observed that the building of permanent shelters and houses will take some time and the people can no longer live in the camps. They had to get back and start rebuilding their lives. The short term solution to this problem was the building of transitional shelters. Permanent shelters in various locations was seen as the long term solution.

Most of the returning families had lost all of their belongings. To address this and help them get back on their feet and start their daily routines, SEEDS started the distribution of kits comprising of essential items. 507 families were given Non-Food Item (NFI) Kits that included plates, spoons, serving spoons, bowls, pans, and a pressure cooker. Family kits comprising of toothpaste, toothbrush, sanitary pads, nail cutter, mosquito repellent, washing soap, bathing soap, washing powder, bucket, mug, and floor mat were given to 177 families. 339 food kits of ration and edibles and 5316 school kits were also distributed.

The Panchayats and the district administration assessed the houses and created lists of people who were in immediate need of a roof over their heads. In the meanwhile, SEEDS started to consult and work with architects, disaster management and risk reduction experts, the panchayat and the as well as community members to come up with a strategy and a design and utility based solution that would be best suited to this situation.

339

**Food & Ration
Kits**

177

**Family
Kits**

A prototype of a shelter was designed and built in Panamaram Panchayat in Wayanad. This would then be replicated at other places. The unique process of design imbibed the cultural norms of traditional architecture of the state. It used low cost material, that could be re-used later. The use of material salvaged from previous constructions was also kept in mind as was the possibility of building over existing plinths.

255
Shelters
Built

The architectural and design approach was driven by safety, utility and disaster preparedness. Building sites were assessed by experts to minimise topographical and ecological risks and reduce the impact of landslides and other disasters. It was also based on the guidelines given by the

10

Permanent
Shelters

government following the minimum habitable area limit for shelter construction. A very important participant in this process were the home owners themselves. Following an owner-driven partnership model, SEEDS worked with the home owners alongside the local government. This included motivating them and providing socio-technical facilitation and support. This ownership, responsibility and

insight into the process, has helped build the disaster preparedness of the people. A total of **255** shelters have been constructed across Wayanad. After this began the long-term reconstruction phase in which **10** permanent shelters were constructed in Ernakulam district.

Toilets are an essential component even for the most basic housing unit. Just like the houses, the floods had also destroyed the toilets in most places. A similar strategy was followed in the construction and restoration of toilets. After the building of a prototype toilet in Pozuthana Panchayat in Wayanad, the intervention was replicated at other places.

The new toilet design is flood resilient, uses local materials and follows a nature based solution that allows the waste to get decomposed without affecting the natural habitat, as a result protecting the environment. 108 such toilets have been repaired or constructed for families across Wayanad.

108
Toilets
Built

SEEDS response and its interventions in the area of housing and shelter were driven by its strong principle of building back better and had the ultimate motive of increasing capacity and resilience of the community. Extensive assessment of needs and suitability was carried out. The involvement of the community and the support from the government coupled with intelligent eco-friendly

design and low cost safety based architectural solutions has resulted in exactly that. Both Santha and Shehnaz got their houses re-built with the help of this intervention.

‘I am thankful that I have a roof over my head. We can finally sleep peacefully knowing that we will not be swept away at night. We store our firewood away from the water, and can cook now. If we get electricity my son will not have to stay in the dark all the time’, says Santha, standing right outside her house. The family still has very few things and not all of their troubles are over, but Santha has planted two flowering plants, one on each side of the entrance of her new house.

Shehnaz sits with her two children in her newly built house. Bilal, her older son, now goes to school. His school uniform has been washed and is hung for drying in one of the planks in the new structure. A pair of small school shoes are hung close by. ‘I used to feel a lot of shame in waiting to use the toilet in someone else’s house. We have our own now. When we sleep at night I am not afraid about the roof falling over us. Despite everything we have seen, we now have a real house’, she adds.

‘I used to feel a lot of shame in waiting to use the toilet in someone else’s house. Despite everything we have seen, we now have a real house’



Public Health

'I've learnt so much from SEEDS. They built our wall, they restored our PHC in such a beautiful way. Just like we had dreamt. In 2019, we lost nothing'. - Dr. Sushma P. S.

Dr. Sushma P. S. is the medical officer at the PHC in Pozhuthana, Wayanad. The story of her PHC and of her determination and resolve is a testament of the spirit of the people of Kerala in the face of a disaster. It is also a remarkable example of how resilience works and reduces the impact of calamities. Sushma sits in her office inside the PHC that is surrounded by hills and recalls the flood of 2018. The PHC in Pozhuthana was one of the worst affected areas in the floods.

'I didn't expect it to rain so much and the water to rise so fast, I couldn't sleep, I was worried about what is going to happen at the PHC', she says. After a night of heavy rain, she set out to reach the PHC, only to discover that it was completely flooded and there was no way to get inside the building. 'At first, I was shocked but then I thought to myself that there is no time to be emotional. I knew that as medical professionals, our response is going to count the most in this moment', she says. As soon as the rain slowed down, she went directly to the Panchayat building to assess what needed to be done. She then went to a hospital nearby and borrowed basic medical equipment. After this she stopped at a chemist who helped her with medicines and other supplies. Gathering some of her staff with her, Sushma took an auto-rickshaw to the nearest relief camps at GLPS Achooranam and GLPS Valiyapara.

'At the camp everyone had trauma and that was visible. Children looked lost, they sat motionless. Some people had minor injuries. There were cases of very high blood pressure. People had lost everything, their lives and their livelihoods. They hugged me and cried', says Sushma. She began attending to the injured immediately. She set up medical assistance counters, ORS depots and scouted for pregnant women and children under 5 years of age. In the meanwhile she organised more equipment and supplies and sent her staff members in small teams to the neighbouring relief camps. When Sushma came to the PHC the next day she assessed the extent of the damage. Besides medical equipment, there was structural damage to the building too. 'Everything was gone. All our equipment, medicines, files. The water had damaged the ILRs, the deep freezers. The water had reached the first floor. My own house was also damaged', she says.



Dr. Sushma P. S. (centre) with her team at the reconstructed Pozhuthana PHC.

The PHC in Pozhuthana had suffered a lot of damage and the delivery of health services was impossible in these conditions. The people had started to return from the relief camps. Over 18000 people who depended on the PHC for medical and health services were vulnerable without health services. These included mostly poor and tribal communities, who face the marginalisation of poverty and exclusion that was now compounded with damage the floods had caused to their lives. The restoration of the PHC in Pozhuthana was a priority.

The district health department identified the PHC as one of the worst affected health centres in Wayanad. A detailed assessment by the SEEDS team attested to this. Following consultation with the district officials about the logistical and technical requirements, a plan was developed for repair, restoration and reconstruction of the Pozhuthana PHC. Along with this, 2 others health centres were identified for restoration.

This included the construction of the compound wall, parts of which had collapsed. The wall was very important, it ensured safety of the facility and equipment from unwanted intrusion. Flood water and

3
PHCs
Repaired

mud had caused discolouration of the walls of the building. To address this all three blocks of the building were re-painted based on the government colour scheme for public health buildings. Seepage, cracks, loose plaster were fixed and sheds were installed at places to avoid direct sun. The front door of the administrative block was replaced, glass panes were fixed and PVC board panels were added among other things. The existing toilets were inadequate for the staff and the patients, therefore a new toilet block was constructed, with a washing station and 5 new toilets including one with for the differently abled persons. This had ramps for easy access.



Pozhuthana PHC after SEEDS' interventions.

26 WASH Campaigns

SEEDS' post flood interventions in the area of public health were multi-faceted. Repairing, restoring public health centres and building their climate resilience to remain functional in future emergencies was a priority. After the floods, 284 household and community water filters were distributed ensuring access to clean drinking water. The other important intervention was building the capacity of local health workers and volunteers in the area of post disaster mental health. Orientations and trainings were conducted for local health workers, mental health workers, non-specialised health workers, ASHA and ICDS workers to address the various areas of community and mental health. Yet another intervention was organising multi-speciality health camps with paediatricians and gynaecologists. Over 26 WASH awareness campaigns and training sessions were conducted to orient people about safe water handling and safe sanitation practices. 13 such sessions have been conducted in schools orienting teachers about safe WASH practices.

13 WASH Trainings

284

Water Filters Distributed

The impact of these interventions was evident in the floods of 2019. 'In 2019 we were completely prepared. We moved all our equipment, files and medicines to the floors above. We made medical teams for the relief camps in advance. We even ensured that the regular immunisation drive continues as usual. We were prepared for any emergency, I had a list of all pregnant women and anyone who may need medical attention. We were ready to counsel those who may have mental trauma and stress', says Sushma. 'I've learnt so much from SEEDS. They built our wall, they restored our PHC in such a beautiful way. Just like we had dreamt. In 2019, we lost nothing', she adds.



Water filters being distributed and people being trained on their usage.

The Wells

'Wherever we go people are happy to see us clean their wells. Some ever give us meals while we work'. - C. M. Sharfuddin

It is noon and the Kavadam Health Centre in Kaniyambeta is unusually crowded. Located between lush paddy fields, areca nut trees and banana plantations, Kaniyambeta is home to over 40 families. Those visiting the health centre have not come here for medical treatment or to get medicines. They're here to clean the village's only well.

Among other things, the floods of 2018 polluted the sources of water across Kerala. Entire villages depend on wells as their primary source of clean water, which were rendered unusable. Unsafe water leads to diseases directly affecting the health of the community. After the floods the water in the rivers receded which in turn led to a fall in the level of ground water. The water in the wells replenished slowly but was still polluted. SEEDS carried out a detailed assessment of this situation and it was decided that the wells had to be cleaned and the water had to be chlorinated for the it to be fit for use again. The exercise of well restoration includes cleaning of the well surroundings, repair and painting of the well walls, regular cleaning of the rings, covering the well and fixing the bucket and the pulley. This is followed by testing the water and chlorinating it accordingly.

C. M. Sharfuddin, 28, is a construction contractor. In the last few months he has cleaned over 450 wells, from which over 300 were for SEEDS. He along with his team begin to clean the Kaniyambeta well after a quick assessment. Two men lower a hose into the well and start to pump out the muddy water. One man puts on a harness and is lowered into the well. He begins to scrape the top ring from the inside. Another man begins to clean the surroundings. Buckets of muck and debris is pulled out. It takes more than an hour for the well to be drained and cleaned from the inside. At the bottom, fresh clean water starts to gush in. Two men repair the cover, pulley and another begins to paint the well from the outside. At the end of the process, the water is tested and chlorinated. Sharfuddin takes turns to help in all of these at the same time supervising the entire process. 'Wherever we go people are happy to see us clean their wells. Some ever give us meals while we work', he says. While this is being done, 18 year old Mahesh watches from a distance. 'We didn't know that this well was going to be cleaned. Whenever I looked inside it, I only saw muck and fallen branches. Everyday I get water from

300
Wells
Cleaned



Water testing at a newly cleaned well.

another well, that's a bit far. I am happy that I won't have to go so far away to get water now', he says.

The cleaning of the wells goes hand in hand with safe water handling. Covering the well is crucial in keeping the water safe for use. SEEDS' community WASH trainings and orientations emphasise on regular cleaning and maintenance of the well, as well as best practices in sanitation. In order to build village level capacity and reduce the impact of future water emergencies, ASHA and panchayat workers have been trained to perform the chlorination of these wells. The well cleaning intervention is an important part of the SEEDS comprehensive disaster response and resilience building in Kerala.



Community Empowerment

'Photovoice', an interactive photography programme for the community, nurtures creativity among the young at the same time ensuring their participation in the community.

In the aftermath of a disaster, communities face individual and collective trauma, besides loss of life and property. In the case of Kerala, factors like continuing rains after the floods kept adding to this stress. SEEDS' Community Health and Empowerment (CHE) program addressed the goal of building long term resilience, successful recovery and inclusive community building post-disaster. Along with disaster preparedness and resilience building, SEEDS also focusses on the psychosocial health and the overall well-being of the community by promoting confidence building and participation. For this, volunteers from the community were trained in addressing mental health issues and disaster preparedness. Another intervention, 'Photovoice', nurtures creativity among the young at the same time ensuring their participation in the community. Cameras were handed out to teenagers in the community for them to take pictures of the issues that matter to them, or the things they would like to see a change in. The photographs were then printed and discussed. Members of SEEDS Community Health and Empowerment team routinely meet with the



Photo Voice participants share and discuss their photographs.

participants to discuss these photos and the issues they highlight. They discuss possible solutions and behaviour that will bring about positive change. The exercise gives the young a voice, autonomy and the responsibility that comes with it. This increases awareness of one's surroundings, more knowledge and a sense of ownership. Informed and empowered communities have far more climate resilience.

The Government's Support

'We just have to have the correct knowledge, coordination and preparedness'
- P. T Biju

One of the most crucial aspects of SEEDS' interventions and response to the floods of 2018 was its closely coordinated functioning with the state government, the district administration and the Panchayat. This built trust and awareness and the outcome of each of the interventions could be tailored to suit varied situations. The administration identified the problems and the teams at SEEDS worked to offer the best suited solutions. The same approach was followed in identifying those who were in need of these interventions. Technical know-how and logistical strategies were discussed and customised in close coordination with both the administration and the community. The district collector, the sub-collector, officials from the health, revenue, tribal, forest and agriculture departments contributed with the guidelines and worked at addressing any bureaucratic and legal issues, like permissions, that arose in the implementation of the solutions. At the village level, SEEDS rapport with the panchayat and municipality heads, ward members and the community was that of trust and lead to effective exercises in capacity and resilience building . SEEDS routinely consulted with experts in various areas of its interventions to ensure speedy and efficient implementation. A training in disaster risk reduction and preparedness was conducted for various government and administration functionaries. The idea was to train one person in every office and department, thereby creating a virtual cadre for disaster response across the various departments.

P. T. Biju, 42 is the deputy chairman of the Standing Committee of the Mananthawady municipality. He lost his crops and plantations in the floods and has been at the forefront of all post-flood relief operations in Mananthawady. 'If we are better prepared and plan in advance we can reduce the loss of life and property in any natural calamity. We have collectively learnt from the flood of 2018 and we were able to reduce this damage in the flood of 2019. We just have to have the correct knowledge,



P. T. Biju in his office. He emphasises on the importance of preparedness and resilience.

coordination and preparedness', he says. The knowledge, coordination and preparedness he talks about are the core of SEEDS approach in building capacity and resilience across communities in Kerala. 'Of course we will be affected, but we've learnt to reduce this damage. This lesson is very important', he adds.

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