

# Rain Community

Vol. 1 Issue 1

## Publisher's Note

The Rain Community, is a continuation to our last monthly bulletin Emergency Rain. Owing to the water scarcity problems in Kathmandu, this year too GUTHI in partnership with International Rainwater Harvesting Alliance (IRHA) with the support of Canton of Geneva, City of Geneva and City of Meyrin have come up with the project "Rain Community". Under the project, the issues of water scarcity, and living standard of two major project sites- Jana Prabhat School and 6 IDP camps at Bhaktapur, will be worked upon. The major objective of the bulletin is to disseminate information about the project advancement to its stakeholders and donor agencies. This time, the project encompasses larger beneficiaries and has incorporated better project implement strategies.

With the Kick-off Program and other activities being successfully conducted at Jana Prabhat School, this July issue has mainly focused on the school. This issue has covered the base line status of Jana Prabhat School, the event reporting of major activities conducted by GUTHI, testimonials and voices from the beneficiaries and also feature stories on menstrual hygiene and rain water harvesting.

## Laying Foundation at Jana Prabhat School

GUTHI and Jana Prabhat School celebrated a huge milestone on June 5th, 2017. Amidst various World Environment Day activities, the foundation for Rain Water Harvesting System was laid at Jana Prabhat School which marked the beginning of the project.

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The foundation stone laying program was graced by the newly elected Chairperson of Ward No. 13, Ward Secretary and member of Management Committee. The Ward Chairperson, Mr. Dhurba Narayan Manandhar performed Puja on the stones based on Hindu rituals to bestow the foundation with good luck and success.

Water scarcity is a major problem in Kathmandu Valley and Jana Prabhat School is no exception. The current sources of water are not enough to sustain the water demand of the school. So, a joint initiative of GUTHI and International Rainwater Harvesting Alliance (IRHA) with the support of Canton of Geneva, City of Geneva and City of Meyrin is installing Rain Water Harvesting System at the school to fulfill the water demand and ease the scarcity.



A Kick-off event was first held on 23th May 2017 to officially mark the beginning of the “Rain Community” project. The direct stake holders including the Principal and Vice Principle of the school, PACT (Parents, Authorities, Children and Teacher) committee members, School Management Committee, Representative from District Education, from Resource Centre and about 40 students attended the program. Mr. Prakash Amatya, Technical Adviser at GUTHI briefed about rain water harvesting and how the project will be preceded. The Project Coordinator of Rain Community addressed the students about their roles and assisted the formation of Rain Club. Being pleased with commencement of the project, Mr. Satyandra Lal Karn, Principal said “This concept of rainwater harvesting will be very useful to our school. So, we promise to take good care of it”.

In order to spread our message to entire school, a large scale program was organized on 5th June, 2017. In the assembly, the Vice-Principal, Mr. Shiva Hari Manandhar, shared information about Rain Community Project and briefed activities of the day. He also thanked GUTHI, IRHA and all donor agencies for selecting the school.

Following it, the project’s Communication Associate conducted an interactive session explaining students the importance of Environment Day, Plantation and

Cleanliness Campaigns. The program was followed by Plantation and Cleaning Campaigns being held simultaneously. The students were divided into four groups and each group was assigned separate area for plantation to ensure long term ownership and belongingness. Cleaning the area, making the ground ready for plantation, planting the saplings, and watering them made the students more connected with the nature. The students also cleaned their school area with full enthusiasm.

Students from grade 1-5 were involved in Art Competition where they put their imagination into art. Students were also very enthusiastic in participating in the Rainwater Quiz. KAP (Knowledge, Awareness and Practices) survey was conducted to assess their awareness level on water, sanitation and hygiene. Poster and photos related to Rainwater, Sanitation and Menstruation were exhibited throughout the day. At the end of the day, the students were taught how to correctly wash hands.

Reflecting back on the program, the students got an opportunity to be connected to nature through plantation, by cleaning their own school premises and through starting off rainwater harvesting. Working to bring a change in the students, the future of our country was a big achievement for GUTHI team.

# Agenda: Struggle to Pee and Poo

Nepal Earthquake 2015 destroyed every house of the 15 families' living in Maheshwori Sibhir, Bhaktapur. The families belong to poor economic background and are not capable to construct their houses; hence, they are residing in the temporary shelters for more than 2 years now. The temporary shelters are built on the private land owned by Chini Maya Nakarmi. She too lives in the temporary shelter. "I felt sad when my brother could not live with me in this temporary shelter because we do not have any toilet here. I got embarrassed when I shared the truth of not having toilet in the shelter. There is no drainage system which is why I am not being able to



construct toilet. If only the drainage system is connected to this area, it could be better.", quipped Nakarmi, 74 years of age.

Before the temporary shelters were constructed, the land was used for agricultural purpose. They had planned to construct sanitation facility but due to no sewerage connection to dispose off the faecal sludge, they were unable to construct any. As a result, the people for the past two years have been either knocking the doors of their neighbours for relieving themselves or running to the nearby rivers and municipality sanctioned toilet to pee and/or poo. They most often end up defecating near rivers as municipality toilet is not enough for such many people leading to the high probability of water borne diseases as cholera.

The children too reside in the camp. They can not wait longer to reach the rivers for defecation due to which, most of the time, they defecate or urinate around the camp causing unhygienic environment to live in. Similarly, it is not limited to the environmental and health hazard but it is also penetrating to the social hazard as many relatives of the IDPs seldom visit them and if they do visit them, they do not and can not stay over. They can not perform any social functions in the camp.

Defecating openly is also associated with the dignity of the people rather than subsidizing it with the health and environment aspects only. "Whenever I come to visit my mother, I avoid staying overnight in this camp because we do not have any toilet here. I have to go to the nearby river for the excretion and sometimes I go to the neighbor's house. But it is

embarrassing. If only a toilet was constructed out here, it could have been better." Punam Sitikhu, daughter of one of the IDP.

The municipality sanctioned toilet is situated at the lower geographical area. Due to this difficulty the people on Maheshwori camp are compelled to rent a room for their kids (who cannot bear the pressure of defecating), so that they don't have to suffer the same way. Eventhough the financial status of the people is very weak; they rent the rooms in other places.

Gopi Maya, 55 years old shared, "One of my son and his family live in a rented room because in this camp, there is no toilet facility. Though it is expensive and economically burden to HIM, he prefers to live there as my grandson is young and he does not want his son to get infected by the diseases."

Living in an IDP camp is not an easy task. The people, in order to fetch water, either opt to walk for approximately 20 minutes to their old homes or join the queue of thirsty people to collect water from municipal water supply if they get the information that the municipal water is supplied by their well wishers. Rima Duwal, 32 years old shared, "Our camp has been in the victimized state for the last 2 years. There is no water and sanitation facility in our camp." She further shared the necessity to walk 15-20 minutes uphill to fill up the jars with water which is supplied in 4 days interval. "There is a lot of a person on queue for filling up their jars," she further added. Construction of toilets is a dire need of the people living in Maheshwori Sibhir.

# Activity

## Water Quality Assurance

Under Rain Community project, we conducted the water quality test in order to test the drinking water quality parameters at Internally Displaced Person (IDP) camps and Jana Prabhat School located at Bhaktapur and Kathmandu respectively. Raw water from Wasikacha Sibir, Bal Vikash Sibir and Kwopo Sibir while filtered water from Multipurpose Sibir; and raw as well as filtered water from the school were collected. We could not conduct the water quality test at Maheshwori IDP Camp and Rotary Camp because they would fetch water from different water sources.

The result showed the following:

S. No	Water Source	Location	Parameter	Unit	Maximum Concentration Limits	Results	Effects
1	Well	Jana Prabhat School, Kalimati	Turbidity	NTU	5(10)	8.6	1. High Turbidity indicates that bacteria may be present and protect microorganisms from the effects of disinfection.
			Iron	Mg/liter	0.3(3)	1	
			Total coliform	MPN/100ml	0	TNTC	
2	Well	Bal Vikash Sibir, Bhaktapur	Total Coliform	MPN/100ml	0	688	2. High Iron: Metallic taste, discolored beverages, yellowish stains, stains laundry
3	Well	Kwopo Sibir, Bhaktapur	Turbidity	NTU	5(10)	214	3. Total Coliform: Not a health threat in itself, it is used to indicate whether other potential harmful bacteria may be present 4. Ammonia: Plant nutrient that can cause unwanted algal growth 5. Nitrate: Infants below the age of six months who drink water containing nitrate in excess of MCL could become seriously ill and if untreated may die. Symptoms include shortness of breath and blue baby syndrome. 6. E.Coli: Indication of faecal pollution 7. Total Hardness: Relate to the soap consuming characteristics of water. May cause deposition of scale in boilers, water heaters and pipes. 8. Manganese: Black stains on fixtures and laundry bitter taste.
			Ammonia	Mg/liter	1.5	15	
			Nitrate	Mg/liter	50	98	
			Iron	Mg/liter	0.3(3)	1.3	
			Total Coliform	MPN/100ml	0	1008	
			E.Coli	MPN/100ml	0	38	
4	Well	Wasikacha Sibir, Bhaktapur	Total Hardness	Mg/liter	500	657	
			Ammonia	Mg/liter	1.5	53	
			Nitrate	Mg/liter	50	207	
			Iron	Mg/liter	0.3(3)	0.45	
			Manganese	Mg/liter	0.2	0.71	
			Total Coliform	MPN/100ml	0	TNTC	
			E. Coli	MPN/100ml	0	5600	
5	wELL (Filtered)	Multipurpose Sibir, Bhaktapur	Ammonia	Mg/liter	1.5	22	
			Manganese	Mg/liter	0.2	1.1	
			Total Coliform	MPN/100ml	0	18	

The result clearly indicates the requirement of installation of water treatment system at school and at each of the camps. The water is unfit to drink.

Under Rain Community project, the water treatment facilities are planned to be constructed to purify the water.

# Activity

## WASH Training Sessions at Jana Prabhat School

Children are the future. Giving them right knowledge at a young age can bring remarkable changes in their behavior. This thought kept in mind, we conducted a series of Training Sessions on Rain Water Harvesting (RWH), Water Sanitation and Hygiene (WASH) and Disaster Risk Management (DRM) at Jana Prabhat School in June 2017. Since RWH system is going to be installed in the school, it is important that all the students are aware about its components and other factors involved with it. So, the main objective of the training sessions was to make students familiar about RWH, WASH practices and disaster preparedness. In order to ensure that our message reached all students effectively, each grade was given a separate session with an average of 35 students in each session. A total of 286 students attended the training sessions.



Group photo of students attending the training sessions at Jana Prabhat School

Students from grade 6 to 10 were given presentations, shown informative videos and involved in interaction and group works. Throughout the program, the students were attentive and inquisitive about the new things they were learning. Some of them shared how they were harvesting rain water at their houses. They were basically storing the rain water in bucket and drums for use in laundry and cleaning purposes. But after learning that the rain water can be collected in systematic manner and used for diverse purposes after filtration, they all agreed to share this knowledge with their parents, neighbors and relatives.



# Feature Story

## A Story of My Own: Rainwater Harvesting and Stone Spouts

-Manashree Newa

Before municipal water supply started in 1905 A.D., stone spouts were the major source of drinking water in Kathmandu. The beautifully carved stone spouts not only provide water but also hold a huge cultural significance. In 2008 UN-HABITAT wrote in their book *Water Movements in Patan with Reference to Traditional Stone Spouts*: “When one observes a hiti, it not only gives the picture of engineered water conduit, but lavishly designed religious masterpiece of architecture.” So, when we added the last two stories in our house, my father conceived this brilliant idea to beautify our terrace with an ornament handed down by our ancestors- a stone spout.



With people’s increasing interest in home décor, I suppose there are many houses in Kathmandu who have built stone spouts. Many restaurants and hotels also have beautifully built stone spouts; however, I believe the one in my house is quite unique. Not only does it entertain our guests, but it is also a rainwater harvesting system.

Water scarcity is a major problem in the place where I live. The municipal water supply is neither reliable nor sufficient. So, to fight this water crisis, we have to spend a large amount of money to buy water from water suppliers. There are times during the dry seasons, when we have to carry buckets to collect water from wells in nearby temples. We have to go to either our relatives’ or friends’ houses to get a shower. And our habits shift from opening the tap to pouring water from a jug. We study about sanitation and cleanliness; I even work in that sector. So, when I can’t implement what I preach, it is very frustrating for me. But, monsoon season is quite a relief. The water-scarcity stress washes off with every downpour, and there is a sigh of relief in my mother’s face.

We collect more than 400 Liters of water after every heavy shower. The terrace above is a catchment which covers an area of about 36 m<sup>2</sup>. A down pipe guides the water into the spout. A storage pond of 200 L

capacity stores the water. Most of the time, there is a lot of surplus water, which we collect in drums and buckets. The water is mainly used for washing clothes and cleaning purposes. Apart from this, it is also used for flushing toilet and watering the plants. My mother says happily, “The water that was used for washing clothes and cleaning can now be used for cooking, drinking and bathing.”

A few years back, the rainwater was once collected in the main storage tank, first filtering it using bleaching powder and potash alum, and then purifying it using Euro Guard water purifier before drinking. But now, due to lack of the proper filtration systems, the rainwater is not sent to the main storage tank. So, we still have major water problems during the dry seasons. But, the rain comes to our rescue every now and then. With time, we are improving our systems. But one thing we guarantee is that, for us, every drop is precious, and every drop is valued. We have to fight the water scarcity, and harvesting rainwater is the best solution for us. I am very happy that there is a unique and creative way to fight the water problem in my house. I believe that if every Nepalese comes up with creative ideas, not only the problems of water scarcity can be solved, but also urban flooding can be prevented and our heritage saved.

# Feature Story

## Menstrual Hygiene Management Bank

-Bimala Gurung

Menstrual Hygiene Bank serve more than 100 student at Narayan Jan School after its formation in 2015. During the earthquake emergency period, the school was facing difficulty to conduct class as they were not able to provide separate toilets for boys and girls. The girls lacked privacy. They were teased by their male friends if they shared about the stomach pain and at times, when the girl's cloth got blood stain. Priyanka Tamang, former student shared, "We feel shy when we unexpectedly menstruate in the school as boys tease us. And we also do not have any mechanism of purchasing pads to maintain our period flow at the school."

Menstruating girls were missing out their school days compared to the number of boys, lack of MH facilities being the reason for absenteeism of girls. In response to it, awareness sessions on MHM at the school were organised. The girls were encouraged to accept menstruation as a blessing rather than punishment. They were encouraged to share their challenges with us triggering them to break the silence associated with menstruation.

The girls deeply wanted their menstrual issues-inaccessibility of sanitary pad at the school when they need them the most, availability of appropriate medication during their menstrual cramp during school hours and being teased by their boy friends during their period flow, to be solved.

We then decided to form a "MHM Bank" at the school with a goal to make the school safe menstrual hygiene practicing school. Following steps were undertaken to address the menstrual issues of girls:

1. MHM bank establishment for making sanitary pad available
2. Availability of medication through MHM bank
3. Involving boys in the MHM bank and organising awareness raising activities on MHM



The MHM Bank is lead by the girls under the guidance of their Health, Population and Environment teacher, Ms. Nanu Thapa. The students were asked to maintain a record of sanitary pads exchange for sustainability of the MHM bank. For the exchange of sanitary pad, the student in need of the sanitary pad will be made available by the MHM bank but the pad needs to be replaced by the same student within two weeks.

They now have involved boys as well in their group and are planning to organise a drama to raise awareness on MHM among younger children. Thapa shared, "The absenteeism number of girls has reduced significantly in comparison to past years after the introduction of MHM Bank at the school."

## Voices

1. “I am glad to have water for cleaning our toilets. The toilets are clean than it used to be before,” shared **Sumina Shrestha**, grade 9 student, Viswa Niketan Secondary School.
2. **Heramba Raj Kadel**, Principle, Viswa Niketan Secondary School shared, “The installation of rainwater harvesting system has met our water demand. Now, we can happily supply enough water to the children. Also, the students are helping us keep the school surrounding clean through the Rain Club engagement in cleaning the school.”
3. “We are happy to be member of Rain Club as we feel we are contributing to keep our school clean and beautiful,” shared **Manik Shrestha**, member of Rain Club studying at grade 9, Viswa Niketan Secondary School.
4. **Daya Laxmi Chhwaju**, Internally Displaced Person, Liwali Ganesh Bhukampa Puna Isthapana Kendra shared, “Before, I had no idea how to run a business but after attending training sessions and my involvement in the production and distribution of liquid soap business, I am confident to handle the business. I am also hopeful I will be able to economically support my family through the income I made from the liquid soap business.”
5. **Narayan Prasad Khaitu**, President of Liwali Ganesh Internally Displaced Person Camp, “We need safe water. After the installation of Rainwater Harvesting System and construction of 1,00,000 liter capacity underground water tank with proper water treatment system, we are happy that not just the IDPs but the local people will benefit from the built infrastructure.”
6. **Binod Chettri**, Maintenance Staff, Viswa Niketan Secondary School shared, “Now, the water supply system is easier to manage as the valves are connected in the same place unlike before. I can just open one valve and the water directly flows to the respective holding tanks located at different places within the school. I no longer have to move to other part of the school.”



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