

## RAIN WATER CATCHMENT: Water Security for Drought Disaster Risk Reduction measures.



For as long as she has lived, Samireh, a resident of Sidoharjo village of Tepus sub-district in Gunung Kidul district, has experienced shortage of clean water. There was no spring in the village where she lived. It was difficult enough to get water just to feed the cattle and bathing, let alone for cooking and drinking. Aridity was the worst threat for the residents of Sidoharjo village.

In Gunung Kidul district of Yogyakarta province, availability of clean water has been an annual problem. This area is surrounded by limestone; hence rain water is directly absorbed into the underground river, instead of being collected on the surface. Water source in such karst area can only be obtained from lakes and underground river which springs out to the surface. Moreover, not all areas in Gunung Kidul are reached by the clean water service from the regional drinking water company/PDAM.

*"We're used to it."* This is what most of Gunung Kidul residents say when they are asked about their trip to get water. Likewise with Samireh, to fulfil her water needs, she and her husband and their two kids often go to neighbouring hamlet 5 km away. When fortune was on their side, they could buy one or two jerrycans of water per day. One jerry can of water costs 5,000 rupiah, and she needed to buy up to two jerry cans. She uses 20 litres of water for cooking, drinking, feeding the cattle, and if there was some leftover they would use it to wash the face. *"My husband and I are rock miners. We don't have enough money to buy water continuously. We cannot afford it,"* said Samireh.

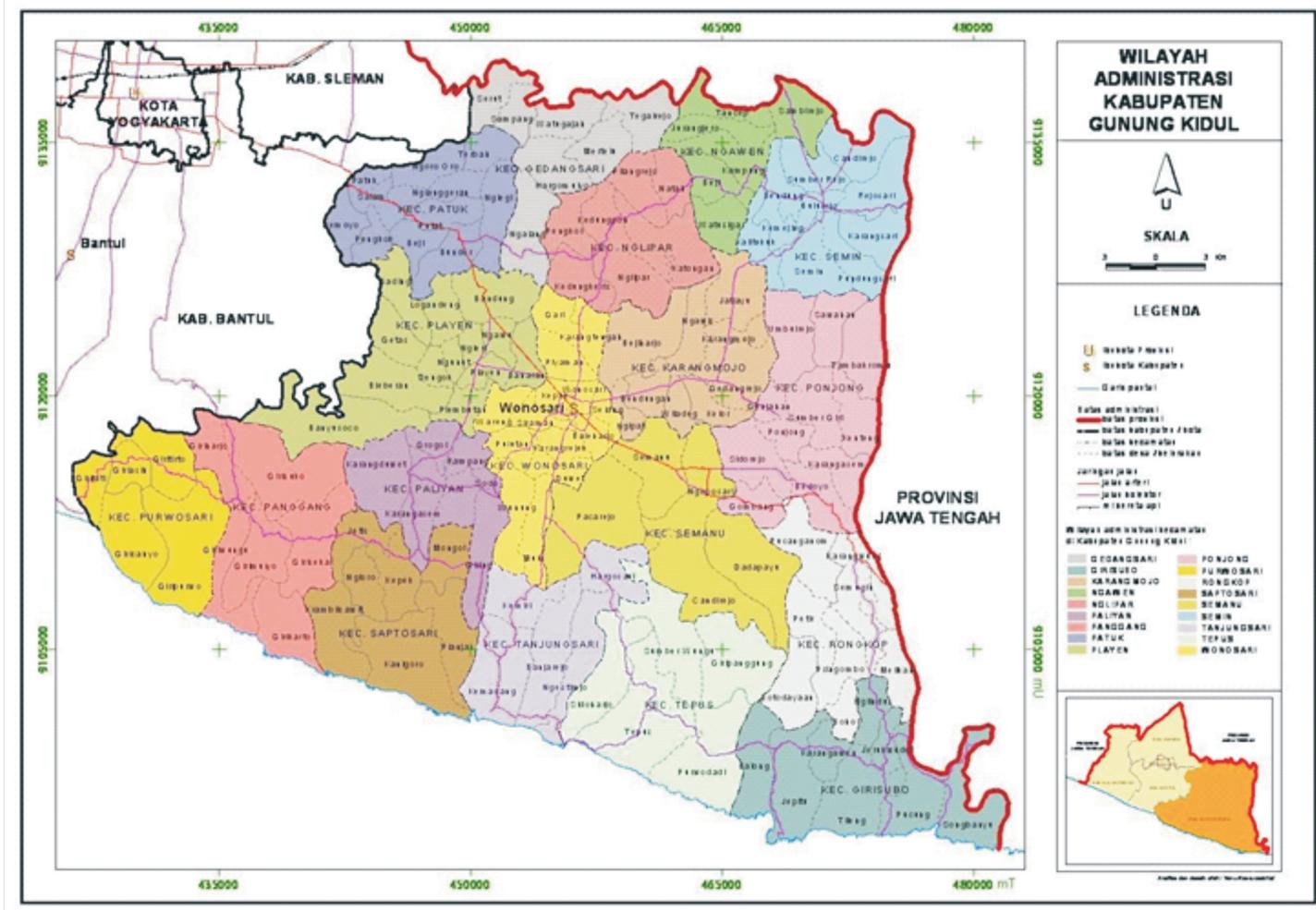
Villages in Patuk and Gedangsari sub-district have different stories. These two sub-districts have only started to experience

aridity after the Yogyakarta earthquake in 2006. After the devastating earthquake, many wells dried up; springs disappeared or moved to the riverbanks. Consequently, those two villages became newly prone to lack of water. The community tried to get water by digging the ground or constructing water catchment by themselves, to no avail.

The Indonesian Red Cross (Palang Merah Indonesia/PMI) and Japanese Red Cross worked together with the community and the local government to solve the problem. Gunung Kidul is actually a region with a high rainfall, and as such, rain water catchment (Penampungan Air Hujan/PAH) could have been a perfect mitigation alternative to overcome the lack of water.

The process started in August 2007 with an assessment to determine PAH construction spots based on the agreement with the local community. Subsequently, the community formed a community working group with 7 to 10 members, depending on the amount of PAH to be constructed. Next, each group sent their representative to receive a four-day training on PAH construction at the village hall. The representatives then became the group leader during the PAH construction at their villages. It took six days to construct one unit of PAH, and each group was responsible for two to four units. All processes were carried out enthusiastically by the community in those two sub-districts.

Finally, in March 2009, the community managed to construct 1,062 units of PAH in 10 villages of Patuk and Gedangsari sub-district. There were two types of PAH based on their capacity, namely 8,800 litres and 12,700 litres. The mutual assistance in PAH construction involved 357 groups from 9,000 families. *"Construction material for PAH as well as the tools were*



indeed provided by PMI and Japanese Red Cross, but the manpower were purely from the local community who worked voluntarily, including providing meals during the construction program. The atmosphere of mutual assistance at that time was really touching,” said LilikRahmadPurnomo, head of office PMI GunungKidul district.

The community of Sidoharjo village, where Samireh lives, proposed a similar solution. In a participatory assessment stage of the ICBRR joint program between PMI and Danish Red Cross, the village residents explained that aridity risk could be reduced with PAH. In this village, through similar process, community managed to construct 110 units of PAH in 11 sub-villages with capacity of 6,000 litres each.

“I feel so relieved now, water is no longer a problem,” said Samireh with teary eyes. She acknowledged that by having PAH in her house yard, she feels rich. “We can share water with our neighbour,” she continued.

During the rainy season, PAH could function effectively to

alleviate the community’s burden regarding clean water provision. Although PAH can only slightly extend the duration of rainy season, it did not discourage the community. Currently, they have water reservoir for dry season, so when clean water supply come or when they buy clean water collectively, the PAH’s large capacity can reserve the water in a more proper way.

“Usually, if we put water into the well, it will vanish because it seeps to the ground. Now, if we buy 5,000 litres of water and reserve it inside the PAH, it can be used for a month even for three families,” said Dasinah, resident of Sumberejo village in Patuk sub-district, explaining the advantage of PAH at her house yard.

The community’s effort to search for rain in a unique karst area of GunungKidul, is an illustration of patience. Now that PAH have been constructed it provides hope to the community of GunungKidul, not only shortening the dry period, but also shortening the search for water.