

Executive Summary

In general, Avasya Water encompasses sustainable development and improvement of living conditions of disadvantage groups by providing access to safe drinking water for people in rural areas in Indonesia. Whilst the importance of water for our lives cannot be overstated, millions of people in Indonesia lack safe drinking water, and as the result, they suffered from various health issues. By 2017, only 62.10% of Indonesia's underserved areas get access of safe drinking water (BPS, 2017). Over 45 million people do not get the access to safe drinking water due to lack of both water and land infrastructures.

The lack of infrastructure spares limited amount of water sources in underserved areas, therefore they only get access to drinking water from dug well, river, and rainwater. However, these water quality contain a lot of chemical substances, causing adverse health effects, such as diarrhea. Eligible sanitation and drinking water contribute directly to the quality of human life by reducing the risk of diarrhea by up to 94% (Ministry of Health, 2015).

Based on statistical data from Indonesia Demographic and Health Survey in 2007, 13.7% of toddler suffered and died from diarrhea. Approximately about 31.4% infants and 25.2% toddlers infected by diarrhea died in 2007 (Buletin Jendela, 2011). East Nusa Tenggara has the highest mortality rate in Indonesia (3.04%), which far from the expected rate of mortality set by Ministry of Health RI that is equal to 1%.

Among these, Oesusu Village (Takari District, Kupang, East Nusa Tenggara) is one of the affected areas and we want to provide the solution; Avasya Water is going to apply the first pilot project in this village. Oesusu's primary water sources are ground waters through piped wells and river, but the water is known to contain a high amount of calcium and often inadequate during dry season. Among the 10 available water facilities in Oesusu Village, only 5 facilities that are eligible for clean water. Due to this water hardness and difficulties in infrastructure, the villagers had to consume unsafe drinking water. As the implication, by 2015 there were 461 cases of diarrhea in Oesusu and its surrounding villages that affected the productivity of local communities.

With a high amount of calcium diluted in their water source, the villagers face a complicated journey to access safe drinking water. Prior to consumption, the local people must filter water for more than three times using cotton filter and cook it for at least 5 hours using conventional wood-burning stoves. In terms of health, the process has cost them badly, perhaps more than they realize: upper respiratory tract infection, risks of kidney stones, and cases of

diarrhea. In terms of economy, thousands of hours have been necessary merely for water processing, which never went to other productive activities that could have contributed to real economic value, such as through farming.

Avasya Water offers convenient safe drinking water system for the village that could supply up to 3800 liter daily. The purified water will be qualified as a standard drinkable water and will be delivered to the customers' house continuously. These water output are close to pH 7 and free from bacteria as well as other chemical substances. Thus, the villagers will no longer have to spend 5 hours to cook or to walk to the river in order to get safe drinking water. Moreover, the system is achieved through the installation of customized centralized water treatment and the packaged drinking water is distributed throughout the village. This eases the access to safe drinking water effectively

