**Sustainable Development Goals Assignment by Sophie-Diane Donker**

**I: Describe what SDG target and goal your indicator is monitoring, and how.**

The SDG goal that I have been assigned is clean water and sanitation. This goal, also referred to as goal number six, highlights that everyone should have access to clean drinking water by 2030 and everyone must be able to make use of clean and proper sanitation. Also, by 2030, all countries must have a well-functioning water management system in place. Summed up, goal six aims to ensure availability and sustainable management of water and sanitation for everyone. To achieve this goal there are different targets that need to be addressed. I will be focusing on two targets, each with their own indicators. The purpose of these indicators is to monitor the progress towards the SDGs on local, national, regional and global scale. The first target is to implement integrated water resources management at all levels, including through trans-boundary cooperation as appreciated, all by 2030. The indicators for this target include ‘Degree of integrated water resources management implementation (0-100)’, and ‘Proportion of trans-boundary basin area with an operational arrangement for water cooperation’. The second target highlights that by 2020, all water-related ecosystems should be protected and restored, including mountains, forests, wetlands, rivers, aquifers and lakes. This target will be monitored by the change in the extent of water-related ecosystems over time.

**II: Why is this SDG target and goal important to Aruba?**

Water is a fundamental human need. Clean water alongside sanitation are crucial for human survival and for the planet. Goal six is important to Aruba, but also for the entire world, because unsafe management of fecal waste and wastewater poses a threat to public health and the environment. Clean water and sanitation bring along many positive impacts for the area or country in which they are implemented. Clean water and sanitation contribute to the improvement of human health, help fight diseases, reducing mortality rates and create economic opportunities. These are all benefits that Aruba should strive for and could achieve just by providing clean water and sanitation. However, this goal is also very important to Aruba due to the fact that the water resources are so scarce. There is little groundwater and freshwater reserves. Also, Aruba has a semi-arid climate which indicates low amounts of rainfall per year. This makes the island completely dependent on seawater to provide drinking water to its people. This also means that the little freshwater that is available on the island must be managed wisely, which is why integrated water resource management implementation is so important. Integrated water resource management is also important when distributing the water from dams that is used for agricultural purposes. Another reason why this goal is important is due to the fact that mangroves are a vital water-related ecosystem for Aruba. Mangroves provide different ecosystem services such as the protection of the shores during storms and housing of many species of marine life. Mangroves also create a gradient between fresh water and salt water due to their ability to adjust depending on the salinity of the water. By keeping sea water clean we benefit from an easier desalination process and high-quality drinking water, as well as the ecological systems services provided by mangroves.

**III: How does this SDG target and goal relate to waste management in Aruba?**

Most countries produce waste and wastewater; however, not all of these countries manage their waste efficiently. As mentioned before, ineffective waste management brings along with it negative impacts both on the human population as well as the environment. Currently, there is one big landfill on the island called Parkietenbos. After piling up the waste, a layer of sand is spread on top of it to minimize the odor. There is constantly waste being lit on fire to reduce the amount of waste at Parkietenbos. As mentioned before Aruba is completely dependent on seawater desalination to provide its inhabitants and visitors with high-quality drinking water. Parkietenbos is located on the west side of the island, right on the edge of the water. This causes that loads of runoff and waste are constantly streaming down the mountain of waste at Parkietenbos and into the open ocean, causing loss of marine life as well as contaminating the seawater used to provide drinking water. Besides the pollution of seawater, the smoke resulting from burning the waste at Parkietenbos affects many inhabitants living in the area. This may for example lead to lung problems in the future. This may create an unhygienic environment for those living in the vicinity of Parkietenbos. Thus, effective waste management is not a luxury anymore but a necessity. Effective waste management minimizes the negative impacts on the environment and humans. With no proper waste management system in place all our waste will not be processed correctly and will eventually pile up all around us. This might make it quite difficult to provide all inhabitants and visitors with clean drinking water and sanitation.

**IV: Find out if the described indicators are being monitored in Aruba: If so, who collects it? If possible, include a link or reference to the data. If not, describe where you inquired, and what the response was (e.g. CBS).**

There are three indicators assigned to the two targets that are being focused on in this paper. The first is the degree of integrated water resources management implementation. This requires all stakeholders to work in an organized and constructed manner to implement successful water resources management. In the factsheet provided by the Government of Aruba it has been mentioned that there are different campaigns around the island that are promoting effective water use and the importance of saving water among inhabitants and the visitors. These campaigns already contribute to water resources management by raising awareness amongst the community; however, there are many other stakeholders that have to work together towards implementing successful water resources management. There was not enough time to gather information about the progress of such campaigns, nor about the progress of the implementation of water resources management programs since there are a lot of stakeholders involved. As seen in the second indicator, it refers to a trans-boundary basin area. This indicator is an example of one that is not relevant to Aruba, due to the fact that Aruba is an island and does not have any borders to other countries in which there can be any water source crossing the borders and needing cooperation with other governments to manage such water resources. The second target states that by 2030 all water-related ecosystems must be protected and restored. This target will be monitored by looking at the change in amount of water-related ecosystems. There are many water-related ecosystems in Aruba, both fresh-water and salt-water ecosystems such as mangroves and fresh water ecosystems that grow around dams and springs(e.g. Hofi Fontein). The second target includes protecting and restoring mountains and forests; however, these terms often refer to bigger areas. In this paper these terms are referred to as the Northern side of Aruba, where there are many hills, and also referring to the ‘mondi’. These parts of the island have similar hydrological function as forests and mountains have, which include regulating water flows and influencing the availability of water resources. After calling Parke National Arikok, they could not answer my question about the different water-related ecosystems that can be found within their territory, if these are protected and if they measure the amount of water within these eco-systems. They did mention that Spaans Lagoen is an area that is a part of Arikok. The person working at Parke National Arikok also directed me to Randy Maduro, who is a worker at Santa Rosa. According to the person I spoke to that works at Arikok, Santa Rosa does conduct research on the quality of fresh water in the dams, which are also water-related ecosystems. Due to time constraints I was unable to contact Mr. Maduro.

However, I did manage to contact Ms. Nathalie Maduro, director of Santa Rosa. She provided me with information regarding the water quality measurements of the dams and what these measurements are for. According to Ms. Maduro the dams are under the management of Directie Infrastructuur en Planning(DIP) since they are considered part of the infrastructure. The Directie Landbouw, Veeteelt en Visserij en Markthallen(DLVVM) is more in charge of making sure that the dams are being take care of and primarily used for the primary sector, where most of the water is used by farmers for agricultural purposes. DOW is in charge of keeping the water streams clean so that the rainwater can get to the dams. According to Mr. Maduro, the dams were built to catch rainwater for stock and agricultural purposes. The dams are public, but primarily used for irrigation of farms and drinking water for animals. These dams also help keep the ground humid. The water quality is measured by Gezondheids Dienst, who takes samples y does tests for Ecoli, which is a bacteria that lives in intestines. Also, the drivers of Santa Rosa that help get the water from the dams to the farm, all have a device that measures the water’s salinity and Ph level. All in all, the water-related ecosystems known as dams here in Aruba are not protected and can be concluded that only the quality of the water is being measured and not the amount of water since this is dependent on the amount of rain that period.

After calling Directie Natuur en Milieu, I was informed that they are currently monitoring the seawater quality around the island; however, the person in charge of this research is unavailable at the moment since he is on vacation. They offered me to send an email so that the person could answer my questions or provide me with information about the water quality around the island; however, due to time constraints I would not have been able to get the information on time in order to incorporate it into this paper. I also contacted the Aruba Birdlife Conservation(Greg Peterson) since I know that they have been putting in the effort to protect different areas in Aruba e.g. Bubali Plas, since it houses 176 different bird species, and Spaans Lagoen, that houses 121 different bird species. Both of these areas are wetlands that are very important to Aruba. Since I could not get a response via Facebook, I mailed Mr. Peterson as well with a few questions; however, I did not get a response. Since I could not get a response I decided to contact Mr. Patrick Paskel, owner of 24ora.com, which is a local news webpage, and TERA Group N.V. which is a PR firm. I contacted Mr. Paskel since I know that he is a person involved in the media world and that is up-to-date with all rules and regulations that concern the government as well as organizations concerned with my SDG. I asked him a question regarding Bubali Plas and Spaans Lagoen and whether or not these are considered parts of Arikok and if they are protected areas. According to Mr. Paskel Bubali Plas is not a part of Arikok , but is owned by the Government/DOW. The Spaans Lagoen on the other hand is indeed a part of Parke National Arikok. I also found an article on Aruba.com on Parke National Arikok to confirm this. Both areas are considered a ‘groen gebied’ which indicates that they are protected area.

There are different water-related ecosystems around the island that are protected and some that are not; however, from the information gathered it is not possible to know to what extend the water-related ecosystems are being protected and restored and if the amount of water found at these areas is being measured. According to SDG Aruba they have still not started to monitor the previously mentioned indicators; however, they are in the process of meeting with the United Nations Economic Commission for Latin America and the Caribbean (UNECLAC) as well as with the Central Bureau of Statistics of Aruba to determine which targets and indicators are relevant to Aruba, and to collect all the information CBS has collected up to now that will help when the process of monitoring the indicators commences.

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