Finding a common solution for fleet waste in South Sudan

In South Sudan, proper waste management has been a challenge for decades. Not only within the International Committee of the Red Cross (ICRC), but also other like-minded organizations with a huge presence in South Sudan including Médecins Sans Frontières (MSF) and World Food Programme (WFP).

In the process of responding to the needs of the communities affected by armed conflict, we are to exercise the principle of 'do no harm' and ensure that we minimize the damage we cause to the environment and the climate while delivering timely and principled humanitarian assistance. We have to ensure environmental sustainability and reduce greenhouse gas (GHG) emissions.

The maintenance of our fleet creates waste: Used oil, tires, batteries, etc. All the mentioned waste has negative impacts on the environment and that is why we needed to find a solution. South Sudan is yet to have any recycling plant for fleet waste, but it produces the highest number of wastes consisting of tires, used oil, batteries, oil filters, windscreens, etc compared to other Eastern and Central African countries. ICRC South Sudan delegation produces slightly over 400 waste tires annually, 250 used batteries, and close to 12,000 liters of used oil. All of these are not always recycled hence stored in different sections of the organization.

The South Sudan team started issuing used oil to contractors who then used it as anti-termite treatment when mixing it with diesel. Coventry University helped ICRC to carry out a Life cycle Assessment (LCA) analysis of the different options on how the used oil could be recycled and the anti-termite treatment was considered to have very negative impact for the people as well as for the environment. A quick solution was required to minimize the impact on the environment and make better use of the available waste that is recyclable or reusable.

A combined effort by ICRC, MSF, and WFP resulted in measuring the amount of waste produced by these organizations and sharing the disposal mechanisms that the three organizations were doing in the region. Then, it was agreed that an environmental analysis is to be done from the two fleet management solutions; incineration and cross-bordering. After the analysis, it was discovered that in as much as incineration would conserve land hill spaces that would have been occupied by used tires, they reduce pollution, makes use of ash and produces heat, it is an extremely expensive venture and limits recycling. It further pollutes nearby communities and diminish the health of the population at

large. New incinerators have air pollution control devices such as air filters and concentrate some of the pollutants, but they don't eliminate them. Captured pollutants are simply transferred to other by-products such as ash and wastewater treatment sludge that is then deposited in landfills. The second option, cross-bordering, involves transporting these wastes to nearby countries like Kenya and Uganda who have recycling plants available. Coventry University LCA stated that it was more environmentally friendly transporting the goods to the nearby country for recycling them properly than leaving it in the country with no proper recycling system. The cost to transport the waste to Kenya was high, plus, there is a ban on the importation of waste from other countries. On the other hand, the cost for recycling these wastes in Uganda was cheaper and there is no ban on the importation of waste. This being the better option, the three organizations jointly took up the idea since it would manage their wastes and further share costs making it affordable and accessible.

The three organizations worked together on a comprehensive mapping, identification, and analysis of potential waste suppliers in Uganda who had the required capabilities to safely manage these wastes and had the required standards of approval and certification from the authorities.

Cognizant of the environmental and social effects of improper waste management and considering the local waste management regulations and the Basel Convention on the transboundary movement of waste, QSE (Quality, Social and Environment) assessments were conducted in the only company in Uganda that was validated by the authorities to do cross-bordering and the partner the company was using to recycle the different type of waste. These assessments were meant to ensure that the entities to be engaged in the treatment of the fleet waste met the prerequisite requirements. These requirements include license to operate and manage waste in the country, capacity to handle the quantity of waste available, safety consideration for both the staff and the surrounding communities and lastly the measures put in place by the entities to minimize effects to the environment.

The assessments resulted in the identification of two waste management entities to handle part of the fleet waste generated from Juba Delegation. These entities are the Enviroserv, handling waste that require landfilling and authorize to cross-board with the waste from South Sudan to Uganda, and Hima Cement, handling used oil and broken glasses. EnviroServ Uganda has an engineered sanitary landfill that is capable of handling materials for final disposal, with little or no effects to the underground environment. Hima Cement, on the other hand, utilizes the used oil as fuel for combustion in the kiln in making cement. The broken glasses are incorporated in the kiln and burnt at high temperatures alongside other ingredients to form cement.

The assessments, which will be followed by contractual agreements with these entities, will create a sustainable plan for managing the wastes from South Sudan and probably other countries within the

region that do not have proper infrastructure. Hopefully the first pilot will be done by the end of 2021. Further arrangements are in place both in Uganda and Kenya to find suitable waste management entities that can handle batteries and scrap tires. With the kiln energy will be recovered and the waste is properly managed.

At the same time South Sudan has started piloted a workshop waste kit to properly handled, segregate, storage the waste in our workshop.