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|  | **WFP- Government of Zimbabwe**  ***Operation & Maintenance Plan***  *Green Climate Fund (GCF) Proposal* |  |

1. **Background**

This document provides additional information on the Operation and Maintenance of the physical assets that are going to be built/rehabilitated or purchased by the WFP-Government of Zimbabwe GCF proposal during and after the project implementation timeline. This document focuses on the assets purchased/developed under:

* *Output 1.2:* Strengthen access to reliable climate and weather information by vulnerable communities to support improved decision making for food security and livelihoods, which includes the purchase of Automated Weather Stations (AWS) and Manual Rain Gauges; and
* *Output 2.1* Risk reduction through the creation of climate adaptation assets, which includes the rehabilitation/construction of mostly soil and water conservation structures at community and individual level.

Regarding *Output 1.1:* Strengthen national capacity and systems to generate, interpret, deliver tailored climate and weather data and effectively prepare for and manage climate shocks, a capacity building plan for national institutions has been inserted as one of the key activities of the project and has not been inserted in this document.

Such a plan, both at central and decentralized level, will be developed specifying cost and duration of its implementation and will be based upon key stakeholders’ existing capacity and the systems currently in place to respond to emergencies. The plan will train national meteorological services, key decision makers and relevant operational partners on:

1. understanding and communicating climate information from weather and climate forecasts;
2. contextualizing climatic information by layering it with spatially explicit socio-economic parameters such as vulnerability maps and;
3. identifying thresholds triggering action at different temporal and spatial scales.

Partners will also be provided with appropriate guidance material and we will ensure that produced information can be adapted to local contexts (e.g., local language if necessary). As a result, it is expected to raise awareness and build capacity of local governments to include information on climate variability and change in local planning and action.

1. **Operation and Maintenance of Automated Weather Stations and Manual Raingauges.**

The first key strategy to ensure proper operation and maintenance is to align with the Meteorological Service Department (MSD) specifications and to make the new equipment part of the MSD network. This has been standard WFP practice at the Zimbabwe level, and it is corroborated by an excellent relationship with the department. As soon as the equipment is purchased it becomes immediately property of the Government, and it is the Government, through the MSD who is in charge of maintaining it.

Given the different characteristics of Automated Weather Stations (AWS) and Manual Rain Gauges the operation and maintenance of the two sets of equipment is significantly different.

***Manual Rain Gauges*** require extremely low maintenance and will be handed over and managed by Agritex officers at Ward level, as it is part and parcel of their duties under the Ministry of Lands, Agriculture, Water, Climate & Rural Resettlement. Manual Rain Gauges will be installed by MSD staff locally, at no additional costs for WFP, and it will be the responsibility of the appointed Agritex officer to provide the rain measurements to MSD regularly (MSD is also part of the Ministry of Lands, which makes collaboration with Agritex easier). An installation campaign will be facilitated by WFP in collaboration with MSD to both install the rain gauges in the target wards and provide the training to Agritex officers in carrying out the measurements.

Manual Rain Gauges have already been procured in the past by WFP, and they are extremely sturdy, with a solid plastic outer casing (procured locally) which is dug into the soil, protecting the glass measuring cylinder (procured internationally). Given the design, the fact that they are dug into the soil, and located within the Agritex officer property, the manual rain gauges can last for many years after installation.

***Automated Weather Stations*** are more sophisticated, and will require slightly more care for installation, operation and maintenance.

The cost of installation of AWS has been calculated and inserted within the cost of their purchase. Their installation will require fencing, as well as the sensitization of the community to ensure that the facility is protected by the community itself. Despite being more sophisticated, AWS will require minimal operation and maintenance costs during the project duration, and such costs have been included in the overall budget. Costs of transmitting data to MSD, has also been included in the overall project budget.

Since they will be part of the MSD network, MSD staff will have the duty to check them regularly as part of their operations. WFP will provide capacity building through the supplier of AWS for their longer-term maintenance at the time of installation. In addition, WFP will keep working together with MSD after the end of the project, as part of its normal duties in country, and this collaboration will be instrumental in supporting the department in case funding gaps will be identified, due to the relevance of reliable weather data for WFP’s food security monitoring activities.

1. **Operation and Maintenance of Soil and Water Conservation Assets**

Soil and water conservation assets are both built and/or rehabilitated at individual level and at community level.

Operation and maintenance for ***individual level*** assets (e.g. eyebrow basins, trenches, soil bunds, check dams, trenches, etc…) which are not capital intensive, is straight forward. Once a farmer has been supported by the project through technical capacity and basic tools, and by other community participants in building such structures, usually on the farmer’s own land, it will be the responsibility of the very same farmer to maintain such structures. The fact that the farmers will have been made aware of the benefits brought by such structures through trainings and the low investment needed to maintain them makes it highly likely that the structures will be properly maintained in the years following the end of the project.

The situation changes dramatically when we deal with assets which are bigger, are placed in communal areas, and serve the purpose of numerous farmers/community members. We usually call such assets ***community level*** assets, and they include works such as small-scale dams and weirs (≤50,000 m3 capacity), dip tanks, and water conveyance systems in community gardens (1-2 ha).

The first step in ensuring maintenance while the project is being implemented is an institution building process. WFP and NGO partners on the ground encourage and supervise the establishment of democratically elected community committees called Asset Management Committees (AMC), which have the task of managing the assets and its maintenance.

During the asset creation/rehabilitation cycle of the project the AMCs are capacitated through on the job training and through specific trainings on key operational and maintenance aspects by cooperating partner and WFP technical staff. Government stakeholders from the Agritex (Agricultural Extension), Department of Mechanization, and the Environmental Management Authority are also involved throughout the process. Such government departments are mandated by law to support the AMCs after the official handover of assets to communities by WFP.

The trainings are not limited to AMC personnel, but is also cascaded to all project participants. For example, the AMC responsible for dip tanks is trained on careful disposal of acaricides to ensure that there is no spillage into other water bodies. For dams the AMCs are trained on regulation of water outflows to ensure that activities continue in the downstream among other things. Other operational aspects that are defined are linked to use of solar powered pumps for irrigation (when envisioned by the project).

AMCs and government departments are trained in a systematic maintenance programme that is composed of three main elements:

* Regular schedules maintenance
* Monitored maintenance
* Unscheduled maintenance

The AMC and other community members trained on maintenance of assets are required on a regular basis to perform servicing of certain parts of the created assets in line with manufacturer specifications; like regular lubrication, changing of certain pipes at set intervals. During the AMC trainings this information is provided, and the community is encouraged to set up a revolving fund that will cover the recurring costs. The monthly contributions by each participating member are nominal and agreed based on what is considered affordable. The fund is then grown through lending the funds at an interest within the community. Contributions can also come in the form of labour, for example, participants can contribute to scooping a dam after the first few year of construction, in order to maintain its full capacity.

In addition, AMC and district stakeholders from the line ministries are required both during project implementation and afterwards to undertake continuous surveillance of the assets to detect any malfunctions, or areas that require attention. The monitoring schedule is developed based on the estimated wear and tear rates of certain assets. Depending on the level of complications identified, communities can either use funds from their own revolving fund or escalate to rural district council for support. If the repairs costs are too high, the rural district council is required to seek funds for repairs from government budget or other donors.

Unscheduled maintenance occurs due to unexpected challenges. For such occurrences, the AMCs assess the level of damage. For example, after a flood, there might be erosion to some parts of the dam. If the anticipated repairs are within what the community can afford, the AMC utilizes funds from the revolving fund. In case where the estimated repairs are beyond what community can afford the council is engaged who can either request support from the government or from external donors.

The Operation and Maintenance Plan is developed for each asset and kept in the files that are available on each project site. Such a Plan is reviewed on annual basis depending on the experiences from the previous year.