**Template ANNEX “B”**

**Operations Manual - Maintenance and Deployment of Farm Tractors and Implements Under the Japan Non-Project Grant Aid**

1. **GENERAL INFORMATION**
2. **Background**

Provide a brief description of the association / cooperative / foundation, its membership, potential clientele, status of farm mechanization, problems encountered related to farm machinery, crop productivity status of the group.

1. **Goals and objective**

* To sustain the economic well-being and social development of the small sugarcane farmers and members of the association / cooperative / foundation in the mill district through farm mechanization.

1. **Vision**

* Example - A sustainable farm mechanization services for the small sugarcane farmers and members of the association / cooperative / foundation of the (name of mill district) for the next 5 crop years.

1. **FARM MECHANIZATION MANAGEMENT TEAM**

* **List down the names, expertise and responsibilities handled by the personnel in the team with respect to the farm mechanization project of the Japan NPGA (Submit an organizational chart/ structure showing the flow of information from frontline operations to managers responsible for making managment decisions).**
* **Employ Properly Trained Tractor Operators**The proponent’s authorized operator should present or **willing to undergo** a TESDA Certification for AGRICULTURAL MACHINERY OPERATION NC II in order to operate agricultural large production machinery and equipment. All tractor operators should be qualified and certified by TESDA to ensure and operate the said tractor safely and minimize potentially hazardous situations that can injure or harm others by exercising poor judgment. Continuous learning is also encouraged to update them on the appropriate repair, maintenance and operational issues on farm machinery.
* **Familiarity with Operator's Manual**The operator must read carefully and follow procedures as outlined in the operator's manual. Having familiarity with the operating features of a tractor, the farm tractor operator will gain confidence when the tractor is driven under adverse conditions. Familiarity with the location and purpose of all of the guages and controls as well as other indicators is also important. With this, the operators could calmly respond more quickly in case of an emergency situation.
* **Orient the Operator on the Intended Purposes or Use of the Tractor and Implements**The agricultural farm tractor has many uses around the farm, however, inappropriate use can result to rapid machine wear out and even tragic accident.
* **The Operator Should Check Tractor Before Operating**
  + A pre-operational check of the tractor will assure you that it is in safe operating condition. Check the tires for proper inflation and defects, windows for visibility, seat position, seat belts, brakes for adjustment, steering response, rear view mirrors, slow-moving vehicle emblem, reflectors, and running lights for day or night time operation.
  + **Safety Check:** Walk around the tractor and any attached implement checking the area for obstacles that may be under or near the tractor. This includes stones, boards, children's toys etc. Make sure there are no bystanders; remember this is a work area. Check that the wheels are free, not frozen or stuck in the ground. If the rear wheels are frozen to the ground, then the tractor may flip backwards around the axle when power is applied. Check for any loose parts or objects on the tractor such as tools on the platforms or around brakes and other controls.
  + **Check the oil:** Remove the dipstick, wipe it clean and check the oil level. If oil is required, remember to wipe off the filler cap before you remove it to avoid dirt falling into the engine. Use a **clean funnel** and clean the top of the oil can to prevent rust or other foreign objects going in with the oil.
  + **Check the radiator:** Slowly remove the red cap and check the liquid level.
  + **Check the air pre-cleaner and air cleaner.** Remove and shake out any dirt.
  + **Check the fuel level.** Fill if necessary, but it should have been filled at the end of the last day the tractor was used.
  + **Check the fire extinguisher.** Your tractor should have a fire extinguisher in case of fire during operation or refueling. Make sure it is charged and easily accessible.

1. **SCHEDULING AND DEPLOYMENT PLAN**

* Prioritization – small farmers having 10 hectares or less who are association / coop / foundation members shall be served first, 2nd priority are small farmers in the mill district who are not members, 3rd priority are farmers with more than 10 hectares within the mill district and last priority are small farmers outside the mill district.
* State the scheduling, tracking and monitoring plan for the farm machinery and equipment. If the members and clientele are geographically dispersed, logistical time and the difference in farm operations timing must be considered. Criteria for the prioritization must be incorporated in the scheduling scheme that will fit in the location, specific task, field condition and timing of operation.
* For the geographically dispersed farms, members/clientele located close to each other will be prioritized to minimize transportation cost and significantly improves the farm operations. Timing of operations in terms of field condition will also allow the machine to work efficiently and effectively.
* State any cost saving strategies and other cost structure for the efficient deployment and maximization of the services of the farm machineries and implements.

1. **PROCEDURE FOR APPLYING TRACTOR SERVICES**

**SAMPLE ONLY**

1. Fill up application form available at the MPC office.
2. Services are on a first come first serve basis.
3. Ocular inspection of area will be conducted prior to approval of application tractor services.
4. Farm manager shall determine the deployment of tractor.
5. Issuance of confirmation receipt by the operator to be acknowledged by the client.
6. **SCHEDULE OF PAYMENT / COLLECTION SCHEME**
7. Validation of \_\_\_\_\_hectares of serviced area certified by \_\_\_\_\_\_\_\_\_\_ and attested by farm owner
8. Computation of payment based on serviced area-GPS surveyed

* List down the planned charges or cost of services for the tractors and implements of the various priority groups (Please state any discounts or subsidy):
  + Tractor with power harrow – Php\_\_\_\_\_\_\_\_/ hectare
  + Tractor with sugarcane wholestalk planter – Php\_\_\_\_\_ / hectare
  + Tractor with mulcher – Php\_\_\_\_\_\_\_\_\_\_\_/ hectare

1. Payment / Collection scheme - SAMPLE ONLY
   * + *Downpayment of 50% upon application*
     + *Option 1: Full payment after operation.*
     + *Option 2: Full payment after 6 months, at 1% interest per month.*
     + *Option 3: Deed of quedan assignment between MPC and client.*

**(Submit a simple process flow from application, scheduling to up payment).**

1. **ANNUAL IMPLEMENTATION AND MANAGEMENT PLAN FOR FARM MECHANIZATION**

* State your general plan on how to enhance crop productivity in relation to farm mechanization.
* Include if there are plans or target for area expansion (area and location). What will be the minimum area that will be served as per target (per operation, per crop year) by the farm machinery and equipment.
* Kindly make a target Gantt chart.
* A brief discussion on management and coordination aspects.

**Table 1. GANTT CHART – Implementation and Management Plan of the Farm Tractors and Implements**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Farm Operation** | **Equipment** | **Area Served** | | | | | | | | | | | |
| **Jan** | **Feb** | **Mar** | **Apr** | **May** | **Jun** | **Jul** | **Aug** | **Sep** | **Oct** | **Nov** | **Dec** |
| Land preparation | Tractor with power harrow |  |  |  |  |  |  |  |  |  |  |  |  |
| Planting | Tractor with sugarcane planter |  |  |  |  |  |  |  |  |  |  |  |  |
| Ratoon Management | Tractor with mulcher |  |  |  |  |  |  |  |  |  |  |  |  |
| Cultivation | Tractor with implement |  |  |  |  |  |  |  |  |  |  |  |  |
| Fertilization | Tractor with implement |  |  |  |  |  |  |  |  |  |  |  |  |

1. **REPAIRS AND PREVENTIVE MAINTENANCE PLAN**

* Prepare a guide or checklist on the schedules of regular check up of the farm tractor and implements for preventive maintenance purposes and the responsible personnel in-charge of undertaking the preventive maintenance and the personnel monitoring the execution of the maintenance.
* State the repair and maintenance plan in case of farm machinery and equipment breakdown while in the field to ensure that the repair is in a timely manner, and misuse or mishandling by the tractor operator including sanctions.
* Include the responsibilities of all parties concerned (operator, client, overall manager, etc. during tractor and equipment breakdowns caused by operator error such as overload, lack of maintenance or poor driving have more potential for conflict. Most machinery cooperatives have policies which specify that a member must assume the cost of repairs if found that they were at fault. These policies and the procedures for determining the cause of breakdown should be clearly specified in the operating policies.
* Keep a record of the preventive maintenance undertaken and the repair services done including the service provider or the mechanic doing the repair and costs involved.

1. **FARM MACHINERY USE CHECKLIST** (Kindly submit a proposed form, see the sample details below)

* *Recommended Tractor Use Checklist (With Every Use!)*

***BEFORE USE & AFTER USE:***

* *Record hours – Logbook on the “IN” and “OUT” with odometer reading duly signed by the custodian or designated checker*
* *Perform Equipment Check:*
* *Tire pressure, wear or damage*
* *Oil or water leakage from tractor or implement*
* *Engine and transmission oil, radiator and recovery tank, coolant and fuel level*
* *Damage to tractor body, tightness of all bolts, nuts and pins*
* *Implement and accessory blades and belts for wear and damage*
* *Parking brake, speed control lever, all safety switches and easy checker functions*
* *Abnormal noise or vibrations*

***AFTER USE:***

* + *Record hours*
  + *Clean Off any dirt, seed or debris using air blower*
  + *Grease fittings*
* **Storage**

Establishment of the tractor shed or indoor storage is essential that will significantly extends the life of machines, lowers the maintenance costs and increases its useful value. Choosing an optimally located storage location is also an important especially if the machine will be deployed far away from the motorpool or the main tractor shed. The maintenance program may influence the storage location. Ideal storage location is centrally located within the service area, has a building or cover to keep tools out of the weather, and is on-site or convenient to the person who will be performing maintenance and repairs.

* **Transport (Optional)**

Provision of a transport trailer is advised to cater a wider area coverage for the equipment and reduce the wear and tear of the machine due to long distance travel. Arrange for the transport may lodge to the respon­sibilities of the end-user or can also be add on the the service fee. The group should also orient members to good transpor­tation practices, including properly hitching trailers and displaying a “slow moving” sign on the back of equipment.

Submitted by:

**Head of Beneficiary Association / Coop / Foundation**

Endorsed by:

**Head of SRA-ABE Division**

Approved:

**SRA Administrator**