

Central Workshop Management in Oil Palm Plantation



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A central workshop in an oil palm plantation provides a focal point for the repair and maintenance of machines, a store for supplies and spares, and a place to prefabricate building elements such as culvert, drain and hollow block to be used in construction projects. Having adequate facilities and proper procedures for the central workshop help minimise delays in plantation operations such as mechanisation and road maintenance.

The size of the central workshop should commensurate with the size of the oil palm plantation and the extensiveness of the work to be done in the workshop. Apart from the plantation size, other factors which will influence the extent of the workshop are the number and diversity of machines, the availability of services from dealers and the mechanical skills exhibited by the labourers. Without qualified and skilled personnel, the value of the central workshop becomes questionable and may even contribute to more frequent breakdowns and additional expenses due to improper work.

REPORT

The Agricultural Engineering Unit was given the task to prepare the standard operating procedure for the central workshop management at a 12,000ha oil palm plantation in Sarawak. A simple organisation structure of the central workshop as shown in Table 1. The scope of works of the central workshop is to conduct overhaul, repair, service and maintenance of the following fleet of machinery:

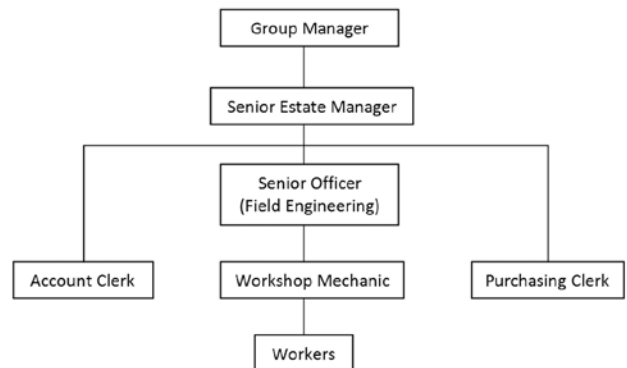
- i) Heavy machinery such as bulldozer, backhoe, compactor, excavator and shovel.
- ii) Tractors and trailers.
- iii) Agricultural machinery.
- iv) General vehicles, genset, pump, *etc.*

The central workshop also administrates and monitors record of stock items movement and raises all purchasing requirement.

RESPONSIBILITY

The Senior Estate Manager, who is responsible for coordinating all activities in the workshop, reports to the Group Manager who approves the budget and work program of the central workshop. The Senior Estate Manager is assisted by the Senior Officer (field engineering) who is responsible for all repair works and the provision of supplies

Table 1: Central workshop organisation structure



to keep the workshop in operation. The Senior Officer usually delegates the daily responsibilities to the Workshop Mechanic and Purchasing Clerk.

The Workshop Mechanic supervises all repair works both in the workshop and in the field. He checks and inspects all machines under repair. When the job is completed, he is responsible for the final testing before releasing the machine to the respective estate. He may also arrange for external workshops to repair machines which cannot be handled by the central workshop. The Purchasing Clerk is responsible for ordering, stocking, recording and distributing all supplies, including fuels and lubricants. He also prepares the purchase order for the Senior Estate Manager's approval prior to issuance. The Account Clerk is responsible for keeping all purchase and delivery records.

JOB CONTROL PROCEDURE

When a machine is sent for repair work, a Job Card (JC) is issued after the initial inspection by the Workshop Mechanic. Details of the work are recorded in the JC. The job is then allocated to the workers. The JC is attached to the machine throughout the entire repair period until the machine leaves the workshop. The Workshop Mechanic is responsible for keeping a detailed record of the progress of the work such as the names and quantities of the parts required in the card. Once the repairs are completed, the Workshop Mechanic, in the presence of the Senior Officer, will carry out the final testing. The Senior Officer is required to sign and approve the JC before it is released. The Senior Officer then transfers the information in the JC to the Service Record (SR) for the particular machine.

The SR serves as a quick reference when further repairs are required and also as a valuable check on the machine performance and the competency of the operator who is using it. Every machine should have its own SR. For the purpose of monitoring the progress of work, the Senior Officer is required to prepare a Weekly Progress Report (WPR) and forward it to the Senior Estate Manager. He is also required to prepare a Monthly Workshop Report (MWR) and get the approval of the Senior Estate Manager before forwarding it to the Group Manager and Chief Engineer.

STOCK CONTROL PROCEDURE

The Senior Officer is responsible for ordering the spare parts needed by issuing the Material Requisition Form (MRF) and getting the approval of the Senior Estate Manager before the Purchasing Clerk prepares the Purchase Order (PO). The original copy and the first copy of the PO are forwarded to the supplier. The second copy is retained by the Senior Officer, the third copy is filed in the estate office by the Purchasing Clerk and the fourth copy is kept by the Workshop Mechanic for updating the Stock Control Card (SCC).

The SCC is used to provide quick and accurate information on the movement of parts and available stock. Information on a particular part such as the supply sources, the stock on hand and the frequency of use could also be found on the

SCC. When the parts are issued, the receiver is required to sign an Issue Receipt Voucher (IRV) in duplicate with the issued parts recorded. One copy of the IRV is kept in the store for future reference and the other is forwarded to the Account Clerk. All incoming orders should be immediately unpacked and checked by the Workshop Mechanic or Senior Officer. The invoices usually come in three copies. The original is sent to the Account Clerk for payment. The first copy is kept by the Senior Officer and the second copy is kept in the store for the updating of the SCC.

CONCLUSION

Machinery breakdown due to poor maintenance, inadequate spare parts and lack of skilled mechanics contribute to the hike in the cost per hour of operation or per harvesting of fresh fruit bunches (FFB). In particular, mechanisation constitutes about 25% of the FFB average production cost. It is, therefore, imperative that machinery breakdown is reduced or minimised. This may be achieved by establishing a central workshop management system as an essential component of estate management in an oil palm plantation. Properly maintained records of all relevant activities in machine maintenance would enable the management team to monitor the operation and harvesting costs by making timely decisions to improve the utilisation of the machines or equipments. ■







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