Workflow: Improvement Projects

Toolkit 13.2
Identify Key Losses and Register Improvement Projects

target audience

Leadership team, strategic partner, supervisors, and contractors.

what it is

Waste is defined as "any activity or process which absorbs resources without adding value", e.g., using an incorrect pesticide, irrigating an orchard longer than necessary, or delaying a picking team as a result of a tractor breakdown.

Taiichi Ohno, the Toyota executive who developed the Toyota Production System, was fanatical about identifying and eliminating waste in the company. He defined categories of waste which are often referred to as the TIMWOOD categories. Refer to the TIMWOOD Loss and Waste Categories.

The Japanese Institute of Plant Maintenance (JIPM) has defined sixteen major losses in the production environment. Refer to the 16 losses in TPM. Some of these could be applicable to a farming environment and are listed below:

- Equipment losses, e.g., the utilisation and efficiency of equipment. There will be a cost associated with the unnecessary running of machines. Other examples will be breakdowns, setups, and adjustments.
- Defects and reworks. This refers to the production time which was wasted to produce rejects or items requiring sorting. The aim should be to produce 'right first time'.
- Manpower losses. When people wait for material, instructions or any other problem generated through bad management, it counts as a loss.
- Skill loss. This loss is caused when people do not have the right skills to perform a task and therefore must wait while someone else is doing the task.
- Material or yield losses, which occurs when an orchard is producing less product than what it is expected to or what has been planned for.
- Energy losses. This loss refers to any form of energy (electricity, gas, fuel, etc.) which is consumed but not utilised effectively. Some symptoms are steam leaks, idling equipment, or inefficient boilers.
- Lost time as a result of excessive capacity. Farm management should consider the size and utilisation of teams. Labour productivity typically suffers as a result of poor management planning and control. Be careful not to immediately equate excess capacity with a potential reduction in labour.

The exact nature of the losses in organisations will depend on many factors and different terminologies will be used to describe these. What is important, however, is to understand the various categories of waste and develop a loss and waste structure for your own organisation.

Your key losses will come from mapping your most important processes, then identifying where the losses are, and where your biggest improvement opportunities are. These opportunities may be easy to address (low hanging fruit) or require a bigger improvement project.

Losses should be quantified in monetary terms as a common denominator. It is difficult to compare product losses, e.g., number of cartons lost due to delivery delays (calculated in Rands of lost value) to the impact of lost equipment (calculated in hours of lost work). It is therefore important to use a common denominator, which is money. Once we have the losses quantified, it is easier to prioritise which losses to address first. Selection should be based on 3 criteria:

- The size of the potential saving.
- The impact of improvement activities – how much can we reduce the loss?
- The duration or timeline before a positive return is expected.

Prioritised losses should be targeted for improvement through a structured problem-solving approach. Refer to Toolkit 12.2 - Structured Problem Solving.

Anyone involved in the value chain should be allowed to take corrective action when a defect is discovered. Refer to Toolkit 5.3 - Quality Assurance and Control.

why it is important

To remain competitive, companies must understand where their opportunities are for improvement. Identifying key losses provides an opportunity to improve revenue (growth), or to reduce costs. Both will influence the profitability of the organisation.

success factors

What are the success factors for identifying key losses and registering improvement projects?

- **Process Mapping**
- **Identifying Types of Loss and Waste** – A good understanding of the type of losses across all the activities in the value chain.
- **Data and Information** – Access to or the availability of reliable data that can be used to identify key losses.
- **Quantifying Losses in Monetary Terms** – The ability to quantify the losses using a common denominator (ZAR) to allow for comparisons.
- **Commitment from the Team** – Time and commitment from all functional areas.
- **Formal Improvement Projects** – The formal registration of improvement projects and the allocating clear accountability for each improvement project.

execution steps

The process should start with clear understanding and buy-in from the leadership team. They need to engage in a loss and waste analysis on at least a 6-monthly basis. The outcome should be well resourced projects, led by qualified facilitators, and supported by the farm owner.

The following process is suggested to perform a loss and waste analysis:

1. Define the loss structure applicable to the area, using the broad categories defined.
2. Measure the losses or establish a mechanism to collect the data for future use.
3. Quantify the losses in financial terms (if possible).
4. Select the major losses to focus on. Sometimes these big losses will take a long time to eliminate and some other 'low hanging fruit' could be available for quick returns – address them if they are substantial.
5. Analyse these losses to determine their root causes and the extent to which they can be influenced (e.g., Are they caused by people, material, or equipment/process?).
6. Select the key focus areas and set targets for loss reduction. The selection should be based on:
   a) The size of the opportunity.
   b) The impact of the focus area or loss.
   c) The timeframe for a reasonable return.
7. Use these losses to register improvement projects:
   a) Allocate a facilitator and a team.
   b) Agree realistic objectives.
   c) Train the team in the DMAIC problem solving approach. Refer to Toolkit 12.2 - Structured Problem Solving.
   d) Monitor progress in management meetings.
8. Continuously refine this analysis to get more accurate information and to quantify the losses in financial terms.

assessment questions

Please Note: There is no minimum / maximum amount of questions you can add

1.	Do you follow a process for identifying losses?
2.	Do you consider different loss categories when identifying losses?
3.	Are losses quantified in monetary terms?
4.	Are loss opportunities used to select projects with the best potential return?
5.	Are improvement projects formalised and tracked to monitor benefits?

resources

1.	L&W analysis template example
2.	The 16 losses in TPM
3.	TIMWOOD Loss and Waste Categories