

TABLE 14.1: Nine Common Sources of Waste⁷

SOURCES OF WASTE	EXAMPLES
1. Waste from overproduction and excess inventory (<i>mura</i>)	Producing a product or service before it is actually needed. Overproduction contributes to unnecessary inventory and longer lead times.
2. Waste from waiting time (<i>muda</i>)	Production delays that waste the time of personnel. When a product is not moving or being processed, downstream resources are idle.
3. Waste from unnecessary transportation (<i>muda</i>)	The excessive movement and handling of a product between processes, which can damage or degrade it without adding value to it. For example, having to deliver inputs to storage facilities prior to their use leads to wasted time and effort, and it increases the likelihood that they will sustain damage.
4. Waste from defective products (<i>muda</i>)	Defects in product quality that lead to rework and scrap. Rework leads to additional inspection costs, yield losses, and the loss of goodwill on the part of customers.
5. Waste from inappropriate processing (<i>muda</i>)	Using the wrong equipment, tools, or procedures. Using unnecessarily complicated or expensive equipment instead of simpler and flexible machinery will waste money, as do processes that are not streamlined.
6. Waste from the underutilization of workers (<i>mura</i>)	The failure to use workers' knowledge and creativity and realize their full potential.
7. Waste from unnecessary motion (<i>muri</i>)	Unnecessary efforts, including bending, stretching, lifting, walking, or other movements. Poor machinery placement or the need to move equipment wastes time and leads to injuries.
8. Misguided effort (<i>muda</i>)	Manufacturing poorly conceived goods or services that do not meet the demands of customers.