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## **Introduction**

Agriculture in East Asia is one of the business sector within the Indonesian economy. at the last 45 years, the field arrow in the national gross internal output has decreased considerably, because of the rise of industrialization and the service field. although, for the plurality of Indonesian households, workinh in agriculture and plantation remains a vital income generator. at 2012, the agricultural sector contributed 14.44% to the national Gross domestic product, a slight decline from 2002's contribution which was 15.18% at 2011, the agricultural field provided jobs to approximately 48 million people, representing 40% of the home total worker force.

Currently, approximately 31% of Indonesia's land area is used for agriculture. The Indonesian agriculture field is supervised and regulated by the Indonesian government of Agriculture.

### **a. Suggestions for making the production process more cost-effective**

As we all know, saving production lines in general and preserving the environment are among the most important matters that concern the world now, because it is considered a duty for organizations, bodies, ministries, decision-makers, and all individuals towards future generations. This cannot be limited to Indonesia specifically at Ahmed Company, because we are an interconnected world. Because we are talking about Green Tractor Company in Indonesia, we will propose a set of methodologies for saving, taking into account sustainable green environmental systems.

- Design Reverse engineering, which revolves around taking into consideration the lessons learned, must refer to available records of lessons learned, as well as refer to articles and expert opinion, in order to reduce as many spare parts as possible in machines that are not benefited from or can be replaced with duplicate parts. Natural engineering which we all know means that you start making a product from A to Z, going through all the stages of design, beginning, then planning, then implementation, monitoring and control, and then completion. As for reverse engineering, it is that we begin the stages from the opposite, that is, after completing a product, we analyze it again, look at the small parts that can be dispensed with, replace the uses of petroleum with electricity, try to use environmentally friendly materials, and so on.
- Renewal of design: No longer relying solely on historical data and old information. Rather, it is necessary for decision-makers in factories to travel around the world and attend seminars, forums, and the

latest industry cries so that they can use the finest and best of what science has found. Sometimes, relying on what is old and relying only on copies Pasting may cost things and there is no improvement. The biggest evidence for this is the occurrence of developments in vehicles, as they were previously 100% dependent on petroleum, while now electric cars such as Tesla have been issued.

- Hiring the right people. Many companies face a challenge in the monthly salaries of workers and employees and are forced to reduce salaries or lay off them. We confirm that this is unhealthy for them and for the company. The recommendation is to appoint the appropriate people who give the best productivity, even if their salaries are higher than the rest, but as a result, they are considered the lowest cost due to their high productivity.

This team will study the exact demand in the market so that there is no exaggeration in production, which may cause waste and cause the company unwanted losses.

### **Consider the concept of lean manufacturing.**

We must be inspired by the story of Toyota in the mid-twentieth century, where they reduced a large amount of parts in their vehicles and reduced the rate of waste very significantly.

Reducing waste means reducing costs, and this only comes after calculating quantities very accurately. The agricultural equipment used in Indonesia, which they rely on, needs major development and not relying on international supplies. We must copy China and Egypt. There must be national Indonesian industries, and all of this is to reduce costs as much as possible.

### **b. A well-thought-out strategy for reducing faults throughout the production process**

There are many studies that have confirmed that the percentage of errors that cost rework takes approximately 33% of the budget of any project, and this is a frightening percentage that requires consideration and requires a process of mitigating its risks by considering the possibilities and impact. Reducing errors is achieved by appointing competent people, installing correct equipment, proper planning, and a clear methodology, such as:

1. Paying attention to two matters: quality assurance and control, which include plans and processes that help improve quality by focusing on processes and steps, preparing the necessary paperwork, developing a clear plan for quality and proceeding with it until there is a correct final output that begins with quality

control processes.

2. Involving employees, workers, and all concerned, holding dialogue sessions and brainstorming outside of work pressures, and each presenting his ideas for improving the product. This may also be done by setting up competitions among employees, and the winner gets a prize. These initiatives also contribute to involving employees in the future of the factory, and their sense of responsibility will grow, and loyalty will increase in every way. to be sure.

3. Great attention to all types of maintenance comes at the forefront of preventive maintenance, which will increase the economic, physical, and structural life of the facility. Without a doubt, all vehicles and all production lines, if do not have a clear plan and implement it periodically for preventive maintenance, then there will certainly be material losses and serious consequences in the long term. In addition to paying attention to corrective and emergency maintenance.

4. Problem management plan: which requires, immediately when an error occurs, that there be a rapid response plan by appointing an owner of the problem who is subordinate to the person with a continuous report to the responsible person, and is added at the end after solving the problem to the list of lessons learned, which is very helpful in preventing this problem from recurring in the future.

5. Monitoring and control operations: It is very necessary to monitor the situation continuously by appointing an independent team for this task and see whether you are in line with the same goals that you set in the strategy or have you deviated from them and always develop improvement and flexible plans in the event there is a failure in implementing a specific plan.

6. new machines, materials, and new tools, because it has been noticed in the Green Tractor Company that their equipment has worn out and therefore they need new ones, and selling their equipment, and the return on investment will undoubtedly be very strong.

Any new equipment comes with a warranty against defects, and there is also a full year in which you can change the oils continuously. I think the best strategy for the equipment is to sell it after the warranty expires. Yes, there is a risk to the level of costs, but on the other hand, there will be speed in the production lines, and the quality of the final product will increase, and the consumer will notice that, and companies and suppliers will also care about you more than before. What I am trying to convey is that one stone can kill more than one bird, and the first of them is great marketing for you and your family. Your company

**c. Using 21st-century technologies to produce a more environmentally friendly procedure**

Despite the great awareness that the world provides to everyone about the importance of paying attention to sustainability, climate, and green buildings, there are those who oppose this and choose easy shortcuts that would harm the environment directly and indirectly. There is modern technology that encourages good practices for projects and operations.

## **2. Develop a socially responsible operational guide for the Big Green Tractor for their pollutants.**

There is a non-profit organization with an international reputation called USGBC, which has a reference for all those interested and a guide for all individuals and companies that can be consulted and benefited from.

They place grades for the building, which obtains a large number of grades. It obtains the LEED certificate, which gives a big name to the facility and is considered a wonderful investment in the environment. It will have benefits in the short and long term, and there will be a positive return on investment. The question is how can we create a link between this organization and the Green Tractor Company? I believe we should follow these steps.

- Read the nonprofit organization's guide carefully
- Appointing a qualified person in the company who is familiar with the terms of this certificate
- Reduce carbon dioxide emissions as much as possible
- Relying on environmentally friendly materials
- Reducing the number of parking lots for cars, because this will reduce the facility's private levels and encourage people to use bicycles or buses
- Using electric vehicles instead of those that run on petrol
- Using solar energy, which will enhance the work of production lines
- Operating all air conditioners and heaters with solar energy
- Multiplication of crops and water recycling operations
- Implementing this in the long term will create a healthy society that knows its duties towards future generations, in addition to returns on investment that will certainly be positive.
- Fuels and lubricants will be stored in designated areas and inappropriate service vehicles. Storage sites for fuels, other petroleum products, chemicals, and hazardous materials including wastes will be located in uplands. To prevent these materials and other contaminants from reaching waterways, no hazardous substances will be stored in suitable containers.
- Prior to moving any equipment, the green tractor will visually inspect each piece of

equipment for cracks, excessive corrosion, or other flaws that may compromise the integrity of its fuel, hydraulic, or cooling systems. The Green tractor will repair or replace leaking equipment immediately after a leak is detected and will be responsible for prompt reporting and mitigation of any fuel or lubricant spills from their equipment. Pipes and pumps supporting the concrete pouring process should also be regularly assessed for leakages/spills,

- Refueling and lubricating of construction equipment will be restricted to upland. Wheeled and tracked construction equipment will be moved to an upland area more than 30m away from water bodies for refueling and at the end of each work day. Fuel and service truck drivers will be responsible for spill prevention during fueling and service activities and drivers will be held responsible for observing and controlling fueling operations at all times
- The Green Tractor top management will establish a process of reviewing the Environmental management system at planned intervals to ensure its continuity, adequacy, and effectiveness. The management review will include consideration of:
  - • the status of actions from previous management reviews
  - • Any Environmental Legislative /Regulatory / changes
  - • changes in external and internal issues that are relevant to the Environmental management system
  - • the extent to which the Environmental policy and the Environmental objectives have met
  - • information on the Environmental performance, including trends
  - • incident investigations, non-conformances, and corrective actions
  - • adequacy of resources for maintaining an effective environmental management system
  - • relevant communication(s) with interested parties
  - • comments and feedback from the Client • opportunities for continual improvement

Undoubtedly, there will be great resistance from people. What people are accustomed to is difficult to leave. Let us speak in the language of logic. How many of our friends or relatives have died due to cancer, and how many children have been born with deformities. There are studies that have confirmed that a large percentage of these cases are what is happening in the current climate and is the cause. It contains you, me, factories, and all wrong behaviors.



As a corrective measure, some countries have established compulsory, non-optional systems to deter anti-environmental practices, but there are some countries that still do not give the matter any importance. Today the world has become so interconnected that it cannot be said that the Kingdom of Saudi Arabia has preserved the environment by following sustainability methodologies, while in Indonesia they have not done so. Everyone must be aware that the climate is linked to the world. The small plant that dies due to the climate is the one that the animal was feeding on, and this animal is being fed by another animal, and the human being is eating this animal, and so the circle goes on, and we are all affected in the end. There must be an initiative by the Green Tractor Company to start with this social responsibility so that they can be a role model for others.

#### **a. Industrial standards on disposable of chemical waste**

The Chemical Waste Management Plan provides guidance and defines the requirements for managing and controlling

the waste-generated plan applies to all levels of early work construction projects as per Green Tractor contractual

requirements, Green Tractor Health, Safety, Security, and Environmental requirements, and applicable Saudi

Arabia laws and regulations. Level waste management plan early work apply to its subcontractors and, to the extent possible, for suppliers working on the project.

The strategic objectives of this Plan are:

- To provide guidance and describe how the wastes will be managed (collection, handling, transportation, storage, disposal, and record-keeping) effectively and within the requirements of the applicable regulations to protect human health and minimize the impact on the environment.
- To define the responsibilities and actions required for managing and controlling waste generated by the project activities during project execution to maintain compliance with the environmental requirements.
- To give guidance for waste reduction according to the hierarchical application of the practices of reuse, recycling, recovery, treatment, and final disposal in approved disposal sites.

Waste materials must be labelled and packaged in a manner that will allow them to be stored or transported without the danger of spillage, explosion or hazardous vapours escaping

- The waste generator bears the primary responsibility for proper packaging and labelling.
- All safety precautions required for handling and storage of the hazardous material must also be observed with the subsequently generated wastes.

The Level Describes Different types of hazardous waste will be kept separate as far as is possible to avoid adverse chemical reactions and to facilitate eventual treatment. Containers used for garbage and other oily, flammable, or hazardous wastes (such as caustics, acids, and harmful dust) will be equipped with covers, and waste is disposed of at frequent and regular intervals. Warning signs will be installed. Different types of liquid hazardous waste will be segregated within the area (e.g. waste oil and chemicals) It will be located away from sources of ignition, and at least 50 meters away from the marine environment or wadis. It will have an impervious base and bund and be shaded. pg. 9 Fire prevention systems and spill prevention measures (such as absorbent material and a pump to collect spilled oil) will be provided in the

area where necessary, to prevent fires or the release of hazardous materials to the environment in case of emergency. It will be protected against weather conditions by either placing a temporary cover during rain or wind or by installing a permanent shed. Drip trays will be used along with the liquid hazardous waste containers. As a mobile form of storage, drip trays will be designed to hold the contents of 110% of the biggest container stored within the drip tray. All types of non-hazardous waste will be stored on-site for no more than 6 months to comply with the standard for non-hazardous waste management facilities of GAMEP. Similarly, the hazardous waste will be stored at the Hazardous waste storage area for no more than 3 months. Levels will define hazardous waste as recyclable and non-recyclable. It will explain how this waste will be treated, reused/recycled, and disposed of it. Below are examples of hazardous waste which can be recycled or reused.

- Used / Waste Oil
- Used Hydraulic Oil
- Used Brake Fluids
- Oil Filters Below are examples of hazardous waste that cannot be treated, reused, or recycled. These will be disposed of to a designated hazardous waste landfill (approved by the PME and municipality).
- Contaminated PPE (gloves, aprons, hazmat turnout gear, etc.)
- Waste solvent/ thinners catalyst
- Non-recyclable waste printer tonner
- Empty Paint cans
- Asbestos

Training and awareness regarding waste management will be provided to all employees and contractors as part of the toolbox talks or on-site awareness sessions. Levels develop a training plan for all personnel who manage the waste management process for the project, including environmental awareness and supervisor competence training Level will all employees are thoroughly familiar with proper waste handling and emergency procedures, relevant to their responsibilities during normal facility operations and emergencies. Hazardous waste training will be conducted annually for those employees who manage and/or handle hazardous waste. All Workers personnel (faculty, staff, responsible for or participating in accumulation, tracking, storage, relocation or disposal and will be trained on this Waste Disposal Management Plan.

The reporting process will be ensured that disposal, recycling, and reuse of waste are recorded and reported correctly per project requirements. Waste disposal form will be used to record all waste stored, reused, recycled, and disposed of at the end of each calendar month,



# Chemical Waste Disposal Guideline

## Innocuous aqueous waste

- **Acid** (pH<4)
- **Alkali** (pH> 10)
- Harmless soluble inorganic salt
- Alcohol containing salt
- Hypochlorite solution
- Fine (tlc grade) silica and alumina

These chemicals should be washed down with excess water.

## Organic Solvent

### • Chlorinated

Example: DCM, Chloroform, Chlorobenzene etc.

### • Non-Chlorinated

Example: THF, ethyl acetate, hexane, toluene, methanol, etc.



## Red List

- Compounds with transitional metals
- Biocides
- Cyanides
- Mineral oils and hydrocarbons
- Poisonous organosilicon compounds
- Metal phosphides
- Phosphorus element
- Fluorides and nitrites.

## Solid Waste

- Lightly contaminated
- Example: Gloves, empty vials/centrifuge .

### Broken Glassware

Broken glassware are usually collected in plastic-lined cardboard boxes for landfilling. Due to contamination, they are usually not suitable for recycling.

## **b. Green alternative to traditional manufacturing process.**

- Since Indonesia depends on 30% of its revenues on agriculture, there is great interest on the part of the government on this sector, meaning that they do not tolerate factories and companies that are negligent or endanger agriculture. Rather, they stimulate factories by encouraging them to do things that are healthy for the environment, and there is a partial exemption. for environmental strike. This is undoubtedly a strong advantage.

Increasingly, some consumers do not want to be customers of factories that do not want to be concerned with environmental aspects.

- The logic behind this is clever: if you reduce the amount of raw materials and resources used to produce the final product, this reduces the cost.

Many companies are taking advantage of these initiatives by implementing new initiatives such as energy saving (reducing energy costs), reducing pollution (reducing global incentives), economic leadership (reducing fuel costs), and reusing and reducing raw materials (reducing waste costs). new materials).

In a 2021 Deloitte study, 750 educated executives told us that their green initiatives were improving in a way that could be measured by corporate funding.

- The profitability of going green has been proven in research for years, but it depends on the company's ability to integrate best-practice sustainability approaches.

In his book "The New Sustainability Advantage", Bob Willard (an internationally renowned leader in sustainability subject) estimates that if a typical company were to implement best-practice sustainability practices, it could improve its profit by at least 51% to 81% within three to five years.

The business opportunity is related to increased revenue, reduced energy, waste management, water, and material expenses among other factors.

- Any company that spends its utmost effort to achieve safety for the planet in which we all live must reward this company. Here, everyone will talk about this company. Also, the foreign press will have news about this company. Here, without a doubt, we can say that this is smart marketing that will draw everyone to this company and will International cooperation with it, and perhaps this is the real start for the company.
- A power audit is a fast and easy line to start creating a LEED facility. This audit takes into consider the entire energy consumption in order to find waste areas.

After auditing energy use, companies can select the best way to correct these losses. Whether it's through energy-efficient lighting or by replacing old motors, these small changes can have a big payoff.

Many companies begin this process by switching to LED lighting. These bulbs use 25 to 80 percent less energy and last 25 percent longer than traditional incandescent bulbs. When an entire facility converts to LED lighting, it can have a significant impact on energy costs.

During the energy audit process, manufacturing facilities may also choose to replace their

current energy source with a more renewable one. Renewable sources include wind, geothermal, solar, hydroelectric, and landfill gas.

Businesses can choose to generate power using one of these renewable sources. Switching to a sustainable source may have some initial cost, but over time, it can save significant money.

By going green, your workplace can become a far healthier environment. This can have a significant impact on man hours and result in a decrease in sick leave taken by staff.

There are benefits in other areas as well such as increased productivity levels and less money paid out for medical benefits. To make your workplace healthier, start small. Provide organic food in the cafeteria and keep the green theme by using cleaning products that are not harmful to the environment

## Conclusion

In the end, we cannot recommend Green Tractor Company unless it pays close attention to its risk management plan, because every day in the world is a new day.

It is very possible that regulations will change and all companies will be forced to follow environmental and sustainable systems. At that time, it will be difficult to catch up with companies that have already started.

Today, survival is not only for the strongest but also for the fastest. There must be comprehensive awareness among every one of our duties towards future generations, towards ourselves as well, and to the entire world.

Green Tractor Company is a company that is growing day by day and will have a bright future. It is now renewing all of its equipment that will improve its operations and in order to be able to keep pace with the development taking place in the world, it will little by little develop itself in terms of interest in sustainability, which will help in making it more known globally, and it would like to The value of operational burdens is reduced by using alternative energy, which costs a lot in the short term but is low in the long term.

In conclusion, the new saying that the company will implement is that the materials used will be from cradle to cradle and not from cradle to grave.

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