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SMART FARMING   
(AUTONOMOUS FARMING EQUIPMENT)

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**SHORT HISTORY**

Agriculture is dubbed as a backbone of economy as it gives a lot of opportunities in terms of employment and Labors, providing foods for bigger population and producing Raw materials for different industries. Agriculture cames in different branches, it does not only focus on the cultivation of plant based products such as vegetables, and fruits, but it could be either live stocks for diaries, pultry and neat production.

As the world is fast phasing and the population is fast escalating, agriculture need to catch up, and it need something that would strengthen the food security so there would be no scarcity in different aspects. That is one in many reasons why smart farming was invented and introduced as it was seen as a solution to the crisis in agriculture.

**PURPOSE**

The global pollutions and the frearent changes in the climate as a result of global warming were seen as a crisis in agriculture affecting the production negatively. Smart farming a system with the integration of IOT such as automated / driverless tractors, sensors, monitoring, machines and the use of robots for wedding & harresting computers and many more believes to be a key to a much more sustainable agriculture ensuring a stable and sustainable food security for all. With the application of ICT and advanced technologies the goal of smart farming is to increase the quantity of production rates while maintaining the quality of the products in top conditions.

**ADVANTAGE**

IOT plays a vital role in agriculture, it makes the process from planting to harresting and from cultivation to production much easy and less time consuming and with the reduction of waste and cost. Same of the advantages of smart agriculture are listed below.

* Weeding robots with the help of special software and database, it systematically targets the needs that has been detected and eradicate it immediately without harming the plants.
* To harrest the within a short period of time, harresting robotics or machine is use. This robots can determine which product within a high quality to harrest.
* Monitoring devices in agriculture can be used to monitor weather conditions, temperature and humility to distinguish which type of crop or plant is best for a detected weather condition.
* And another monitoring for livestock product to monitor and to enhance the production, welfare and management.
* Easy access to irrigation and water sources without costing much in electricity for pumping.
* Drones and robots are used for wireless monitoring and data collection in the field.
* Less cost for employment or laborer, since equipment are software operated.
* Most of the IOT used in smart agriculture are software based, so computer is needed to operate and control those machine or IOT related equipment.

In general, smart farming is advantages and beneficial to the whole agriculture industry because the system itself was built systematically and advance. Although crisis is inevitable, the goal of the system is to give positive outcome while reducing the effect of crisis in the industry.

**DISADVANTAGES**

The transition from traditional farming to smart farming is the disadvantages itself, especially if the farm is not in the good condition before transitioning. Smart farming cannot be called smart farming without technologies and it will cost a lot. And it also need a stable internet connection, without it, the machines will more likely to disfunction. Smart farming is not for places without or with slower connectivity. And lastly, since most of the equipments are advance, operators must allocate budget and time for learning how to use those technologies. Adopting smart farming is not easy as counting one, two, three, it takes a lot of courage to take a risk, money and effort to be able to completely adopt this kind of system in agriculture industry.

**Describe what type of technologies (Hardware or Software)**

Smart farming is a combination of hardware and software technologies. Although some of the machines and equipment are already modified like the automated/driverless tractors and some robots which are operated and control by software applications they are still hardware for they are tangible. This kind of system is in-dependent and work hand-in-hand to reach a certain level of productivity.

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