

Modern Vehicles Made Easy Farming

Karthik N¹, Deepak J²

^{1,2}Department of Mechanical Engineering, Faculty of Engineering and Technology, Jain (Deemed-to-be University), Karnataka

Email - n.karthik@jainuniversity.ac.in

Abstract

The Farming and cultivating are the parts of agriculture that is basically practice of various forms and food to sustain life such as art of livestock and cultivating plants. The practice of farming assist species to create food surpluses and enables people to live in cities. There are many farmers in India that still leading in hand tools due to lack of resources that tools like tractors need i.e. farmers cannot afford. The modern tools are very much required to understand the gap between technology implementation and farmers. The proposed paper design to carried out fabrication of multipurpose farming vehicles in order to perform pesticides spraying, carrying goods, ploughing etc. The present paper selected the different tools of agriculture that assist farmers to made easy farming. Different analysis has been done to compare the traditional farming and modern farming. In future scope similar advanced machines are studies and analyzed to make easy farming.

Keywords: Agriculture, Crops, Farmers, Farming, Vehicles.

Introduction

The main backbone of Indian economy is agriculture. Worldwide, Indian is second in rank with respect to farming. The economic contribution of agriculture to India's GDT is steadily declining with the countries broad based economic growth. The equipment's and modern farming are not beneficial for small field as the modern tools are very expensive and difficult to acquire[1]. The main aim of our project is to develop a battery powered multipurpose agriculture vehicle. There are some goals of sustainability and modern faring practices for farmers. The main goals help in modern farming are fuel needs of a growing population, meet the food, financially viable for both growers, consumers and conserve natural resources[2]. Figure 1 shown the design of smart farming.

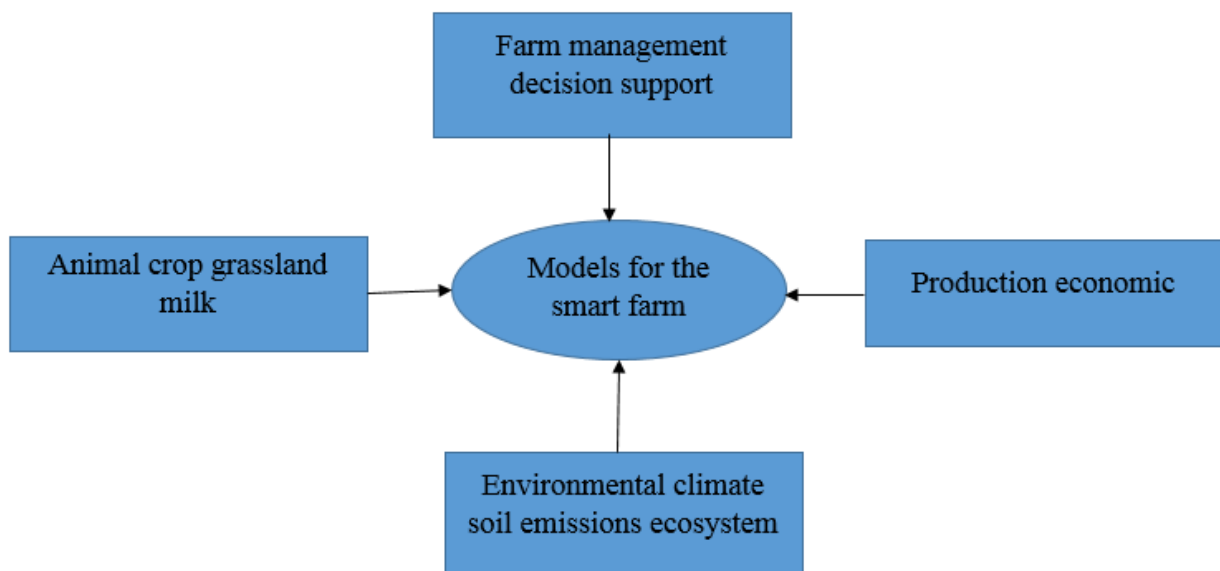


Figure 1: Design of Smart farming

1. *Types of Agriculture (farming):*

- Nomadic herding
- Intensive subsistence farming
- Mediterranean agriculture
- Shifting cultivation
- Commercial plantations

2. *List of forming hand tools:*

- Blades
- Peaks
- Hoes
- Machetes
- Rakes
- Transplanting tool
- Handling
- Bars
- Watering can

In Indian history agriculture is the best to the era Indus valley civilization. The modern vehicles play an important role in the fields such as medical, industrial, military applications etc., The modern vehicle field are increasing its productivity in the field of farming[3]. The major problems that are faced in the growth of farming are increasing input cost, lack of water resources, availability of skilled labors and crop monitoring[4].

Research Question

Role of modern vehicles in farming?

Benefits of modern vehicles in easy farming?

LITERATURE REVIEW

K durga sowjanya et al. has given view in paper multipurpose autonomous agricultural robot published in 2017 that the robot technology has various factors that is important for the growing technology. The robot for agriculture is that is already existing is basic elementary such as spreading pesticides, harvesting planting etc. In this paper, studies and analysis has been for the agricultural robot technology. The robot that is designed for the agriculture is multipurpose in order to work for irrigation system through Bluetooth. This project is important for the workers that are working on the areas have potential health of the workers. The project helps to reduce the ensuring proper irrigation and also decrease the human intervention[5].

Hossein mousaza deh et al. explained in his paper sustainability in agricultural mechanization: assement of a combined photovoltaic and electric multipurpose system for farmers published in 2009 that this paper studies and worked on RAMses system that is for the access of economic and environmental performances. The different other systems related to agricultural technology are compared with the RAMses system and found that this selected system is marginally more expensive than the systems based on combustion engines and fuels. The

fossil fuels used in the machines going to finish, for the starting of machine dependency should be on recyclable resources that are also called as renewable energy[6].

Ibrahim mat et al. explained in his paper smart agriculture using internet of things published in 2018 that there are different challenges in the field of agriculture. The challenges such as climate change, weather change, etc. are faced to fulfil the food demand. The agriculture with IoT technologies the farmers to reduce waste and productivity of the agriculture gets enhance. The smart farming has different advantages such as sustainable masses, improving food cleanly through hi-tech systems. The information and communication technologies used in robot technology for agricultural application[7].

METHODOLOGY

1. Design:

The modern vehicles made easy farming strategy implementation concerns various design and structure of strategies to implement. The various smart agricultural tools have been discussed and analyzed. The modern farming tools such as cultivator, thresher, rip binder, rotavetor, disk plough, moldboard plough, tractor and land leveler. The study of made easy farming has been studied by discussing details of modern tools, effect of modern farming and by analysis of traditional and modern farming.

2. Sample:

For the study, different advanced agricultural tools have been selected from the various advanced tools. Different modern farming tools have different characteristics, some of the quantities are selected for the comparison of different characteristics for the study of making easy farming. The selected and discussed modern farming tools are cultivator, thresher, rip binder, rotavetor, disk plough, moldboard plough, tractor and land leveler.

3. Data Collection and Analysis:

The data for the modern vehicles made easy farming has been collected from the different sources of the technical research and review papers. The smart agriculture system depends upon the new trend of technologies in order to balance the input of the production of crops with less impact of environment on and more efficient. The techniques such as crop rotation focus on precise, integrated pest management and sustainability without sacrificing crop yields. The environment and health sectors are linked with the farming. Majority of farmers are involved in the sector of human and animal health and environment sector[8]. The smart agriculture is important in order to meet the global challenge of food. The Figure 2 shown the details of smart farming.

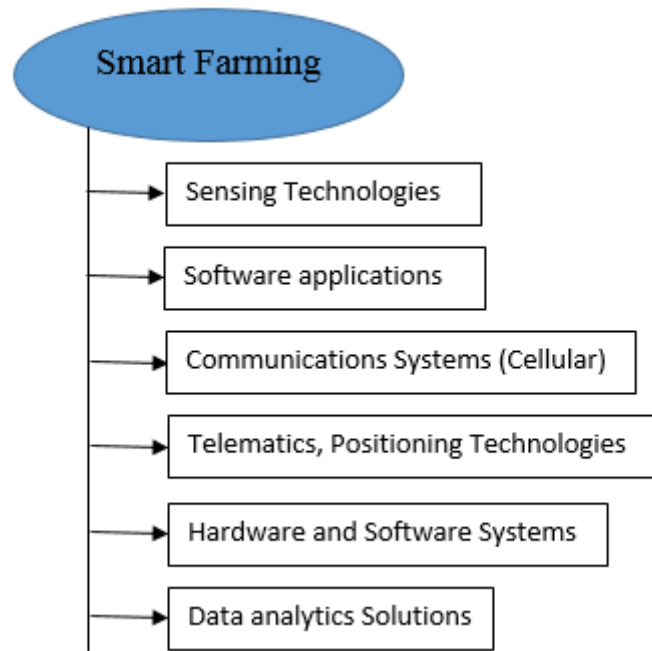


Figure 2: Details of Smart Farming

4. The different tools of modern Agriculture:

4.1. Cultivator:

The design and size of amplifiers, remove weeds without damage to the plant and the plant to fit around all the various available. Loosening the top two inches of soil to grow plants, giving them room to strengthen the two can cause negative effects. First loosened soil dormant weed seeds to germinate is to be encouraged[9]. The second effect of the loosened soil particles, adding weight and pressing down on the ground, the compacting, can oxidize and hard. After cultivating mulching is one way to counter the negative effects of both. The Figure 3 shown the design of cultivator.



Figure 3: Design of cultivator

4.2. Thresher:

The thresher machine or in modern spelling, machine that is simple thresher, threshing, the agricultural use of the machine was invented by Scottish mechanical engineer. Separate the grain from the stalks and husks discovered in 1784. For thousands of years, grain from the 18th century to about one quarter of agriculture labor, flails are separated by hand and flairs was very laborious and time consuming. The process of mechanization farm labor was a big fag. The grinding mill and threshing the grain to get the customer is just a process. The wheat, then cut stoked, threshed and grain binding bales hauled to an elevator and the chaff needs to be grown. The Figure 4 shown the design of thresher.



Figure 4: Design of Thresher

4.3. Rip binder:

The rip binder is also known as reaper. The reaper was on the update of the farm equipment. The Charles withington was invented the binder in 1872. In addition to crop small grain crops, it is also a small space, or to tie the stems into sheaves. The sheaves threshold the grain for several days before being allowed to dry, resembling small tipis, conical in stooks. The diagram of rip bider is shown in Figure 5.



Figure 5: Design of Rip binder

4.4. Rotavetor:

Rotavetor often used in gardens and gardening powerful pieces of machinery, is taking and broken fields, aerate the soil and churn. Use a set of blades or rotors rotavators despite the spin and break ground. This improves drainage, level the area and make land for growing vegetables and crops in full. Figure 6 shown the design of rotavetor.



Figure 6: Design of rotavetor

4.5. Disk plough:

A disc harrow the crop is planted were the land is used for farming or farm equipment. It is also undesirable weeds or crop are used to chop up reminder. It has various iron and slight concavity and are arranged as two of the four sections contains a steel desk. The design of disk plough is shown in Figure 7. The four sections have been flattered to be wider than it is tall. The disk is being offset their concavity and loosen them and cause to cut the soil.



Figure 7: Design of Disk Plough

4.6. Moldboard plough:

The plough sowing the seeds for the preparation of land for the cultivation of early farming or planting soil to loosen or use a tool. It is made up of iron and wood. The history of the most basic equipment has major

advances. The aerates soil hold moisture better and to allow alternative crop for planting the seed that provide free medium. Figure 8 shown the design of moldboard plough.



Figure 8: Design of moldboard plough

4.7. Tractors:

A tractor is an engineering vehicle specifically designed to deliver a high tractive effort at low speed, for the purpose of hauling a machinery. The term is used to describe a farm vehicle that provides the power and traction to mechanize agricultural tasks. The tractor provides a source of power if the implement is mechanized. Figure 9 shown the design of tractor.



Figure 9: Design of Tractor

4.8. Land leveler:

The laser leveling of fields to use as possible, increase the area of agriculture fields and increase operational efficiency. Figure 10 shown the design of land leveler.



Figure 10: Design of Land leveler

EFFECT OF MODERN FARMING

Farming is a part of agriculture. The farming deals with different issues such as insecticides, fertilizers, analysis of products related to agriculture, fungicides, soil structure and animal's nutritional needs. In the development of technology different factors are involves such as processing, packaging and marketing. The factors that helps in increasing the market of agricultural are rapid freezing. Some other methods are also discussed.

- Deforestation
- Irrigation
- Soil degradation
- Issues by region
- Climate change
- Genetic engineering
- Pollutants
- Waste

The comparison between traditional and modern farming:

1. Economic aims:

1.1. Traditional farming:

- Land and labour main inputs, few capital inputs
- Aims at maximizing gross output and yield per acre
- Prime aim to provide family food
- Diversity of crops grown
- Prime aim avoidance of risk: reluctant to innovate.

1.2. Modern farming:

- Capital and land major inputs, labour a declining input
- Aims at maximizing output per head and minimizing production costs
- Profit maximization
- Specialized production
- Innovation

2. *Destination of food:*

2.1. *Traditional farming:*

- Local direct consumption and some processed locally.

2.2. *Modern farming:*

- High proportion processed and to food manufacturers.

3. *Original input:*

3.1. *Traditional farming:*

- Power (Draught animals)
- Pest control (Crop rotations, intercropping)
- Implements and tools (from own harvest)
- Plant nutrients (Legumes ash, bone)
- Weed control (Rotations, use of plough hoe, sickle).

3.2. *Modern farming:*

- Power (Petroleum, electricity))
- Pest control (Insecticides, fungicides, break crop)
- Implements and tools (Combine harvesters)
- Plant nutrients (Chemical fertilizers)
- Weed control (Machinery, combine harvesters)

The robot technology for the agricultural purposes are depends upon some factors. The biological, engineering, physical science and technology are the parts of smart farming. There are many farmers that are still leading in hand tools but due to lack of resources that tools like tractors need i.e. farmers cannot afford. The modern tools are very much required to understand the gap between technology implementation and farmers. The proposed paper design to carried out fabrication of multipurpose farming vehicles in order to perform pesticides spraying, carrying goods, ploughing etc.[10]. In the late nineteenth and twentieth century agricultural mechanization features has shown the farmer more work. The mechanization process also makes the farming more productive and efficient.

RESULTS & DISCUSSIONS

The research paper modern vehicles made easy farming has been done successfully. The Farming and cultivating are the parts of agriculture that is basically practice of various forms and food to sustain life such as art of livestock and cultivating plants. There are many farmers in India that still leading in hand tools due to lack of resources that tools like tractors need i.e. farmers cannot afford. The proposed paper design to carried out fabrication of multipurpose farming vehicles in order to perform pesticides spraying, carrying goods, ploughing etc. The machine requires less manpower and less time compared to traditional methods. The present paper selected the different tools of agriculture that assist farmers to made easy farming.

CONCLUSION

India is second in rank with respect to farming. The economic contribution of agriculture to India's GDT is steadily declining with the countries broad based economic growth. The proposed paper design to carried out fabrication of multipurpose farming vehicles in order to perform pesticides spraying, carrying goods, ploughing etc. The electricity used for multipurpose farming tools are efficient only for small tools that can be used for small fields. The battery used tools help in reducing pollution with large extent. The present paper selected the different tools of agriculture that assist farmers to made easy farming. The practice of farming assist species to create food surpluses and enables people to live in cities. The selected modern farming tools are cultivator, thresher, rip binder, rotameter, disk plough, moldboard plough, tractor and land leveler. Different analysis has been done to compare the traditional farming and modern farming. For the future scope similar advanced machines/tools are studies and analyzed to make easy farming.

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