



# INTERNATIONAL JOURNAL OF PURE AND APPLIED RESEARCH IN ENGINEERING AND TECHNOLOGY

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## SPECIAL ISSUE FOR NATIONAL LEVEL CONFERENCE "Technology Enabling Modernization of Rural India (TMRI- 2018)"

### TECHNOLOGICAL DEVELOPMENT IN INDIAN AGRICULTURE

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**Accepted Date: 19/03/2018; Published Date: 01/04/2018**

**Abstract:** India is an Agricultural Country. 75% of Population is involved directly or indirectly with Agriculture. Using modern agriculture and farming is a must because modern farming methods can increase production and can feed the world. Farmers normally complain about low yield growth from sowing seeds. For the growth of agriculture economy in India, mechanization is necessary. The main purpose of mechanization in agriculture is to improve the overall productivity & production.

**Keywords:** Productivity, Modern Farming, Storage, Economy, Hybrid Seeds, Rural People



PAPER-QR CODE

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**Access Online On:**

[www.ijpret.com](http://www.ijpret.com)

**How to Cite This Article:**

Lokesh Kumar Sharma, IJPRET, 2018; Volume 6 (8): 11-20

## INTRODUCTION

Agriculture is the major occupation of the Indian rural people. Basically agriculture sector is the backbone of India's sustained growth. Mostly, Farmers in India work in an agriculture field manually. Precision seeding reduces wastage of seeds and increase production rate. To increase precision seeding various industries are developing various automatic machines which reduce overall cycle time & cost of labor

Modern agriculture means traditional farming with the facilities of modern agricultural equipment and technology. In the past the farmers used to use bull to plough or dig the soil. But now with the facilities of modern technology farmers are using tractor for this purpose. Different types of hybrid seeds, fertilizers and breeds of birds, animals and fishes are now available for maximizing the production. We don't like traditional agriculture. Modern agriculture has changed the total agricultural process. So, modern agricultural revolution is a must. To be success in agriculture and farming business, we need the proper, correct and experimental information based on modern technology. Which can make our dream

### Traditional Farming method

This method involves use of plough and animal's. The plough is driven with the help of animals and seeds are feeded manually within furrows created by plough. The crops like wal or gram etc are sown by this method. Figure shows the actual procedure of this technique. This method requires less time, less human effort and less labor. But this method requires more animal efforts.



**Fig.1 Sowing Seed using**

### Modern Techniques For Sowing Seeds –

Now days this two wheel tractor is used by small scale as well as medium scale farmers. Companies also manufactures seed driller two-wheeler tractor. This tractor produces either one or two rows of furrows. This unit consists of a coulter/ tine combination with an additional double disc opener to place the fertilizer .Seed metering is done by horizontal plate metering system. This two wheel tractor can also be used for multipurpose crop planting. It require less human effort but this tractor requires fuel to work.



**Figure 2.The versatile multi-crop planter (VMP)**

### Specification of Machine

Depth of Cut- Adjustable to 7" Maximum

Width of Cut - (MM -INCH) – 1016-40 127050

Kinds of Blade - Blade No. 574

No. of Blade – 8 Each Left & Right 10 Each Left & Right

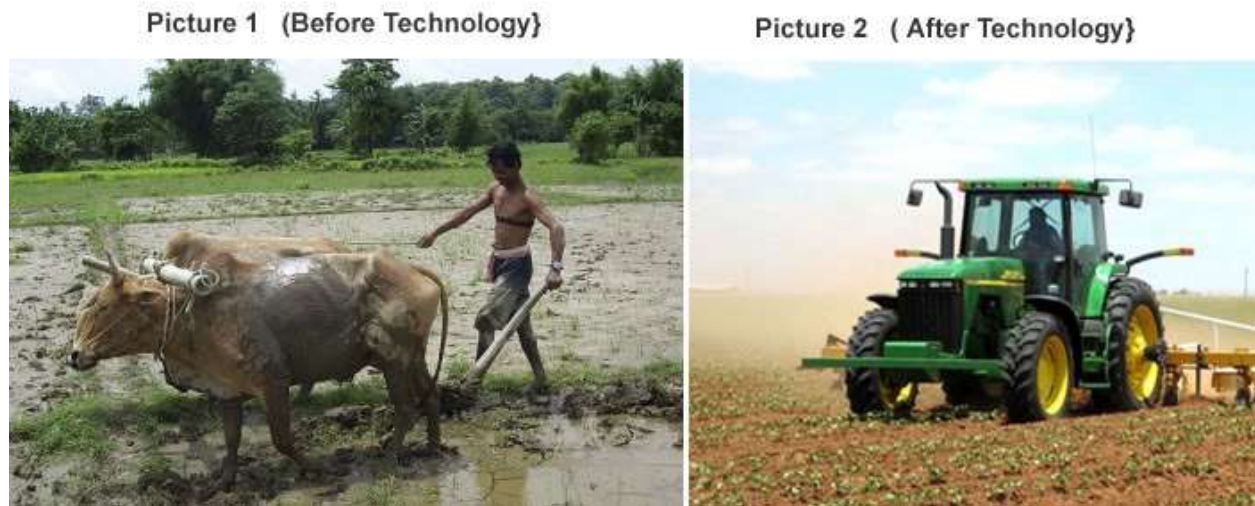
Fuel Consumption – 0.18 Ltr

### Use of Technology in Farming

Technology has played a big role in developing the agricultural industry. Today it is possible to grow crops in a desert by use of agricultural biotechnology. With this technology, plants have been engineered to survive in drought conditions. Through genetic engineering scientists have managed to introduce traits into existing genes with a goal of making crops resistant to droughts and pests

Technology has many facilities for the farmer like transportation, colling facilities provides storage of his crops. And helps to opportunity to sell his crops when market price of his crop is high

**Below is a summary on the use of Technology in agriculture:**



**Fig. 3**

**1. Use of machines on farms.** Now a farmer can cultivate on more than 2 acres of land with less labor, and can cut costs even more when they are looking for a used tractor and other harvesting technology, versus new equipment. The use of planters and harvesters makes the process so easy. In agriculture, time and production are so important; you have to plant in time, harvest in time and deliver to stores in time. Modern agricultural technology allows a small number of people to grow vast quantities of food and fiber in a shortest period of time.

**2. Modern transportation:** This helps in making products available on markets in time from the farm. With modern transportation, consumers in Dubai will consume a fresh carrots from Africa with in the same day that carrot lives the garden in Africa. Modern transportation technology facilities help farmers easily transport fertilizers or other farm products to their farms, and it also speeds the supply of agricultural products from farms to the markets where consumers get them on a daily basis.

**3 .Cooling facilities:** These are used by farmers to deliver tomatoes and other perishable crops to keep them fresh as they transport them to the market. These cooling facilities are installed in food transportation trucks, so crops like tomatoes will stay fresh upon delivery. This is a win-

win situation for both the consumers of these agricultural products and the farmers. How? the consumers gets these products while still fresh and the farmer will sell all their products because the demand will be high.

**4. Genetically produced plants** like potatoes, can resist diseases and pests, which rewards the farmer with good yields and saves them time. These crops grow very fast they produce healthy yields. Since they are resistant to most diseases and pests, the farmer will spend less money on pesticides, which in return increases on their (RIO) return on investment.

**5. Development of animal feeds.** This has solved the problem of hunting for grass to feed animals, now these feeds can be manufactured and consumed by animals. The price of these feed is fair so that a low income farmer can afford them. Most of these manufactured animal feeds have extra nutrition which improve on the animal's health and the output of these animals will also increase. In agriculture, the health of an animal will determine its output. Poorly feed animals are always unhealthy and they produce very little results in form of milk, meet, or fur.

**6. Breeding of animals which are resistant to diseases.** Most of these genetically produced animals will produce more milk or fur compared to normal animals. This benefits the farmer because their production will be high. Cross breeding is very good in animal grazing, cross breed animals are more strong and productive.

**7. Irrigation of plants.** In dry areas like deserts, farmers have embraced technology to irrigate their crops. A good example is in Egypt, where farmers use water pumps to collect water from river Nile to their crops. Most of these farmers grow rice which needs a lot of water, so they manage to grow this rice using irrigation methods enhanced by advanced technology. Advanced water sprinklers are being used to irrigate big farms and this helps the crops get enough water which is essential in their growth. Some farmers mix nutrients in this water, so also improves on the growth of these crops.

Agriculture has been transformed by technology to increase output and quality of goods. Today, farmers who are still breaking their backs using traditional agriculture tools are wasting their time. Tractor that was once the epitome of technological genius in the agriculture sector is old news. The strength of modern equipment has transformed the agriculture industry for the better. These are the latest tools available to farmers and their uses.

## 1 .Tractor

Old is gold and this is true for the tractor. This excellent piece of machinery can address most of your agriculture needs. With wheels designed to move steadily on the uneven ground these machines work well even on flooded fields. A tractor attached to a plough can help you till the field. Attach it to a cart and you can carry your goods or cattle to the market. Carry [heavy duty equipment](#) around the field using your tractor. Move earth around in the field with the help of a tractor.

A walking tractor is a powerful single axle machine that can help with small scale horticulture and ornamental work. These machines are generally used for the cultivation of gardens.



Fig.4

## 2. Combine

Basically, a lawn mower but bigger in size, Combines help you chop hay for livestock. A Combine has a comb cutter to cut the plants mature grain and a long rake in front of the machine. It helps segregate the grain from the crop.



Fig.5

### 3. Plough

A remarkable piece of agricultural equipment, meant to furrow into the earth for the planting of seeds. A plough's greatest advantage over a tractor is that it is easier to shift the earth using its powerful blades.



Fig.6

### 4. Drag

A machine meant to break wood, metal, and solid particles in the farmland, segregated by the plough. The solid particles impede the growth of crops in the a



Fig.7

**5. Sprayer** A tank filled with insecticide, fungicide, or pesticide is sprayed uniformly over crops using these machines. A gas mask must be worn as these chemicals can cause us harm.



Fig.8

### 6. Tillage planter

A tillage planter comes in handy for hard agricultural land that cannot be shifted easily using a plough. This piece of equipment is meant to sow seeds in the ground without requiring any prior tillage



Fig.9

### 7. Fertilizer

Fertilizer is an essential requirement for the healthy growth of crops. A fertilizer distributor only requires the farmer to add the manure in dump tube and spread it around his field.





**Fig10**

Conclusion – Modern Technology has Facilities to Farmer and Helping To growth Economy of India. Use of modern Techniques in Farming Reduced Labor Cost and Timing. Its Increase Productivity. Modern meditation, ideas, technologies are available in the agricultural industry to ensure maximum use of the natural resources.

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