DOI:1026524/jms.2016.33

THE ROLE OF MODERN TECHNOLOGY IN AGRIBUSINESS MANAGEMENT

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Abstract

The aim of this paper is to define how technology is helping to agribusiness and its growth. Literally speaking business means bushes. Business concerns with buying and selling goods, manufacturing goods or providing services in order to earn profit.

Agriculture has evolved in to agribusiness and has become a vast and complex system that reaches for beyond the farm to include all those who are involved in bringing food and fiber to consumers. This system has undergone a rapid transformation as new industries have evolved and traditional farming operations have grown larger and more specialized. The farms that meet the consumers demand for greater processing and convenience also constitute a major part of agribusiness and are referred to as the processing manufacturing sector. The food and fibre system is increasingly being referred to as "agribusiness". The term agribusiness was first introduced by Davis and Goldberg in 1957. it represents three part system made up of (1) the agricultural input sector (2) the production sector and (3) the processing-manufacturing sector.

The applications of technology have not only increased food production in real terms, but have dramatically reduced the number of individuals directly involved in food production/processing – enabling the diversification of society to address social issues not directly related to "survival", but generally seen to increase the quality of life. The role that biological and chemical technology have played, continue to play, and will play in the future development of agriculture. Technology has been essential to agricultural productivity/stability, current breakthroughs in technology confirm that the development of new technologies is a sustainable endeavour, and directs us to that technology will enable sustainable agriculture in future. The objective of the modern technology is to meet the new machinery that is used to perform different jobs in the field and it gives the expected outcomes.

Keywords: Agribusiness Management, Modern machines in Agriculture, Sustainable Agriculture.

Introduction

Agriculture indicates ploughing a field, planting seed, harvesting a crop, milking cows, or feeding livestock. But to days' agriculture is radically different. Agribusiness include not only those that farm the land but also the people and firms that provide the inputs, process the output, manufacture the food products and transport and sell the food products to consumers.

Agribusiness system has undergone a rapid transformation is not happen overnight, but came slowly as a response to a variety of forces. Knowing something about how agribusiness came about makes it easier to understand how this system operates today and how it is likely to change in the future.

Types of agriculture

The types of agriculture can be divided according to very different sorting criteria:

According to its dependence on water:

- **Dry land farming:** Agriculture is produced without the addition of water by the same farmer, feeding the soil from rain and / or groundwater.
- I**rrigation farming:** occurs with water intake by the farmer by providing channels that captures natural or artificial surface or by groundwater extraction wells.

According to the scale of production and its relation to the market:

- **Subsistence:** It consists in producing the minimum amount of food necessary to meet the needs of the farmer and his family, with little surplus to sell. The technical level is primitive.
- **Industrial Agriculture:** large quantities are produced using costly means of production and market for surplus. Typical of industrialized countries, the developing countries and the internationalized sector of poorer countries. The technical level is technological. Agriculture can also be defined as market.

As seeking maximum performance or minimal use of other means of production, this will determine more or less ecological footprint:

- **Intensive agriculture:** looking for a large production in a short space. Leads to increased wear of the site. Typical of industrialized countries.
- **Extensive agriculture:** it depends on a larger surface area, i.e., causes less pressure on the place and their ecological relationships, but the business benefits they are minor.

According to the method and objectives:

- **Traditional Agriculture:** Use of typical systems that have shaped the culture of the same, shorter or longer periods.
- **Industrial Agriculture:** based mainly on intensive systems, is focused on producing large quantities of food in less time and space, but more eco-wear, designed to move large commercial benefits.
- **Organic Farming and Organic Farming:** create different production systems that respect the ecological character of sites and geo-biological of the soil, trying to respect the seasons and the natural distributions of plant species.
- **Natural Agriculture**

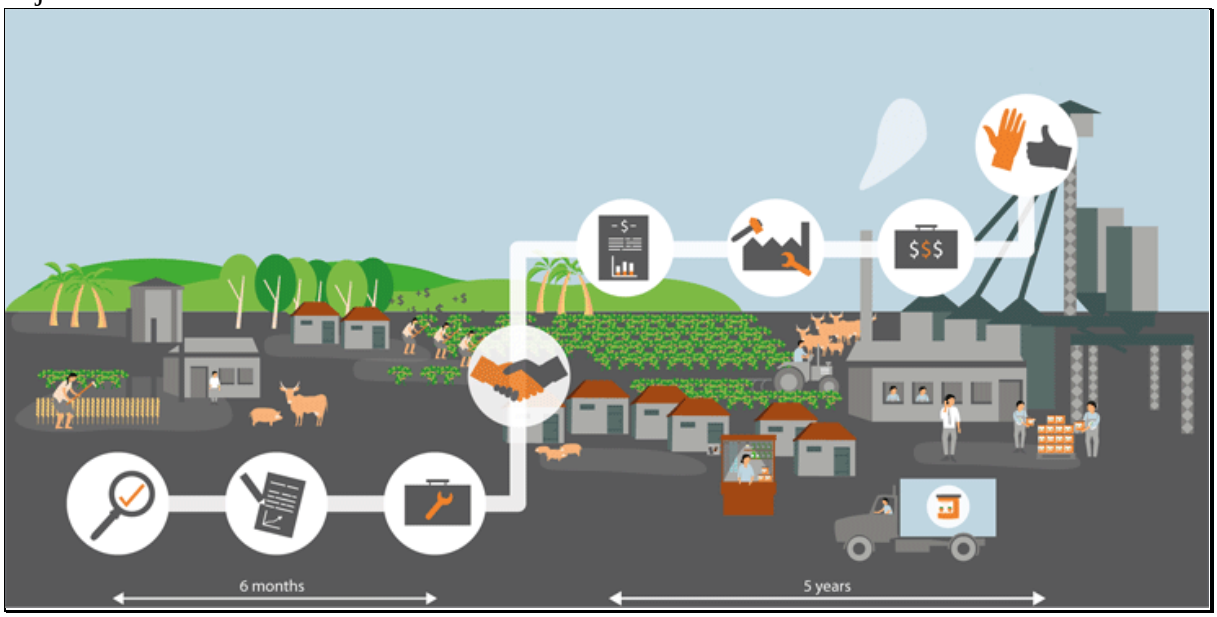
Nature of successful agribusiness:

The business has become very competitive and complex. This is mainly due to changing taste and fashion of the consumers on the one hand, and introduction of substitute and cheaper and better competitive goods. A farmer needs to "produce only what customers want in order to make his business a successful one.

1. Determination of clean objectives is one of the most essential pre requisite for the success of business. The objectives set forth should be realistic and clearly defined.
2. Planning is a pre-determined line of action. The accomplishment of objectives set, to a great extent, depends upon planning itself. It is said that it does not take time to do thing but it takes time to decide what and how to do. Planning is a proposal based on past experience and present trends for future actions.
3. Sound organization is the art or science of building up systematically whole by a number of but related parts. Organization of business is a harmonies combination of

men, machine material, money management etc. so that all these could work jointly as one unit, i.e. "business" "the agribusiness". Organization is, thus such a systematic combination of various related parts for achieving a defined objective in an effective manner.

4. In agricultural production philosophy "produces what the consumer want". "Consumers" behaviour is influenced by variety of factors like cultural, social, personal and psychological factors. The knowledge of these factors is acquired through market research. Research is a systematic search for new knowledge. Market research enable a business in finding out new methods of production, improving the quality of product and developing new products as per the changing tastes and wants if the consumers.
5. Finance is said to be the life-blood of business enterprise. It brings together the land, labour, machine and raw materials into production. Agribusiness should estimate its financial requirements adequately so that it may keep the business wheel on moving.
6. Proper plant location, layout and size is the success of agribusiness depends to a great extent on the location. Where it is set up. Location of the business should be convenient from various points of view such as availability of required infrastructure facilities, availability of inputs like raw materials, skill labour, nearer to the market etc.
7. Efficient businessman can make proper use of available resources for achieving the objectives set for the business.



Modern machines in agriculture

Modern agriculture depends heavily on engineering, technology and the biological and physical sciences. Irrigation, drainage, conservation and channelling are all important fields to guarantee success in agriculture and require the expertise of agricultural engineers. Agricultural chemistry deals with other issues vital to agriculture, such as the use of fertilizers, insecticides and fungicides, soil structure, analysis of agricultural products and the nutritional needs of farm animals. Plant breeding and genetics represents an invaluable contribution to agricultural productivity.

The packaging, processing and marketing are closely related activities also influenced by the development of science. The methods of rapid freezing and dehydration have increased the markets for agricultural products. Even more significantly, mechanization has increased

efficiency and productivity of farms. Planes and helicopters are used for agriculture purposes, such as planting, transportation of perishable goods and fighting forest fires and crop fumigant to control insect pests and diseases. The radio and television transmit vital weather data and other information of interest to farmers.


Equipment and Tools

The machines are elements that are used to direct the action of forces based energy work, for his part in the agricultural, motor mechanisms used in this work lighten the production and improve farming techniques. Among the most widely used agricultural machines working in the fields mentioned:

Tractor is a very useful agricultural machine, with wheels or designed to move easily on the ground and pulling power enabling successful agricultural work, even in flooded fields.

Walking Tractor: agricultural machine is a single axle and is operated by handles, have median motor power and strength led to horticultural and ornamental work, can work in strong fields, but is preferably used in construction of gardens.

Combine: or mower is a powerful engine agricultural machine, comb cutter to cut the plants mature grain and a long rake that goes before the machine and rotates about a horizontal axis. Farm equipment is a group of devices designed to open furrows in the ground, shredding, spraying and fertilizing the soil.

Plough: agricultural equipment is designed to open furrows in the earth consists of a blade, fence, plough, bead, bed, wheel and handlebar, which serve to cut and level the land, hold parts of the plough, set shot and to serve as handle. There are various types of ploughs but the best known are mouldboard

- plough, formed by the grating blade and mouldboard
- disc plough, disc concave formed by deep grooves to open
- shallow ploughing to remove the topsoil
- Subsoil plough to remove the soil depth

Drag: agricultural equipment is designed to break up the parts and parcels of land that have been removed by the plough, are composed of a frame, which can be made of wood and metal teeth and the latch that attaches to tractor.

Sprayer: it is farm equipment designed to spray, is composed of a liquid tank, pressure Pump, cap, mouth, tank and pressure valve, belts, hose, faucet and nozzle where the liquid to spray out, is insecticide, fungicide or herbicide. The hand sprayer is placed in the back of the

sprayer and this has placed in the mouth and nose a special mask to prevent strong odours dismissed by the substance that expels the sprayer will harm.

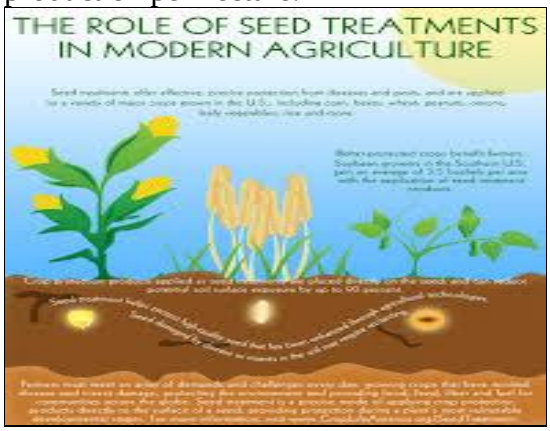
Tillage planter: is a machine to place the seeds on the seedbed without prior tillage

Fertilizer: agricultural equipment is designed to distribute fertilizer is composed of three main parts: the hopper or storage of fertilizer, the drop tube of fertilizer and fertilizer distributor.

Packing: agricultural equipment is designed for packaging or packing cereal straw or other baled forage grasses (also called bales or alpacas).

Role of technology in sustainable agriculture

Sustainability in agriculture relates to the capacity of an agro ecosystem to predictably maintain production through time. The concept of sustainability, therefore, is stability under a given set of environmental and economic circumstances that can only be managed on a site-specific basis. To a large extent, the rate of technology development and the degree of innovation in future technologies will greatly influence the stability, and certainly the productivity, of agriculture Technology, in the classical sense, includes the development and use of nutrients, pest control products, crop cultivars, and farm equipment; but it also includes the vision of genetically modified crops providing greater nutritional efficiency (more calories per yield, or more yield), manipulation of natural pest control agents, and use of farm management techniques that focus on whole-farm productivity over time, and annual production per hectare.



Conclusion

The development and use of agricultural technology is to attain short term objectives like focus on yield, quality, and input reduction. Long term, however, the genetically-created "transmissions" will focus on creating super-nutritious feed for animals, plants that out produce the subtractive influence of, physiological adaptation to out-compete adjacent species, drought stress tolerance, and overall improvement in the rate of photosynthesis (leading to any number of industrial applications). However, sustainability is indeed an issue of survival, but is far broader than the concept of habitat destruction and soil erosion. Sustainability includes the goal of food production, welfare of the food producers, and preservation of non-renewable resources. Technology of all types has been and will be the enabling man-made component that will link these two overriding objectives. The study confirms that technology has been essential to agricultural productivity/stability; current breakthroughs in technology confirm that the discovery and development of new technologies is a sustainable endeavour, and common sense directs us to the conclusion that technology will enable Sustainable Agriculture.

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