

Ancient Farming Vs. Techno-farming - An empirical study

Mr. Rajendra. M

T.M.A.E'S BBM College, Prashanth Nagar, Tq, Gangavathi, District Koppal

Dr. A M Kadakol

T.M.A.E'S BBM College, Prashanth Nagar, Tq, Gangavathi, District Koppal

Mr. Manjunath K R

Assistant Professor, Department of Management Studies, Kuvempu University, Shankaraghatta, District Shivamogga.

Abstract

Ancient farming methods used by farmers throughout the world varied quite a bit. Farmers developed many ways without technology to maintain soils, ward off frost and freeze cycles and protect their crops from animals and others. The largest issue that faced farmers during the ancient as well as the war was the lack of manpower available to work the land due to military enlistments. In response to the demands for labour and labour-saving devices, farmers quickened the pace of the adaptation of new technologies for use on the farm. During this time will promotes to technological expansion, perhaps the greatest innovation of the twentieth century was the adaption of the internal combustion engine to agricultural tasks, most notable in the form of the gasoline or diesel tractor. This has been influenced to change the life of the farmers as well.

In the present scenario, the techno-farmers access the information of the required quality always has the potential of improving efficiency in all spheres of agriculture. The emerging scenario of the deregulated agriculture, thanks to WTO, has brought in a greater 'need' and urgency to make it an integral part of decision making by Indian agriculture community. Information Technology (IT) through inclusive technological growth in agriculture that has a major role to play in all facets of Indian agriculture. In addition to facilitating farmers in improving the efficiency and

productivity of agriculture and allied activities, by providing timely and quality information inputs for decision making towards maximising their yields. This paper provides empirical evidence on how culturally bounded with their old systems of farming when compare to ancient farming to techno-farming and study hoe gradually enhanced economic stability through their farming activities.

Key words: Ancient, technology, enlistments, world trade organisation and efficiency

Introduction

Who knows that when the earth begins, but everybody will remember and confidently risen their voice towards when the agriculture begins in to their daily life. Even in the ancient period as well as present period it is the most significant role played in each and every family for leading and maximising their incomes through agriculture as well as its allied activities. The largest issue that faced farmers during the ancient period the lack of efficient manpower and agro-based technologies available to work the land along with that poor knowledge about latest agriculture. The wages that labourers demanded rose as the number of men remaining in an area dropped. To deal with this, families struggled to continue the work that fathers, husbands and sons left them. Boys took greater responsibility on the farm, lacking the knowledge of farming those fathers and old brothers had earned after years of agrarian employment.

In response to the demands for labour and labour-saving devices, farmers quickened the pace of the adaption of new technologies for use on farm. Chief among these were machines designed for harvesting crops such as hay, wheat and cereal grains. Rather than trying to harvest crops by hand, a process that might take days, farmers made the financial investment in devices that allowed them to work faster. These devices in turn allowed for farmers to increase the size of the crop in question because of the efficiency they added meant faster harvest of larger fields. During this time of technological expansion, manufacturers changed the way that they marketed their goods, would still be able to farm due to modern technology.

Ancient V/S Techno-Farming: An Overview

Ancient farming methods (Mixed cropping, Raised Fields, Slash and Burn Agriculture) used by farmers throughout the world in earlier days. Farmers developed many ways to maintain soils, ward off frost and freeze cycles and protect their crops from animals and other calamities. There is also lot of difficulty in determining the conditions under which the early people of this region lived. Evidence points to a monsoon type crop being raised in this area. Today there is no such crop being raised because of the climatic conditions. Because of this, may have theorized that there may have been a climatic change in this area between early man and modern day.

During the Civil War and also Second World War the manpower shortage is helped to push the adaption of tractors and other new technologies. Farmers required fewer hands for tasks around the farm when aided by a tractor. With the refinement of power take-offs and belt drives, more and more labour for the small farmer.

Beginning in the early 1800's the first agricultural fairs gave rural families an opportunity to see first-hand the latest agricultural techniques, equipments, crops and livestock. Gradually the trends moves towards the nineteenth-century in

America as well as the other countries, the improvement of technology based projects for sustainable developments in agriculture provided mechanism for change and transformation that proved to be central in the formation of nation's economy.

as the twentieth century dawned on the rural America, agrarian society found itself performing the same task as those farmers one hundred years earlier, in a slightly more efficient manner. As long as there were crop in the field, farmers found themselves planting, weeding and harvesting on a cyclical basis. Thanks to revolution in agriculture technology, however, those tasked with these duties could do them sitting down on machine pulled by horses. The latest development in IT that facilitate effective IT penetration to rural India have a major role to play in all facets of Indian agriculture to facilitating farmers in improving efficiency, productivity of agriculture and its allied activities.

Agriculture is the backbone of most developing countries, with more than 60% of the population reliant on it for livelihood. As well as developing improved system for monitoring environmental conditions and delivering nutrients or pesticides as appropriate modern technology (nanotechnology) can improve our understanding of the biology of different crops and thus potentially enhance yields or nutritional values. In addition, it can offer routes to added values crops or environmental remediation.

Literature review of the study

The concept of "scientific agriculture" dates to publications by Liebig in 1840 and Johnston in 1842, which speculated about the role of chemistry in agriculture (Pesek,1993). The concepts of inheritance and Mendelian genetics were soon to follow in 1865 and subsequently stimulated the biological basis for modern agriculture. Food production, habitat preservation , resource conservation and farm business management are not mutually exclusive

objectives. Credible arguments have been advanced to suggest that production of food via high-yield agriculture techniques can meet the nutrition requirement of the global population (Avery, 1995). The balance can be achieved through planning land use- with a considerate analysis of what parcels of land to employ for high-yield agriculture while retaining marginal or poor land for non-agricultural activities or wildlife habitat preserve (Anonymus,1999). Studies to quantify the impact on production of reducing or limiting inputs to agriculture have suggested that yields/hectare would decrease from 35% to 80% depending upon the crop (Smith et al.). 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 (Hutchins and Gehring, 1993). The study on role of Information Technology in Agriculture and its scope in India, has concludes that the quality of rural life can also be improved by quality information inputs which provide better decision making abilities. IT can play a major role in facilitating the process of transformation of rural India to meet these challenges and to remove the fast growing digital devices. The rapid changes in the field of information technology make it possible to develop and disseminate required electronic services to rural India. The existing bottlenecks in undertaking the tasks need to be addressed immediately . A national strategy needs to be drawn for spearheading IT penetration to rural India.

Objectives of the study

- 01. To know how culturally bounded with their ancient systems of farming when compare to existing system of farming.
- 02. To know the factors influenced on their conversion of ancient farming to techno-farming.
- 03. To study how gradually enhanced economic stability through their farming activities.

Research Methodology

To conduct the study on ancient farming Versus techno-farming , data has been collected in selected villages of rural Karnataka, through primary source, in order to study the role of technological efficiency in modern system as in ancient period of agriculture, respondents were selected by convenient sample method. As far the selection of family members is concerned, one member was selected from each family by simple random method. For the purpose of data collection, a well structured questionnaire was used to obtain the responses.

Data analysis:- In order to achieve the above stated objectives, the data were collected and analysed by using statistical tools like percentage, ratings and weight points.

Analysis of the study

Table No.01:- Age Group

Age	Response
15-30	16
31-45	19
46-60	21
61-75	44

Source: Field Survey

Analysis: From the above table we can see that, the age belongs to the respondents. Most of the respondents have covered under this study is age old people compared to young and middle age group, because they are the right persons to approach this kind of study. And also they somewhat regarding ancient farming which was followed by their parents, called hereditary based agriculture.

Table No.02:- Literacy level

Levels	Response
Illiterates	39
Primary	25
SSLC	19
Collegiate	17

Source: Field Survey

Analysis: When we go back to pre-independence period number of literates are only few. The table we will get the various level of literacy, but the study replied that 39% out of 100% is illiterate farmers during their farming activities. Then only finger counted people were educate at collegiate. This shows that the respondents are not having such a good knowledge about the marketing opportunities as well as no creativity towards diversified cropping.

Table No. 03:- Occupation

Occupation	Response
Agriculture	31
Labour and agriculture	27
Agriculture and employee	13
Business and agriculture	29

Source: Field Survey

Analysis: The above we can see that, most of respondent's occupation is only agriculture, secondly the study represents business and agriculture is also part of generating incomes. It results that, now a day's people are searching the new ways to generate sustainable incomes. Middle part of table can see that, remaining two occupation also significant part in the respondent's life but only less numbers opted.

Table No. 04:-Income (laks per year)

Incomes	Response
Below 1	29
1 to 1.4	24
1.4 to 1.8	17
1.8 to 2.2	14
2.2 & above	16

Source: Field Survey

Analysis: The truth is shared by the respondents at the period of the study; in the olden days if we want to get one lacks rupee per year is highly impossible by the ancient farmers. The table we can see that, most of the respondents earning

are below one lakh. Secondly the respondents may get forty thousand extra. It clearly showed that, in this modern era of agriculture still farmers are struggling to earn and save money for the future.

Table NO. 05: Showing Indigenous (hereditary based) farmer

Yes	No
89	11

Source: Field Survey

Analysis: The table we can see that, 89% of the respondents are hereditary based farmers. It ensures it is a part of generating economic sources from long-back to till now and future also. But only 11%of respondents were shifted from other kind of occupations to agriculture due to the reasons of advanced technologies are initiating into the purpose of modern agriculture, these are not indigenous farmers.

Table No. 06:- Feeling about ancient farming, when compared to modern system of farming#

Factors	Response	Ratings
Unique system of farming like only one crop per year	82	3
There is no specialised crops for generating incomes for day to day expenses	66	5
There is no good demand because of poor marketing facilities	86	2
No hybridised crops	71	4
They are truly dependent on rain (no water reservoir)	56	6
Absence of technology and zero percent of using chemicals	92	1

Source: Field Survey

Analysis: The above table represents that, feelings about ancient farming, when compared to modern system of farming is the absence of technology and zero percent of using chemicals ranked firstly. Secondly respondents felt about there is no good demand for the agriculture products in the ancient period compared to now because of poor marketing facilities. The remaining factors also vital part of their feeling but not much compared to earlier.

Table No. 07:- Showing agree-ness and disagree

Strongly agree	Agree	Neutral	Disagree	Strongly Disagree
27	55	11	4	3

Source: Field Survey

Analysis: The above table we can see that, 55% of respondents were agreed and 27% are strongly for some sort of basic necessities to equip Indian farmers to come together for value additions to their agricultural output. This will get them better returns from their produce and at the same time generate new employment opportunities in the rural sector. This will require systems to produce information to farmers on agro processing industries, aqua culture units, animal husbandry, floriculture etc. It results that present farmers are required information regarding farming's and farm technologies for achieving sustainable developments in the agriculture. In this table also we can see, few are not agreed due to less initiations towards agriculture.

Table No.10:- Technology leads to higher productivity

Strongly agree	Agree	Neutral	Disagree	Strongly Disagree
19	37	29	9	6

Source: Field Survey

Analysis: In the present scenario we can see that, there might be no chance of neglecting technologies in all sectors, if we did that we could not get any sort of returns from such farming as well as any other business. 37% of the respondents were agreed that, the technology lead to higher productivity across all farms, in term if making them economically stable and sustainability in their day to day economical activities. 29% of the respondents are can't say anything, they are neutral. Here few of the respondents were disagreed.

Conclusion

Food is subject to the economic principles of scarcity. Unlike the artificial value of scarce items such as gold, an adequate supply of food is paramount to population survival and skill diversification, making agriculture a first level priority. The study can be conclude that there is a lot of difference between the ancient farming and modern farming in terms of technologies, systems, cropping culture and also in terms of methods used by ancient farmers. Most of the farmers are hereditary based farmers and they have opined that, according to trends has been changed in all most all the sectors is a one type of challenge to us, the reason might be high rate if investments in agriculture infrastructure. Because the farmers cannot run fast how the world is running. In rural places especially this is at the root level, the farmers are only the people directly contributing towards economic sustainability in the nation.

Sustainability is indeed an issue of survival, but is far broader than the concept of habitat destruction and soil erosion. Sustainability included the goal of food production, welfare of the food producers and preservation of non-renewable resources. To that end, technology of all types has been and will be the enabling man-made component that will link these two overriding objectives. Indeed, history 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.

References

01. A Fight in the Fields: The Impact of the Civil War on Midwestern Agriculture Sources at Robert C. Welch <http://www.history.iastate.edu/agprimer/Page26.html>
02. Agricultural Fairs during The Nineteenth Century. Sources at Jenny Barker-Devine <http://www.history.iastate.edu/agprimer/Page18.html>
03. Tractors, Combines and Science: Technological innovation in Twentieth Century Agriculture Sources at Robert C. Welch <http://www.history.iastate.edu/agprimer/Page26.html>
04. What is the importance of technology in agriculture? Sources at wili.answers.com > Business > Industries > Agriculture.
05. Technology and its contribution to pro-poor... Sources at dfid-agriculture-consultation.nri.org/summaries/dfidwp4.pdf
06. The Northern Farm Household and Agricultural Labour. Sources at Pamela Riney - Kehrborg, <http://www.history.iastate.edu/agprimer/Page22.html>
07. Methods of Ancient Farming, Sources at http://archaeology.about.com/od/neolithic/tp/ancient_farming.com
08. Farming in Early India (development of Farming in Ancient India) sources at <http://www.historylink101.com/lessons/farm-city/india1.htm>
09. World Agriculture: towards 2015/2030. Sources at [www.fao.org/docrep/004.y3557e/y3557e09.htm](http://www.fao.org/docrep/004/y3557e/y3557e09.htm)
10. Role of information Technology in Agriculture and its scope in India Sources at [www.iffco.nic.in/applications/brihaspat.ns/0/...\\$FILE/it_fai.pdf](http://www.iffco.nic.in/applications/brihaspat.ns/0/...$FILE/it_fai.pdf)
11. . Role of Technology in Sustainable Agriculture - Radcliffe's IPM. Sources at ipmworld.umn.edu/chapters/hutchins3.htm
12. Green Technology for Sustainable Agriculture Sources at www.unpcaem.org/publication/GreenTech.pdf
13. Nanotechnology in Agriculture and Food Sources at <http://www.nanoforum.org/dateien/temp/nanotechnology%20in%20agriculture%20and%20food.pdf>