“IMPACT OF PHYSICAL AND SOCIO-ECONOMICAL FACTORS ON AGRICULTURAL SCENARIO OF NASHIK DISTRICT (M.S.) 1991 to 2011.”

ABSTRACT:

Agriculture is the main stay of the economy of India. It still forms the backbone of the Indian economy, despite concerted efforts towards industrialization in the last three decades. Agriculture is one of the fundamental activities of mankind. It is considered as one of the oldest and most important of all the economic activities of man. Agriculture is related to the raising of domesticated plants and animal as activities to satisfy man’s needs. Nowadays agriculture has become the world’s most important industry.

Agriculture is the main stay of the economy of India. It still forms the backbone of the Indian economy, despite concerted efforts towards industrialization in the last three decades. Agriculture contributes a high share of net domestic product by sectors in India. Further it is not surprising that in the Indian economy, with agriculture as the dominant activity, the main source of livelihood is agriculture. Agriculture also has been the source of raw materials to India’s leading industries. Agriculture is the main stay of the economy of the study region. Agriculture still forms the backbone of the Indian economy, despite concerted efforts towards industrialization in the last two decades. Agriculture is one of the fundamental activities of mankind. It is considered as one of the oldest and most important of all the economic activities of man. Agriculture is related to the raising of domesticated plants and animal as activities to satisfy man’s needs. Nowadays agriculture has become the world’s most important industry.

Agro-environmental studies of various kinds are essential for the future development of the areas where the population pressure is great. In recent times various methods have been developed for research in agro-environmental studies.

To cope up with ever increasing population, enhancement of the agricultural production is a great concern in a country like India where more than two-third of people depends upon agriculture for livelihood. After independence, the breakthrough in crop yield, because of green revolution has made our nation self-sufficient in food grains. However, even today the national average yield of various crops is miserably
poor and incomparable to that of yield obtained in other countries. Agricultural
depends on many physical factors such as topography, soils, climate etc. as well as
socioeconomic conditions of the people. The physical factors directly influence
agriculture, whereas the socioeconomic conditions have an indirect influence.
Appropriate knowledge of these components and optimum use of them with better
management will be of immense help to optimize the output from the agriculture.

There is great scope to enhance the output by comprehensive scientific
knowledge of all the factors and proper planning. Therefore, it is proposed to assess
the impact of physical, environmental and nonphysical factors on the agricultural
scenario of Nashik district of Maharashtra State.

Every agro geographical reality is transformed with three groups of factors, 1) Man in
a certain Socio-economic environment, 2) Natural Environmental, 3) Degree of
Socio-economic progress of a reason. All these factors influence land-use.

In connection with the study areas, study of agricultural land-use of village
level will focus light on the spatial disparities in Nashik District and also point out the
causes responsible for the temporal variations. Thus study of agriculture land-use has
become multidimensional spatio temporal analysis of agricultural land-use forms
integrate part of agricultural development.

Region selected for study purpose is Nashik District. (Maharashtra). Intraregional diversities in physical and cultural settings of Nashik District and
regional imbalance in economic development of region are the outstanding features of
the district. Basically agricultural landscape is widespread throughout the study
region.

Lastly, while geographers have been pursuing topics concerning axel patterns
of human activity and the relationship of man to his environment, they have failed to
analyze systematically the geographical impact and dynamics of one force in the
world today the policies of comply human organizations, most importantly
Governments. In a developing country levels through ever changing rules curbs as
well as through national/ state plans of development in a positive sense. The resultant
agricultural land-use pattern, thus is a product of such diversified approaches and
conditions these days.

XVI
STUDY AREA:

Nashik District is one of the important districts of Maharashtra state lies between 19° 35’ and 20° 52’ North latitude and 73° 16’ and 74° 56’ east longitude with an area of 15530 sq. k.ms. On the basis of Physiography, Historical and cultural relation, Political background, as well as geographical regional characteristics, Nashik District terms district unit. It is rhomboidal in shape with the longer diagonal of about 170 k.ms. from south west to north east and an extreme breadth of about 170 k.ms. from North to South. The study area has a steep scarp of the Sahyadris to the west and gentle slope towards the east. The district occupies North-West position in western Maharashtra with Dang and Surat Districts of Gujrat state to the North-west, Dhule district to the North, Jalgaon and Aurangabad district to the east, Ahmednagar district in the South and Thana district to the South-West.

The total geographical area of the Nashik District has 15,530 sq. k.ms. which is 5.06 percent of total area of Maharashtra state and its population is 2991739 in (1991), 49,93,796 in (2001)and 61,07,187 in (2010-11).According to area Nashik rank 5th and as per population it ranks 4th among the 35 districts of Maharashatra state. In other words Nashik is one of the largest district in the Maharashtra state, both in area and in population.

OBJECTIVIES:

1) To assess the impact of physical factors on Agricultural land-use.
2) To analyses the correction between socio-economic factors and Agricultural land-use.
3) To examine spatial variation in the agricultural and crop land-use with view to evaluate the influence of certain physical factors.
4) To investigate the changing agricultural and crop land-use pattern in study area with special references to changes.
5) To find out to problems related to agriculture in area under study.
6) To find out the agricultural productivity and distributional pattern of agricultural input.
7) To examine the infra-structural facilities available for the agriculture.
METHODOLOGY:

The data of various villages falling within the tehsil have been obtained from unpublished record of the revenue department of talukas concerned for the agricultural year 1991 to 2011. The data of individual crop area was processed and converted into percentage to net sown area and have been used for mapping.

The methodology applied in the studies is mostly statistical. Statistical techniques are very essential in this research. Statistical techniques are three types.

1) Descriptive Techniques
2) Sampling Techniques
3) Inferential Techniques.

The raw material of any statistical analysis is a set of data. Descriptive techniques aim to summarize raw data of any size of value in terms of space for providing a single comprehensive index or a graph of it. These facilitate accurate description and observation and also comparison.

In contrast to descriptive techniques, sampling techniques are often formed desirable in much of social science research for basing their hypothesis on data that are not a complete set of observation on a specific phenomenon. Sampling decides the smallest size of observation. If the sample is drawn from a total set of observation some another method is required to draw conclusions about the characteristics of the total from the characteristics of the sample. The method of drawing such inferences from numerical data are known as inferential techniques. The essential tool in inferential techniques is probability theory and it is useful to major changes of selecting a particular sample.

The change of agricultural and crop land-use in the study area studied from geographical point of view. For examining the influence of some physical and socio-economic variables on agricultural and crop land-use, correlation matrix technique used. For enhancing the quality of the work further the smallest variable administrative unit of tehsil has been used. Tabulation and analysis of data, use of competitive techniques, use of statistical method such as T- test, Chi- square test, random sample method, regression equation, index method used. Land-use efficiency find out by using the land-use efficiency index. Weaver’s, Bhatiya and Doi’s method used for crop combination. Jasbir Singh’s technique used for crop diversification. Use
of cartographic techniques, Computer techniques and GIS, G.P.S. Software used for the preparation of maps.

The significance of Spatio-temporal analysis of agricultural land-use in a predominantly agricultural country like India can never be overstated. Man’s main purpose for using land is to gain some sort of satisfaction, such as earning an income or providing recreation rather than “bending with nature” moreover farmers viewed as income optimizers behave like “economic men” and therefore their decisions depend ultimately on two things, production functions and the prices of inputs and outputs.

DATA BASE:

Present study mostly relies on the Primary and Secondary data.

A) PRIMARY DATA :

1) Primary Data sources 2) Interviews of farmer to crop check their reliability.

The inaccessible and unpublished by designing relative questionnaire. This questionnaire covers crops grown in the frame made and methods of agriculture practices, types of irrigation facilities, economic condition of the farmers and loan facilities. The designed questionnaire where circulated among village officials like Sarpanch, Deputy Sarpanch, Gramsevak, Society Chairman, Patkari, Farmers and students. Thus Primary data have been collected by field study, questionnaires and interviews with the farmers, Head of local Institutional and personal observation during the field work.

B) SECONDARY DATA:

The data for purpose of analysis as collected from various sources published by the government and report prepared by Agriculture Development, District Statistical Department of Nashik Dry-land Farming Research Center, Abstracts, Journals, Articles, Periodicals, Statistical Abstracts, Census Hand Book 1991 and 2011, Gazetteer of Nashik District, National Sample Survey and Soil Survey etc.

OTHER SOURCES:

4. Topographical maps of the survey of India, (1:250,000,1:63360,1:50000,1:10,000 international series and 1:250000,46H,47E and1:50000-46H- 6,7 and 46 L -4,12,14,15.) ARC GIS Software.

FIELD WORK

Field work is essential and very important part of this research work. All information regarding the area under crops, irrigation and specially the area under changing crops and fruits, vegetable are collected from farmers by filling the questionnaires. In the initial stages of the work, in order to collect data relating to village level agricultural land-use. Tehsil headquarter, irrigation project, rain gauge stations were visited, information was also collected and observations were noted while travelling. Many villages were visited by making several trips. Field work in completed by visited each and every Taluka places and sample villages of each Tehsils.

ARRANGEMENT OF TEXT.

The entire study is arranged into seven chapters. This study is concerned with the spatial analysis of agricultural land-use in Nashik District of Maharashtra state. Thus the study of agricultural land use patterns and their spatial variation form the core of the project undertaken. It is proposed to consider the spatial variation in the agricultural land-use in Nashik District with a view to evaluate the influence of certain environmental and economic factors on the distribution pattern. The currently evolving and changing agricultural land-use patterns in the District with special reference to changes that have taken place. An attempt is also made to represent the various parameters of land and socio-economic phenomena and the resulting agricultural location. The work has its limitations imposed by choice of region and other factors. Several aspects are omitted and the author is fully aware of such omissions which result from lack of data and other resources including time to be devoted for such work.

Chapter – I, deals with physical setting. Since the underlying purpose of the study is to evaluate the influence of physical environment on agricultural patterns.
The first chapter begins with the introductions to the study area, followed by the
description of physiography through a general study of relied, geology, and drainage.
Climate the distribution of weather elements are also considered along with soils and
natural vegetation.

Chapter-II, includes the socio-economic and cultural setting. Further, different
aspects of population are also studied. The persons engaged in the agricultural activity
are studied along with other agricultural elements like land tenure, land holding, farm
implements, Marketing, transportation and irrigation.

Chapter-III, and IV, are devoted to the discussion of general land utilization
(Forest, Net sown Area, Area Not Available for Cultivation, Cuturable Waste and
Fallow Land) and agricultural land utilization i.e. distribution of main crops.

Chapter- V deals with regionalization of Agriculture i.e. the associations
between the agricultural land-use and various Environmental factors. In this chapter
different element of physical and cultural environment their spatial distribution and
their impact on agricultural land utilization are assessed. Regionalization of agriculture
has been discussed in detail. (Ranking of crops, crop Combinations, Diversification of
crops, ranking of crops etc.) in chapter.

Chapter-VI Summary and conclusion. This chapter attempts to summary of
the work done. It attempts to summarize the finding and highlights the problems,
prospects and suggestions.

Chapter-VII Problems, Prospects and suggestions Studies at micro level. No.
of Suggestions are given by research student, collecting from farmers.

Research Scholar,  
Pandurang D. Yadav.

Research Guide  
Dr. Nanasaheb R. Kapadnis

XXI