CHAPTER 1

INTRODUCTION

1.0 Introduction

The study of “science in history” (Bernal, 1965) reveals that science is a branch of knowledge involving the systematized observation of and experiment with phenomena. It is systematic and formulated knowledge especially of a specified type or on a specified subject. It is the pursuit embodied with principles. The natural sciences are those that cover the study of physical world, whereas social science in common is that which covers areas that are not covered under natural sciences. The Social Sciences are the fields which explore the aspects of human society in which people live is very limited when compared to the material world or plants and animals. The sciences of the society are, as a group, need justification to bring them under the head science, since it is difficult to experiment the phenomena observed as in case of natural sciences.

The social sciences deal with the springs of human social action. They have a more immediate relation with history than have the natural sciences. It is because of this reason the Social Sciences have got a place in any comprehensive attempt to relate the development of sciences in general to that of society. The social science may be grouped into two categories, the descriptive and the analytical. The descriptive social science such as Archeology, Anthropology, and Sociology describe societies past and present, their structure, interaction and development. The analytical social science shows the relations determining aspects of behaviour of the societies. (Bernal, 1969) Economics, the Science of law, Political science, Education, Psychology and Philosophy come under this category.
The development of modern social science in India dates back to the 19th century. The British who ruled India were interested to resolve the social problems encountered during their public administration. So they started collecting the information about Indian society. The objective of their research was to understand the Indian people, their culture, tradition and beliefs. Their research mainly focused on the aspects such as caste system, village community, tribal culture etc. This type of extensive research and data collection laid down the foundation for modern social science research in India.

The development of society is almost associated with the development of social science. Every aspect of modern life is intertwined with social science. The varieties of activities have an impact on quality of life of an individual as well as on nations. During the 20th century social science has contributed for the visible development of scientific discoveries and knowledge. The research in social science helps for the overall development of the country. It helps to understand the social, economic, political, and cultural orders of the society in depth. The understanding of the social order will help us to identify the problematic areas and thereby the solutions can be suggested. These can be the bases for policy making and programme execution.

The ICSSR (Vaidyanathan, 2007) in its fourth review committee report says that the research in the field of social science has been driven by two major factors. One for understanding the functioning of society in its diverse social, cultural, political and economic aspects. (rcuk.ac.uk, 2011) The other would be to know the variable that influence them, and to fulfill the practical needs of the policy makers for reliable data and professional analysis. During the last two decades, the social science research has crossed the traditional boundaries into the areas that are pertinent to the present context in the country. The globalization and development have emerged as major areas of focus.
The thrust areas of research include Education, Health, Poverty, Urbanization, Women Studies, Gender Studies, Knowledge system and so no. In addition to this, agriticulture and rural development still continued to be focused areas of research by researchers as well as by policy makers.

Of all the social sciences the research work in Economics discipline has been given prime importance both by researchers and policy makers since it directly contributes to the economic growth of the developing state. It is seen that during the last few decades much of emphasis has been given on applied, empirical research. (rcuk. ac. uk, 2011). Government and Non-Government, and Private Sectors have funded considerably to this research work. The caste system and the provision made for the uplift of the downtrodden has remained as vital issue for the state as well as to the society. There is a significant and growing body of work on its economic, political and social implications. In this regard, cultural studies have been conducted by specific Indian schools known as subaltern studies represented by post-colonial and social historians.

The social science research in India mainly has been carried out in three major sectors, viz, university sector, Government research institutes, and autonomous research institutes. Universities are the main centers of academic research in social science in India. There are 67 Government research institutes whose primary objective is to conduct applied research, particularly in the field of social science. (rcuk.ac.uk, 2011) The data obtained by the research will be the major source for planning and policy making. Third sector i.e. is autonomous research institutes such as ICSSR whose mandate is to conduct new research in the field of social science. This institute is funded by the Government though it is managed by Social Scientists.

In addition to the above mentioned sectors, there are some specialized institutions and networks that are involved with the development of social change. They are SEWA, Jagori Centre for Enquiry into Health and Allied
Themes and Public Health foundation of India. As a result of contributions made by various sectors and individuals, it is observed that the scientific output has been considerably increased.

The organization of scientific knowledge has undergone a sea change in the last 15 years. Tremendous information is made available through electronic media. Information communication technology has facilitated the retrieval of knowledge through search engines operating on World Wide Web. The information so obtained from different sources has to be organized in a systematic way on the basis of research areas, contribution by experts and institutions. The study relating to the growth of literature, author productivity, collaborative studies, citation counts, and other parameters can be made with the help of data so retrieved. Further, the interconnections will be discovered, the import and export of research among fields can be established, the speed of growth and diversity can be examined. The economic factors affecting the research production and dissemination can be highlighted. Thus the scientific literature can be mapped based on different aspects.

Mapping of social science literature is an attempt to trace the intellectual connections within everchanging knowledge in the field of social science. The purpose of mapping is to display the structural and dynamic aspects of scientific research. It is also the study of correlation links between the past and present research work using citation analysis or it is a useful graphical technique that helps to understand connections and relative relation between things, individuals, materials, lectures, textbooks, data gatherings, surveys, conversations, disagreements, gap analysis, education and synthesis. (Rekha Mithal, 2005) It aims to track the loss and acquisition of information and knowledge, personal and group competencies and proficiencies. The mapping process involves various steps such as data retrieval, preprocessing, network extraction, normalization, mapping, analysis and visualization. The collection of data from various sources is very much important.
Scientometrics is the science of measuring and analyzing science. In practice, scientometrics is often done using bibliometrics which is a measurement of the impact of (scientific) publications. Methods of research include qualitative, quantitative and computational approaches.

In view of Tague–Sutcliffe, 1992 scientometrics is the study of quantitative aspects of science as a discipline or economic activity. Thus it involves sociology of science, history of science, growth of science and scientific institutes, behaviour of science and scientists, science policy and decision making. (Hoods and Wilson, 2001).

The present mapping of Indian social science literature has been undertaken by using different mapping and scientometrics techniques. In view of the vast literature, only five selected subdisciplines of social sciences have been taken up for the detailed study for the period 2001-2011.

1.1 Need for the Study

The social science research in India has had its own history. There are more than 400 universities having social science departments in which academic research is being carried out. In addition to this, there are more than 200 government and autonomous research institutes whose objective is to conduct research in the field of social science. There is a wide disparity in research activity and output across the country both in terms of quantity and quality. (www.rcuk.ac.uk, 2011) Only few selected institutions are engaged in the academic research cultures which include interdisciplinary work, knowledge production with emphasis on peer review and engagement with internal and external intellectual networks.

Even though a lot of work has been done by social scientists in India it is inadequate in the international era, since most of the journals in India are not registered in International Citation Database. There is a necessity of
quantifying the research conducted in the field of social science by applying various scientometrics measures such as growth of literature, author-productivity, collaborative studies, productivity of journals, productivity of institutions and obsolescence factors. In addition to this, the vast information has to be made available in a precise, focused, formatted condition for the user in an easy manner in order to minimize the wastage of time. Therefore, the technique called mapping has been employed in order to show the patterns of research in particular area, to identify the gaps in research field, and to know the boundaries of the topics under investigation. Therefore, the present the present study Mapping of Indian Social Science Literature: A Scientometric Study has been undertaken.

1.2 Objectives of the Study

The main objectives of the study are:

1. To measure the growth of Indian social science literature;
2. To measure the degree of relationship between subdisciplines of the Indian social science literature, with the help of different schemes of classification system;
3. To study the authorship patterns in the literature of Indian social science;
4. To apply mathematical measures to determine the extent and size of co-authorship research in social science in India;
5. To observe the nature of collaborative research in Indian social science literature;
6. To study the research trends in field of Indian social science literature;
7. To rank the social science cited journals and apply Bradford’s Law of Scattering;
8. To study the obsolescence of social science literature and,
9. To assess the research productivity of leading Indian social science institutions.
1.3 Hypotheses of the Study

A hypothesis is a supposition; a proposition or principle which is supposed or taken for granted, in order to draw a conclusion or inference for proof of the point in question; something not proved, but assumed for the purpose of argument, or to account for a fact or an occurrence. On the basis of objectives of the study, the following hypotheses are formulated:

1. Growth and Doubling time of social science literature increased gradually over a period of 12 years;
2. There is a high positive degree of relationship between subdisciplines among the social science;
3. The proportion of collaborative social science has consistent growth;
4. There is an increasing trend in collaborative research in subdisciplines of social science and;

1.4 Scope and Limitations of the Study

The scope of the study is confined to five major subfields of social science literature. The subfields are Psychology, Economics, Sociology, Political Science and History.

1.5 Methodology and Database

The data has been collected from Social Science Citation Index of ISI Thomson Reuters (Web of Science) for the period 2000-2011. To map the literature classifications systems viz. Dewey Decimal Classification, Colon Classification, Universal Decimal Classification System and Web of Science Classification have been used.
1.6 Chapterization

The present study has been divided into the following chapters.

Chapter 1: Introduction
Deals with Introduction to the subject, Need for the study, Objectives, Hypothesis, Scope and Limitations and the Methodology of the study.

Chapter 2: History of Social Science and The Concept of Mapping: An Overview
Gives an Overview of History of Social Science and Concept of the Mapping.

Chapter 3: Review of Related Literature
Covers a comprehensive review of the literature related to Indian Social Science Mapping

Chapter 4: Data Analysis and Interpretation
This chapter deals with the data analysis and an interpretation of the collected data.

Chapter 5: Findings and Conclusion
This chapter contains a brief summary of the findings and conclusion
References