

HOW TO FORMULATE YOUR RESEARCH PROJECT

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Research is a careful inquiry or examination to discover new information or relationships and to expand and to verify existing knowledge.

METHOD AND TECHNIQUE OF RESEARCH :

The formal scientific method has seven steps :

(1) Selecting a problem : this depends on the need of inquiry in an area of study that has sociological, economic or some other important aspect to find out or to add to the existing knowledge about the matter or issue.

(2) Reviewing the literature : is an important prerequisite to study the area of research already undertaken. Since most research begins from the known to the unknown, it is important to get to know the exact nature of previous work done on the topic. This will minimise duplication of work. This will also help to build up the reference matter from which appropriate quotations could be used in the written matter.

(3) Developing a hypothesis : is a very important exercise in research, building up sound hypothesis for empirical testing is fruitful only when the problem under investigation is clearly stated.

(4) Planning the research design : is the actual method adoption of the research. This includes—selection of the setting, eg. city or a village, industrial or non-industrial area, caste class differences etc.

Sample size, selection criteria utilized for sample selection, are important for the research to be meaningful. Usually a percentage of the population is handled in accordance with the census data.

Instruments for the collection of data is also of great importance. Are you going to use the observation method ? It is going to be participation observation or is it non-participation observation ? Are you going to use a questionnaire or a schedule ? What will be the language of the questionnaire ? How many open ended questions are you going to include ? How many closed ended questions ? Are you going to confine your study to the interview method ? Do you have a tape recorder ? Do you wish to carry out a case study ? You could adopt one of these methods or you could combine the method to obtain the best possible results.

(5) Collecting data : (1) This depends on the nature of the research case. Here one must ascertain the individual's role in a collectivity. Dyad or a pair of interrelated group members, sub-group, society, some combination of these could be your sample. (2) Number of cases, single case, few selected cases, many selected cases could be your sample. (3) Socio-temporal context—cases from a single society, at a single period/cases from many societies, and/or my periods. (4) Primary basis of selecting cases (sampling), this could be representational, analytical, or both. (5) The time factor is important too. Static studies, covering a single point of time, or dynamic studies covering process or change over time can be undertaken. (6) Extent of researchers control over the system under study is varied. There could be no control, unsystematic or systematic control. (7) Basic source of data could be New data, collected data by the researcher for the express purpose at hand. Available data, as they may be relevant to the researchers problem.

(8) Method of gathering data, observation, questioning, combined observation and questioning other methods. (9) Number of properties used in research, one, a few, many. (10) Method of handling single properties, unsystematic description, measurement of variables. (11) Method of handling relationship among properties unsystematic description systematic analysis. (12) Treatment of system properties as Unitary/Collective.

CHOICE OF STATISTICAL: METHOD OR TECHNIQUE

Data from the Census report. From sample surveys, Case studies, other available data from authorised records.

Variable : This can be dependent or independent, e.g. age will be an independent variable when you are carrying out a project on say women prisoners. Dependent variable will be the number of years of punishment in relation to the crime.

Scientific Methodology : Consists in observation, deduction, induction and also verification by inductoductive method.

Need to pre-test : This is a must for testing the hypothesis as well as the method adopted for the research design. The feasibility of the research project is also tested. Whether the subject of investigation is worthy of research and is commensurate with the cost necessary for that is also tested. The tested hypothesis has direct bearing on the conclusion.

Presenting the findings or report writing : The general format consists of three parts.

THE PRELIMINARIES :

- (a) Title page
- (b) Preface, including acknowledgements.
- (c) Table of contents.
- (d) List of tables.
- (e) List of figures of illustrations.

THE TEXT :

- (a) Introduction (introducing the chapters or giving an outline of the work).
- (b) Main body of the report (usually divided into chapters and sections).
- (c) Conclusion (summary of the chapters).

THE REFERENCE MATERIAL :

- (a) Bibliography.
- (b) Appendix.
- (c) Index (if any).

SOME DETAILS OF THE PRELIMINARIES :

1. Title page :

- (a) title of the assignment.
- (b) name of the writer.
- (c) name of the course for which the assignment was written.
- (d) name of the department.
- (e) name of the University.
- (f) name of the Guide or the Mentor.
- (g) date on which it is submitted or the year.

2. Preface :

The preface may include the writers purpose in conducting the study, a brief resume of the background, scope, purpose, general nature of the research upon which the report is being based and acknowledgement. A preface cannot be written until a thesis or report is in the final form. This page can be omitted and replaced by an acknowledgement.

3. Table of content :

- (a) Chapter division with their subsections.
- (b) A summary of the different chapters could be included at the end of the chapter.

HOW TO CARRY OUT THE REFERENCE WORK

All the books that you read for the project should be properly noted down. You could use cards for that, these cards are available in various sizes, the most convenient

size to you should be used. It could be done in the following way :

Name of Author, Year of publication, Title of the Book, Name of Publisher, City in which it was published, Contents.

On the reverse/back of the card you could note down the call number of the book and also note down the name of the Library from where you acquired the book. If there are any important quotations you feel you may be making use of your work then take that down but do not forget to take down the page number of the book.

Reference could be written down in different ways too, but you must maintain the same pattern through out the work, e.g. after a quotation "Most of the women get partial satisfaction with the job they are performing in the factory." (Ramanamma and Bambawale, 1987 : 173). This indicates the authors, year of the book publication and the page on which the quote appears. This could be done in another way, e.g. after the quote appears. This could be done in another way, e.g. after the quote just put the number 1, 2, 3, etc. at the end of the chapter you could cite the reference like this :

1. A. Ramanamma and U. Bambawale *Women in Indian Industry*, Mittal Publication New Delhi, 1987, pg. 173.

There is a whole language of citing reference work. You need not quote the entire reference as shown above, instead you could use the following abbreviations.

idem-the same (used when a foot note refers to the same work and the same page as the previous foot note).

loc-cit, loco citato : in the place cited. (used when reference is made to the same place, that is the same page, as a preceding yet not the immediately preceding reference, this is used with the last name of the author only).

Op. cit. ' Opere citato ' : in the work cited. (used when reference is made to the same work as a preceding reference; abbreviation follows authors name but precedes page reference.

ibid-' ibidem ' : in the same place of work used when two or more successive footnotes refer to the same work, if reference is to different page(s), page number(s) are indicated.

et al. ' et alii ' : and others (used to refer to coauthors where there are three or more, e.g. Miller et. al. Eg.,

1. **Elizabeth Gondge**, 1944, *Green Dolphin Country*. London : Hodder and Sloughton, pp. 58-63.
2. **Ibid.**, p. 147.
3. **Hudson**, loc. cit.
4. **Poole**, op. cit. p. 238. Eg.

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of drifting apart due to centrifugality. Sufficient care need be taken to safeguard the subject from the centrifugal forces. The process of specialization must strengthen the core and not deplete and dismember the core.

Although there are dichotomies, diverse approaches and different schools in geography, all of them contribute to gain better perspective, insight and understanding of the world. These are not contradictory but complimentary as they help to gain a holistic view of geography. For instance, the regional and systematic approaches, idiographic and nomothetic approaches, inductive and deductive approaches, and empirical and theoretical approaches are not opposed to one another but supplement and compliment to one another. So also, the areal differentiation school, landscape school, ecological school and locational school in geography all help to gain a complete picture of the world. In them, we find more underlying unity than contradictions. Similarly, the deterministic and possibilistic view points are not the opposite ends. In terms of probability both can be conceptually accommodated and integrated. Cent per cent probability is deterministic and partial probability is possibilistic.

The positive and harmonistic approach that 'let hundred flowers blossom and thousand ideas flourish resolves most of the contradictions and butteresses the concept of unity as well as beauty in diversity.

The tools and techniques of analysis in geography have undergone revolutionary transformation and moved up to high level of sophistication. The traditional basic cartographic and field-work techniques, the observation skills in drawing inferences, conclusions and generalizations as well as the techniques of presenting the results in elegant and attractive literacy style are still

valid. However, the doubling of knowledge in about every fifteen years and explosion of data matrix and the development of geographical information system as a result of developments in satellite; computer and electronic technology all in combination have imposed certain compulsions on geographers to gain proficiency not only in statistical-mathematical techniques of analysis but also acquisition of knowledge and skills in satellite imageries and airphotos as well as in computer programming and computer cartography. Lest, the problem of handling data storage, data processing and data retrieval can not be solved. The traditional methods are too inadequate to meet the present exigencies of handling the vast and varied data.

Both as a geoscience and social science the relative weakness of geography is transparent when compared with other sister disciplines. The text book and classics in geography are mostly borrowed from the British and American sources. The uncritical acceptance of western ideas, concepts and models have inhibited the development of any serious internal dialogue. It led to stifle incentives for indigeneous approaches and original creative thinking. It is true that there is no place for chavinism in science, but there can not be development of science and technology unless we observe with our own eyes, develop our own tools of analysis, gain our own experience and think with our own minds. There is a great scarcity of research talent in India which is evident from the scarcity of numerical and qualitative research. Despite the presence of a galaxy of eminent Indian geographers, even today, there is no classic book on the geography of India written by an Indian geographer.

Some of the major thrust areas that Indian geographers need take up for indepth study and research may be the following :

1. Population, poverty and pollution.
2. Regional and social disparities, their consequences and mitigation.
3. Agricultural geography with special reference to optimization of land use and cropping pattern, increasing the levels of agricultural efficiency, development of dryland agriculture and waste lands.
4. Ecological problems, eco-development and ecological planning.
5. Ecosystems mapping.
6. Geopolitical problems of India with reference to frontiers and boundaries, sharing of river water, Defence strategies with reference to Himalayas and the Indian ocean, problem areas etc.
7. Regionalization and taxonomy of regions into dynamic, prospective and depressed regions so as to evolve suitable strategies for their development.
8. Problems of national integration with reference to linguistic, religious and regional diversity.

It would be academically fruitful and methodologically sound, if we broaden our

specialization base by getting training in a group of integrated and interrelated fields instead of confining to one narrow field of specialization in isolation. Such specialization complexes will immensely help to undertake better research with competence and to evolve better solutions to solve some practical problems.

The following may be tentatively cited to illustrate such specialization complexes :

1. Agricultural geography, geomorphology, agroclimatology, agronomy, soil and water management, and biogeography.
2. Urban settlement geography, rural settlement geography, urban planning, regional planning and urban ecology.
3. Economic geography, spatial organization, quantitative techniques of analysis, methods of regional analysis.
4. Industrial geography; locational analysis, pollution studies, and resource base studies.
5. Cartography, map-making techniques, computer cartography.
6. Geographical thought, philosophy of science, logic and theory of knowledge.

With these random reflections I conclude my address with the fond hope that the conference will give a new direction to the Indian geographic community for its betterment and fulfilment.

Address of the Authors

*Presidential address delivered at the 11th annual meet of the Institute of Indian Geographers on 12th February, 1990 at Bangalore.