Formulating a Research Problem

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Introduction

A good research problem is the key to better research. Research problem is also the centre of gravity of a research proposal. In evaluating research proposals for grants, fellowships etc., the examiners would usually judge the standard of the entire proposal by the quality of the research problem. Needless to say, a weak, ill-formulated and vague research problem is always the weakest point in a research proposal.

In many research proposals submitted by students as well grant applicants, I have found that the research problem is not always clearly stated. The confusion of the research problem with objectives of the research or even with the focus of the research project is a recurrent mistake. A statement like "The objective of this research is to find out the reasons for farmer suicides in the Polonnaruwa District" is not a statement of the research problem. It is only the objective, a reasonably good research objective, but not the problem to be explored through research.

What is a Research 'Problem'?

The starting point in formulating a good research problem is the understanding of the idea of 'problem.' A problem in the sense of scientific research is not merely a question in everyday sense of the term, but a conceptual query that warrants scholarly investigation. It is easy to appreciate this point when we place it in relation to the objective the vocation of scientific research, the production of new knowledge. Knowledge in any particular branch of science – natural, human or social – progresses primarily through new contributions made through research. Thus, a research problem is a 'problem' the exploration, investigation or resolution of which can potentially contribute to the production of some new knowledge.

As we noted earlier, a research problem is not just a question, but a puzzle, an anomaly, a contradiction, or a paradox either in the existing body of knowledge and theory, or in the physical, material, social, political, or cultural processes. Defining a research problem in this way is crucially important to the second step, that is to formulate a research problem that will enable the researcher to undertake a research project with the potential to expand the existing body of knowledge on the subject.

What is a 'Puzzle'?

A puzzle, as children who play puzzles for fun know, would contain a problem that does not have an easy or ready-made answer. It may contain a paradoxical situation requiring its unpacking, a riddle demanding resolution, a paradox requiring an explanation, or an interesting issue that warrants careful and systematic analysis and interpretation. A puzzle can also be an anomaly that calls for in-depth investigation and explanation. A research problem is a puzzle in this puzzling sense, that is, in the sense of requiring a serious explanation of an anomaly, a contradiction, or an exception to the rule.

There is another suggestion in the idea of 'problem' in a research problem. In this sense, a research problem can be a significant question that can be characterized as an intellectual problem with a strong conceptual content to it. Such a question as an intellectual problem will require not only data or information collection and classification, but also conceptual treatment of the material in an exercise in a theory-guided explanation.

It is Thomas Kuhn who has clearly conceptualized the link between research and puzzle solving. Kuhn, elaborating the theory of 'scientific revolutions' in his seminal work *The Structure of Scientific Revolutions* (1970), developed the idea of 'normal sciences.' 'Normal science' is a stage of knowledge that is fairly stable and does not require a radical transformation in its basic theories, hypotheses, methodologies etc. Kuhn argues that under conditions of the 'normal science', what researchers mostly do is solving puzzles that they come across within the existing body of knowledge and within the existing paradigm of scientific knowledge. A puzzle in this Kuhnian sense is an anomaly that exists between the prevailing theory and an actual situation that a scientist may come across. In Kuhn's theory, it is the resolution of such anomalies through research that scientific knowledge progresses during the stage of 'normal sciences.' Kuhn calls such research as a 'puzzle-solving exercise.'

Why Should Researchers Pursue 'Problems'?

The reference to Kuhn we just made gives one major explanation of why researchers should be concerned with 'problems', and not just questions, or issues as such. The research problem in this sense refers to a knowledge problem that requires for its resolution a research exercise leading to a significant theoretical treatment of the research outcome. 'Problem solving' in the sense of Kuhn entails a theoretical exercise, because the 'problem' is resolved essentially in the domain of theory, in the advancement of knowledge, although within the larger framework of a dominant paradigm.

There is another tradition of looking at the enterprise of scientific knowledge production as pursuing a problem, or a *problematic*. In the French tradition of historical epistemology, the idea of 'problematic' means the larger conceptual framework within which significant intellectual/theoretical questions are constructed and made meaningful. The Marxist problematic, or the Foucauldian problematic are examples of such a

conceptual framework or a field of knowledge. Although the idea of a 'research problem' may be seen as more American than French, the notion of the 'problematic' reiterates the theoretical orientation of the investigation and its outcome.

In both traditions, the focus is on how the knowledge would progress. Thus, a research problem is a knowledge problem the resolution or handling of which is likely to contribute to the advancement of knowledge.

Understanding Puzzles in Everyday Social Life

As a first step towards understanding a social science research problem as a puzzle, let us now try to see what a puzzle would mean in our everyday social encounters. In this effort, we can formulate a few simple puzzles about the social world in which we live.

- Our first example is about the behaviour of motorists. We often see motorists on the road who would violate the traffic rules. They do things like driving fast, crossing double lines, driving through red lights, driving after consuming liquor and so on. They continue with this behaviour even though there are laws against such practices. They do not mind the presence of traffic police officers on the road. Some even violate the traffic laws knowing very well that if caught by the police, they have to pay quite a heavy fine. For an observer of human behavior, this constitutes an interesting 'puzzle.' We can formulate this puzzle in the following manner: Why is it that certain motorists in Sri Lanka continue to violate traffic laws, despite the fact that traffic offences carry penalties?

- Let us take another example, which is about admission of children to elite schools in Sri Lanka. Many of us in our society abhor bribery and corruption. We feel outraged when we hear politicians, or government servants, accepting bribes. We denounce corruption as an immoral social practice. Yet, some of those very same people who abhor, reject, denounce, and detest bribery and corruption in public life would engage in elaborate and subtle practices of bribery and corruption when they have to admit their own children to elite schools in Colombo. There is a puzzle in this human behaviour which can be formulated as follows: Why do some people, who in their normal life loathe bribery and corruption, indulge in corrupt practices in situations of their own self-interest?

- A third example of a social puzzle: Sri Lanka has an elaborate and well-established banking system to enable people to obtain commercial credit at fairly reasonable and non-exploitative interest rates. Both government and private sector banks cater to the agricultural credit market. But, very often farmers in the dry zone agricultural heartland obtain loans from private money lenders, who charge exorbitantly high and usurious interest rates. Why do farmers turn to exploitative private money lenders when there is a formal banking sector that provides loans at much lower interest rates? This indeed is a puzzle that warrants a social inquiry for its resolution.

- Another puzzle in Politics: Sri Lanka has a fairly well-developed institutional structure for democratic political participation and competition. There are many political parties which have penetrated even villages in the far-away periphery. Electoral participation of people is one of the highest in the world. Political literacy among the people is quite high. Sri Lanka's achievements in social development and gender equality are at least statistically quite impressive. There is in increasing tendency for Sri Lankan women to participate in higher education, employment and public life. Yet, with all these democratic and social achievements, Sri Lanka has one of the lowest levels of women's participation in electoral politics at national, regional and local levels. Why is this anomaly?

Research problems are puzzles like the ones we saw above. They highlight, and center on, seemingly inexplicable anomalies, paradoxes and contradictions in, as we noted above, (i) the social processes, and (ii) in the existing body of knowledge. They demand for their explication and resolution a systematic exploration, examination and study. Actually, the puzzle we saw above in relation to the farmer preferences in the sources of agricultural credit is a good research problem about the rural credit market in Sri Lanka. As a puzzle it tells us something unusual about the nature of the rural credit market, farmer behaviour and preferences in obtaining agricultural credit. To resolve the puzzle we need to undertake a research programme so that we will know the nature, dimensions and specificities of the rural credit market as well as economic decision-making habits of the farmers that have led to the puzzle we observed. Once we do the research, collect the information, make field observations and analyze them we can 'explain' the puzzle.

How to Formulate Research Problems as Puzzles

Researchers who are trained in the American university traditions of research like to formulate their research problems in the form of puzzles. Lets us take a few examples from published research work. All our examples will be books and journal articles that have of course been written much after writing the research proposal. Yet, when we read 'Introduction' or first chapter of a book, or the 'Introduction' section of a research paper/academic journal article, we can see how the research problem is presented by the author.

We will begin with a political science work by a South Asian political scientist teaching in the US. Varshney's *Ethnic Conflict and Civic Life* (2002) examines the relationship and connections between civil society and ethnic conflict. In reviewing the academic literature on both civil society and ethnic conflict he noted that "the role of civil networks" had not yet been appreciated in the literature on ethnic conflict. Thus his research sought to find out the linkages between the two, civil society and ethnic conflict. In this exploration, Varshney started with a 'puzzle' and sought to resolve it. This is how Varshney presents his 'puzzle' in the 'Introduction' chapter in the book:

Sooner or later, scholars of ethnic conflict are struck by a puzzling empirical regularity in their field. Despite ethnic diversity, some places – regions, nations, towns, or villages – manage to remain peaceful, whereas others experience enduring patterns of violence.

Another Way

There is another way of presenting a research problem, not in the form of a puzzle as indicated above, but in the form of a significant intellectual question the understanding of which will require a research effort. It is also possible to ask a few more questions all of which taken together should constitute the larger research problem. These questions ask questions that require larger explanations. They are also called 'grand tour questions.'

Jonathan Spencer begins his recent book, *Anthropology, Politics and the State* (2007), with a conceptual key question, followed by another question to explicate the main one:

> What happened to the anthropology of politics? A subdiscipline which has seemed moribund in the 1980s has moved back to the center of anthropological argument. Political themes – nationalism, conflict, citizenship – inflect exciting new work across (and beyond) the disciplinary spectrum. Where have these themes come from and what issues do they raise for anthropology in general? This book seeks to take stock of the recent political turn in anthropology, identifying key themes and common problems, while setting an agenda for work to come (Spencer, 2007:1).

Spencer's research project in this book, as he states, centers on two major conceptual problems: what has happened to the anthropology of Politics? What are the sources of political themes that anthropologists have focused on in recent years and what questions do they raise for the discipline of anthropology? The point we want to make in the present discussion is that the very first sentence of the first chapter of the book is a concise and precise statement of the intellectual problem that the book deals with. We don't know whether Spencer wrote a funding proposal for this book, foregrounding this research problem. If he did, he would surely have got the nod from the proposal evaluators, because it is a well-formulated and evocative statement of a research problem.

 Some examples:

Let us now see a few examples.

- In this research on the electoral behaviour of Sri Lankan voters, I *investigate* why do a significant proportion of voters, nearly 8 to 10 percent, refrain from voting at every election? My project will examine the following issues as well: Are these 'no voting' electors make their decisions not to vote on the election-day, or do they do it as a habit? What are the factors that determine voters' decisions concerning to vote or not to vote? Are political parties concerned with the non-voting voters? What does the persistence of a non-voting electorate tell us about the voter-party relationship in Sri Lanka?

- Why do governments in Sri Lanka appear to be reluctant to strengthen local government institutions? Are there any specific reasons for governments to strengthen the center at the expense of the periphery in terms of governance? Does this particular behaviour of governments tell us anything significant about the trajectories of political power in Sri Lanka? My research project seeks to *study* these key issues concerning the current trends in the processes of governance in Sri Lanka, particularly in relation to the local government.

- In this research, I am interested in *exploring* the following questions: Why do young women in Sri Lanka's rural society have a greater propensity to marry early than their urban counterparts? Are there any social, cultural, gender and/or ideological factors that influence their decisions?

- I *examine* the following questions in the proposed research: Does the theory of greed and grievance explain the Tamil secessionist rebellion in Sri Lanka? If it does not, what alternative theoretical explanations are useful to understand the persistence of an armed rebellion in Sri Lanka's Tamil society?

- My research *focuses* on the following questions: Does the theory of social capital tells us anything new about why rural development programmes in Sri Lanka fail or succeed? Are there alternative theoretical explanations to account for varied experiences in rural development, or lack of it, in Sri Lanka?

- In this research I am *interested in knowing* whether introducing law reforms and bringing new laws are adequate to ensure greater accessibility to justice for women in Sri Lanka. The conceptual problem I explore is about the efficacy and adequacy of legislation in creating conditions for an effective regime of rule of law.

In the above examples, you may have noticed two genre of question formulation. The first is observations of a concrete political or social process. The second focuses on a theoretical problem. The italicized formulations in them are examples of different ways of presenting the research problem.

The examples given above also indicate that research problems are qualitatively different and distinguishable from straightforward questions. This distinction is clearer in the examples of research-problems-as-puzzles. A question can always have one variable, but a puzzle, as in our examples, has two variables – a question preceded by a statement that qualifies or defines the context in which the question not only arises, but also derives some noteworthy significance. Let us return to our example of the indebtedness among farmers in the Dry Zone of Sri Lanka. The question, 'Why do farmers in the Dry Zone obtain agricultural credit from private money lenders?' is just a question. It is not a problem or a puzzle. For it to be a puzzle, there should be a preceding or succeeding statement describing the context in which this question occurs and that statement should be one that can turn the whole statement into a statement of anomaly, a contradiction, a paradox, or simply a problem. Let us now complete our puzzle: 'Why do farmers in the

Dry Zone obtain agricultural credit from private money lenders in the informal market, *although* there are institutionalized and formal networks of credit with lower interest rates?' In the example about ethnic violence, the puzzle is not about ethnic riots breaking out in some cities. The puzzle is that ethnic riots break out in some cities *whereas* they don't in some other cities. In our previous example of human behavior, the puzzle why do some motorists violate the traffic rules *despite* laws that impose penalties on traffic violations.

No Short-cuts to Formulation of Research Problems

In my experience in working with both undergraduate and graduate students, I have noticed that formulating the research problem is the hardest part in writing a research proposal. The difficulty is about both the form and the content of the problem. Those who master the form of the puzzle might not produce a good, interesting and exciting research problem. The main reason for this difficulty is the students' lack of knowledge about the issue they want to study. What it means is that one cannot invent a research problem off the head, out of nothing.

There are two domains of knowledge from which ideas for a good research problem concerning a particular issue can originate. The first is the existing scholarly, research-based knowledge about the issue which interests the researcher. When students read the existing literature, for example on ethnic violence, they can identify the gaps as well as anomalies and contradictions that can eventually constitute an interesting problem. This of course requires a critical reading of the existing literature with an eye on gaps and anomalies etc that will eventually help formulate the puzzle. The other domain is the actual social, political and cultural processes. An informed observer alert to the patterns and dynamics of such processes can easily identify anomalies that can lead interesting research problems. The examples given above on the behaviour of motorists, parents who want to admit their children to elite schools and the agricultural credit are based on observations of actual social processes, although they may not be great research problems. Those who are self-trained to identify contradictions, anomalies and paradoxes in social process might find this an easy exercise.

For a research problem to be 'good' it should be one that warrants a serious research effort, enables the researcher to develop a theoretical argument and of course has the potential to produce new knowledge.

A Practical Guide

In one of my graduate classes on research methodology, I began my lectures explaining what a research problem was. I gave a number of examples. Even then I found that my students were not really grasping the idea of research problem as a puzzle. When I gave them an exercise to formulate puzzles in their own chosen areas of research, most of them found the exercise quite difficult. Feeling a little frustrated, I tried a different method and it began to work. This impromptu method of formulating a research problem as a puzzle

had three steps. I drew three columns on the white board, asked about five students to write in the column (i) the broad research area, (ii) the specific research theme, and (iii) a few key questions they wished to examine in their tentative research programmes. I worked with them to re-fine their research areas, research topics as well as the questions. Then I asked them to formulate puzzles, or research problems, by integrating the key questions put on the white board. That strategy, to my great relief, worked to some measure. Let me illustrate this exercise with a few examples.

Research Area	Research Topic	Key Questions	Research Problem
Human Rights and Group Rights	The Question of Group Rights in Sri Lanka in the Context of the Ethnic Conflict	-Why do minority communities argue for a regime of group rights in Sri Lanka? -To what extent has the ethnic conflict highlighted group rights claims? -How has the mainstream liberal constitutionalist discourse responded to group rights claims by minorities?	Despite claims made by ethnic minorities in the context of ethnic conflict, why is the human rights discourse in Sri Lanka reluctant to accommodate a framework of group rights?
Religion and Ethnic Politics	Buddhism's Political Engagement in the Context of the Ethnic Conflict and Peace in Sri Lanka	-Why do some Buddhist intellectuals advocate a military solution to Sri Lanka's ethnic conflict? -Do all Buddhists in Sri Lanka share the military solution approach? -What are alternative Buddhist perspectives on	-Despite Buddhism's moral commitment to non-violence, compassion and peace, why do Buddhist political activists in Sri Lanka advocate a military solution to the ethnic conflict?

		social and political conflicts and their resolution? -Are Buddhist moral concepts like non-violence, compassion and peace irrelevant to Sri Lanka's current realities?	
Social Change and Democratic Politics	The Dialectic of Caste and Democracy in Contemporary Sri Lanka.	-Does caste continue to be important in electoral politics in Sri Lanka? -Why hasn't the significance of caste in politics disappeared even after much socio-economic change and modernization? - How do political parties negotiate with the caste factor in party mobilization and electoral representation?	What has democracy done to caste and what has caste done to democracy in Sri Lanka?