

The Pakistan Journal of Social Issues

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Call for Papers

Paper Submission and Selection

We follow single-blind system for peer-review; the reviewers’ identities will remain anonymous to authors. The review process may take 4-5 weeks. Submission of an article implies that the work described has not been published previously (except in the form of an abstract or as part of a published lecture or academic thesis), that it is not under consideration for publication elsewhere, that its publication is approved by all authors and tacitly or explicitly by the responsible authority where the work was carried out, and that, if accepted, it will not be published elsewhere in the same form, in English or in any other language, without the written consent of the publisher. The editor reserves the right to edit or otherwise alter all contributions, but authors will receive proofs for approval before publication.

All manuscripts should be submitted electronically in MS-Word format to the E-mail address which appear on the journal webpage as well as by hard copy sent via courier/mail.

Manuscript Submission Guidelines:

The journal's interest is in the articles that review emergent and challenging issues: substantive, concepts, theories and methods. All papers are acknowledged quickly and reviewed as rapidly as possible. They are initially scrutinized by the editor who decides whether they meet certain basic standards with respect to, for example, their length, presentation, clarity and level of scholarship. Those papers that pass this initial scrutiny are sent out to referees who are carefully selected on the basis of their expertise in the relevant field. Once suitable referees are identified and they accept the commission, they are normally asked to reply within a month. Authors may contact the editor at any time for information on the progress or status of their papers.

1. Type double-spaced on one side of 8 ½ x 11 inch white paper using generous margins on all sides. Four copies of the manuscripts in hard copy should be submitted with original (including, where possible, copies of all illustration and tables).
2. The title page is to be provided and should include the title of the article, author’s name (no degree), author’s affiliation, and suggested running head. The affiliation should comprise the department, institution (usually university or company), city and state (or nation) and should be typed as a footnote to the author’s name. The suggested running head should be less than 80 characters (including spaces) and should comprise the article title or an abbreviated version thereof. For office purposes, the title page should include the complete mailing address and telephone number of the one author designated to review proofs.
3. An abstract is to be provided, preferably no longer than 100- 150 words. (Review Essays do not require abstract or key words). A list of 4-5 key words is to be provided directly below the abstract. Key word should express the precise content of the manuscript, as they are used for indexing purposes.
4. Illustration (photographs, drawings, diagrams and charts) are to be numbered in one consecutive series of Arabic numerals. The caption for illustration should be typed on a separate sheet of paper. Photographs should be large, glossy prints, showing high contrast. Hand drawing should be prepared with india ink. Either the original drawing or good-quality photographic print are acceptable. Identify figures on the back with author’s name and number of the illustration.
5. Table should be numbered (with Roman numerals) and referred to be number in the text. Each table should be typed in separate sheet of paper. Center the title above the table, and type explanatory footnotes (indicated by superscript lowercase letters) below the table.
6. List references alphabetically at the end of the paper and refer to them in the text by name and year in parentheses. Where there are three or more authors, only the first author’s name is to be given in the text, followed by et al. page citations, if appropriate, year of publication (Weisburd, 1988:138-141). References should include (in this order): last name of all authors (on a separate line), year published, title of article, name of publication, volume number, and inclusive pages. The style and punctuation of the references should conform to that used in the journal-illustration by the following examples:

Journal Article

Weisburd, David

(1988) Vigilantism as community social control: Developing a quantitative criminological model, journal of Quantitative Criminology 4: 137-153

Book

Heslin, Richard, and Miles Patterson

(1982) Nonverbal Behavior and Social Psychology. New York: Plenum Press.



Contribution to a Book

Bierhoff, Hans Werner, Ernest Buck, and Renate Klein

(1986) Social context and perceived justice In Hans Werner Bierhoff, Ronald L. Cohen, and Jerald Greenberg (eds.) Justice in social Relation: 165-185 New York: Plenum Press.

7. Footnotes should be avoided. When their use is absolutely necessary, footnote should be numbered consecutively using Arabic numerals and should be typed at the bottom of the page to which they refer. Place a line above the footnote, so that it is set off from the text. Use the appropriate superscript numeral for citation in the text.
8. After a manuscript has been accepted for publication and after all revisions have been incorporated, manuscripts may be submitted to the Editor’s office on personal computer disks (Cds). Label the disk with information on kind of computer used, kind of software and version number, disk format and file name of article, as well as abbreviated journal name, authors’ last name, and (if room) paper title. Package the disk in a disk mailer of protective cardboard. The disk must be the one from which the accompanying manuscript (finalized version) was printed out. The Editor’s office cannot accept a disk without its accompanying, matching hard-copy manuscript. Disks will be used on a case by case basis wherever its is efficient and feasible.

Paper Selection and Publication Process

Upon receipt of paper submission, the editor acknowledges receipt by an E-mail to the corresponding author within 1-3 working days. If you fail to receive this conformation, your submission/email is probably missed.

Language

Please write your text in English (American or British usage is accepted, but not a mixture of both). For numerical data use decimal points (not commas); use a space for thousand (1 000 and above). We only accept manuscript in English Language. Title page is a separated page before the text.

Title

Concise and informative. Title are often used in information-retreival systems. Avoid abbreviations and formulae wherever possible.

Author names and affiliations

Please indicate the given name and family name clearly. Present the authors’ affiliation address (where the actual work was done) below the names. Indicate all affiliation with a lower-case superscript letter immediately after the author’s name and in front of the appropriate address. Provide the full postal address of each affiliation, including the country name, and, if available, the e-mail address, and telephone number of each author.

Editorial

Welcome to the first issue of "The Pakistan Journal of Social Issues (PJSI)". The PJSI is an editorially independent research journal to be published annually by the University of Gujrat with an aim to provide an interdisciplinary forum for discourse on significant social science research and policy issues. We are certainly not the first one to venture into this domain; however, the rapid social transition at the onset of a global culture and our lack of preparedness to develop a knowledge-based society that is crucial to our cultural survival invites more and more such initiatives. With the launching of this first issue we find it an appropriate occasion to explain the rationale of its founding.

When the founders of this journal made the call for research papers, the initial idea was to provide a platform for the publication of research conducted at Centre for Population, Urban and Environment Studies—a research centre that works under the auspices of University of Gujrat. However, to broaden the scope of the journal it was later on decided that the journal would deal with all the issues that are relevant to social development and social justice. It was realized that instead of upholding research efforts of a single institution, the very concept of research on the whole needs to be promoted.

After much deliberation and thorough discussion, the scope of the journal was further broadened to include research efforts in the field of psychology, political science, anthropology, history, philosophy, economics, public health, management, education, statistics, law, linguistics and literature, as all these disciplines contribute to society's development, one way or the other. The objective of the journal now is to showcase research on social science or humanities; issues that review conceptual problems; present empirical reports and debate policy alternatives.

In response to our call for research paper submission, we received numerous articles. These articles were sifted through and those in line with the editorial guidelines were sent to the subject matter experts (from within and outside Pakistan) for blind peer review. In the light of the comments sent by the reviewers, the articles were finally selected; to bring out this first issue of PJSI. Some of the articles have been withheld, to be published in the next issue of the journal, while we look forward to more contributions.

We hope that brining out of this journal will encourage research efforts from academicians as well as practitioners. The distinction between practitioners and academicians owes to the lack of research culture in our

society. The role of both academicians and practitioners are crucial to the society's development; however, there exists a huge gap between the two in their approach to identify a problem and to devise a solution. While the practitioners are so engrossed with their day-to-day work that they hardly find any time to appreciate intellectual pursuits, the academicians are too absorbed in their books and journals to go out and witness for themselves society's peculiar make-up. Both the practitioners and academicians need to meet half way and synergise their experiences and ideas for better identification and solution of the problems, that are hindering our society's progress.

One of the aims to bring out research journal is to bridge this gap by providing a platform for academicians and practitioners to share their views, ideas and experience and understand each other's domain, so that they can amicably work together for society's development.

With this aim, the PJSI welcomes interdisciplinary integrative articles that provide a larger focus on complex social convergences. Building on the strength of specialization while emphasizing intellectual convergences, the PJSI offers special opportunities for using the techniques and concepts of one discipline to create new frontiers in others.

Finally, we wish to thank the authors who submitted papers towards the first issue of PJSI. We are grateful that they responded to our invitation. Many thanks are due to the respected reviewers, who reviewed the papers submitted to the journal. We thank them for their precious feedback and advice.

We hope that this new Journal will serve the community well and will assume the role of a forum for presenting ideas and research work. Any suggestion, as to how to improve our activity in order to deliver a better journal to the readers will always be welcomed.

Action Research: A Prospective Tool for Empowering Pakistani Teachers

Sarwet Rasul*

In the traditional Pakistani pedagogical setup, teaching and research have always been thought to be two separate, if not different, areas. Action research is a powerful tool that can empower teachers in a variety of ways by equipping them with the required information/knowledge of students' needs, choice of methodology, and students' performance. Its potential in activity designing, lesson planning, syllabus designing etc. can also facilitate/empower teachers. However, Pakistani school and college teachers generally hesitate in conducting research. The present paper explores how, in our schools and colleges, the culture of action research can be introduced; and how young teachers/researchers can be facilitated to deal with the issues of research designing, conducting, documenting, and publishing. A discussion with a class of MA TEFL (Teaching of English as Foreign Language) students, who were working as teachers in various schools and colleges, was used for the present research. Data was collected through semi-structured interviews from twelve school and/or college teachers. The data was analyzed to see what were their apprehensions, needs, problems and expectations. After analysing the data, it was discussed how a realistic and pragmatic design/ plan, focusing on realistic goals, could be developed to promote action research in the Pakistani teaching/learning context, particularly the role that our universities could play in this regard.

Introduction

In response to the seemingly simple question of 'what is the job of a teacher', the quick response by many of us 'a teacher's job is to teach' is equally 'seemingly simple'. In fact, the role of a teacher includes knowing of students' needs, adopting right teaching methodology, ensuring students' performance, etc. However, in the traditional Pakistani pedagogical setup, it is generally assumed that all this would come from the world outside the classroom—from the administration, syllabus/book designers, policy makers etc. The teacher seems to assume the role of a powerless practitioner of the plans laid down by others, a feeble follower of the path carved by others.

What is working and what is not, what needs to be changed or challenged, what is

to be done, why and how are the questions that should be of direct concern for the teacher and s/he should be willing to explore and answer them if a desirable change in the teaching learning processes is to be brought in our schools and colleges. To answer all these questions involves both research and action on the part of the teacher.

Literature review

Research in education can be very enjoyable. Travelling around, visiting different schools, experiencing new accents, meeting people

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etc. can be amusing. It can also involve 'asking questions, listening and observing and evaluating resources, schemes, programmes and teaching methods' (Wellington, 2000: 3). Action research in education can be even more enjoyable and involving because it is directly relevant to the researcher and his/her context. However, surprisingly, in our educational context the school/ college teacher is considered to have the remotest link with research. Wellington refers to Lawrence Stenhouse's concept of the 'teacher as researcher' and cites his definition that educational research is a 'systematic activity that is directed towards providing knowledge, or adding to the understanding of existing knowledge, which is relevant to improving the effectiveness of education' (Wellington: 11). 'Systematic' is the key word in this definition. Best and Kahn (1986) also have defined it as systematic and objective.

In educational research, action research is a term coined by social psychologist Kurt Lewin (1890-1974) who suggested action research as a 'spiral' of 'planning, action, observation and reflection' (Wellington, 2000: 194). Practitioner research, insider research, and action research are the terms that are used alternatively and interchangeably to refer to the same process. In the same way 'the teacher as researcher' (Stenhouse, 1975) and 'the reflective practitioner' (Schon, 1983) also refer to the same idea or philosophy of research. Action research is defined by Carr and Kemmis (1986) as a 'reflective inquiry' by the researchers in social or educational situations with the aim 'to improve rationality and to do justice to their own social or educational practices and also to improve the context in which these practices are carried out.

Ebbutt (1985:156) regards action research as a systematic study that combines action and reflection in order to improve

practices. Action research provides means to understand a problem, to take some action to resolve that problem, and to analyze the outcomes of the action for further modification/action. Thus, 'the essence of action research is in a cyclic process that enables understanding of the problem at hand' (Opie, 2004: 79). Many educationists, writers and researchers such as Opie (2004) and Costello (2003) have attempted to present the process of action research through diagrams. Costello (2003) has presented basic model of action research and then an extended action research model. To Kemmis and McTaggart, 'to do action research is to plan, act, observe and reflect more carefully, more systematically, and more rigorously than one usually does in everyday life (1992: 10).

Discussing action research, Armstrong and Moore (eds.) assert that action research does not invoke the idea of 'set of instructions or technical requirements' rather it is 'a fluid approach, involving an exploration of values and practices in which the focal participants are the main agents for changing the environments they are situated in; and consultation and collaboration are key element in the research design and process' (2004: 4). They continue, 'in the context of participatory action research, based on emancipatory principles, all those who are implicated in change would participate in identifying and planning that change, monitoring and evaluating it, planning the next stage, and so on' (Armstrong and Moore, 2004:5).

The most significant aspect of action research is its ability to 'bridge the gap between research and practice' (Somekh, 1995: 340). It can be used to fill up the gulf between the academic world of research and the actuality of everyday life to examine and evaluate the structures, values and practices with the objective to change/improve them. Action research is different from other types

of researches in two fundamental ways: First, 'generalization of persons, settings or situations is of minimal importance'. Second, subjects in the study (known as participants or stakeholders in action research) are of crucial attention and importance (Fraenkel and Wallen, 2007: 13).

Wellington (2000:20) has discussed the advantages and disadvantages of action research. To him its potential advantages include researcher's articulation of his/her prior knowledge and experience of the setting/context, improved insight into the situation and the people involved, better personal relationships, familiarity, and practitioner's insight into design, ethics and reporting of the research. According to him the disadvantages or possible problems include preconceptions, prejudices, lack of open mindedness as an outsider, lack of time, and distractions/constraints, difficulty while reporting and feeding back, researcher's status in the school etc.

Discussing action research, Cohen, Manion, and Morrison (2007) refer to various principles and characteristics of action research; such as, it is practical and problem solving, is an ongoing cyclical process, seeks to improve the quality of human actions, is formative, and includes evaluation and reflection. All these characteristics show its significance and relevance to the teachers' learning processes and education. Action research is collaborative and participatory in nature, it is based on dialogue and celebrates discourse, it strives to be emancipatory (Cohen, Manion and Morrison, 2007: 299).

Action research can be of various styles or types. To Dickens and Watkins (1999:127) it has now become 'an umbrella term for a shower of activities intended to foster change on the group, organizational and societal levels'. One such division proposed by Opie (2004) is of technical, practical and emancipatory. To him technical action research merely aims at rendering 'an

existing situation more efficient and effective'; and 'what it does not do is to challenge the legitimacy of the situation or the wider social and political factors, which may have caused it to happen' (Opie, 2004: 81). Practical action research on the other hand gives a great consideration to the wider social factors that create a situation or problem. Emancipatory research focuses on 'the understanding of illegitimate structural and interpersonal constraints' and aims at a more 'critical' change in the system. Brooks and Watkins (1994) identify classical action research, participatory research, action learning, action science, developmental action inquiry, cooperative inquiry all come under the umbrella of action research.

As a matter of fact, action research in education includes a wide array of issues related to the teaching learning processes in the classroom/s, be it reason/s, happening/s, impact etc. It is the teacher practitioner who decides how s/he would develop the action research project. However, to facilitate the new teacher researchers, experts have pointed out various areas that may be of concern. One such range is proposed by Wragg (1994: 103-104) which includes classroom talk, classroom management, pupils' learning, pupils with special education needs, teachers' professional development, monitoring and assessment, group work etc.

Data Collection

In Pakistan there is no concept of action research among educational institutions, particularly in schools and colleges. The present research aims at exploring why research culture is missing in our schools and colleges; and how it can be introduced. A discussion with a class of MA TEFL (Teaching of English as a Foreign Language) students of Allama Iqbal Open University working as teachers in various schools and colleges generated the idea of this research. These

students are not only supposed to do a research thesis at the end of the taught courses, but each course also includes a small scale research project which they have to present at the end of each course. It has been observed that these students are worried and mostly confused about these research projects and presentations. Despite the fact that these research topics are very relevant to classroom teaching, they are least interested and hesitant to conduct research. They would always have complaints about time constraints, difficulties in data collection, problems in documenting the research etc. In 2007, while discussing their research project and the related problems with a class of the final semester, discussion led towards the importance of research in education, general problems/issues related to research in Pakistan, and lack of interest among teachers in this regard. I found that research was a 'threat' to most of them. They found it difficult, irrelevant, and most of all 'useless'.

To explore the reasons behind this attitude and to investigate into the issue, data for the present paper is collected through semi-structured interviews from twelve school and/or college teachers. Half of these teachers were selected from a private institution while the other half taken from a government college. All are female English teachers, teaching to the secondary, higher secondary or bachelors classes. The data is analyzed to see what are their apprehensions, needs, problems and expectations.

Presentation and analysis of data

Out of the six teachers interviewed from the private institution (PI) five had less than ten years' teaching experience, while one had spent thirteen years with a teaching job. From the government institution (GI), three

of the selected six teachers had less than ten years of teaching experience, while the other Three had more than a decade's teaching experience. Two of them, in fact had an experience of 25 to 30 years of teaching.

It is important to note that on the whole the teachers from PI were comparatively less experienced than the teachers of GI; however, four of the six from private institutions had some experience of academic research as they had done a research dissertation for their post graduate degree, while from among the GI, only two teachers had the academic research experience, others were not familiar with research. This also reflects upon the changing trends in post graduate education in Pakistan where in most of the universities dissertation has now become a part of the degree requirements. However, it is regretful that this change was not reflected in their professional lives as teachers. None of the teachers, of PI or GI, reported conducting any research, apart from their own academic requirements, during the long years of their teaching career. Amazingly, none of the 12 teachers but one knew what a research journal is.

Discussing action research Gay (1996) asserts 'whether the research is conducted in one classroom or in many, the teacher is very much a part of the process. The more research training teachers would be involved in, the more likely it was that the research will produce valid, results' (Gay, 1996:10). However, all the teachers of PI said that they had neither been provided nor been appreciated for any such research training; though other traditional teacher trainings regarding classroom teaching methodologies etc. were organized. Due to this lack of training, according to most of them, even if there was an opportunity to do research, they did not know how to start or how to manage such a research project. One

of them gave an example that a teacher training course that her institution had recently sent her to attend, demanded for a research project; however, she had been unable to start working on it because of other job responsibilities, and also because she had not been trained to systematically organize the research work procedures. These young teachers of PI expressed their willingness to do some research if guidance and support was provided. To one of them, "teachers do not conduct research because of the 'fear' of being 'lost in the 'maze' of research".

As far as the GI teachers were concerned, they reported that there was no trend of any type of workshops/ seminars or training in the government institutions and generally the authorities consider such activities as a 'waste of time'. When they were asked the reason for not doing research, all of them considered it irrelevant to their job requirements. No noticeable disparities were found among the responses of PI and GI teachers in this regard. All of them believed that there was no place for research in the existing educational system. To one of them, in the system there was 'no slot to fit research in'. To another it had no 'value' in the system and only a less occupied teacher' could do it. The teachers of PI specially stressed the pressure of work and time constraints during the working hours. The GI teachers mentioned time constraints owing to the family responsibilities, or household. It was interesting that initially almost all of them complained about time constraint in gathering data. To all of them it was a new idea to do a research in which they would not have to steal out time to go outside to gather data for their work; rather the data would be taken from within their work area. After knowing that, most of them thought that it was 'possible' to manage time to conduct research.

While responding to a question about action research, in a semi-structured

interview, four of the PI teachers responded that they had heard about action research, one was somewhat sure what action research was all about, and one of the respondent had 'never heard' about it. This response was interesting as four of them had done a research dissertation at the Master's level. Out of the six teachers from the GI, none had ever heard about action research. When the idea of action research was shared with them, many of them argued that they already had been doing 'this kind of activity' in the classroom. All of them were of the view that they knew 'enough' about their students, subjects, classrooms and the related issues/problems.

Opie (2004) cites (Cohen et al., 2000:3-5) that research endeavours to overpower the limitations of 'commonsense knowing' (Opie, 2003: 3). 'To opt for action research must involve intention and critical reasoning on the part of the researcher: it is a deliberate choice of a particular type of inquiry' which is followed by the choice of a framework (Costello, 2003: 12). However, in response to the question whether they had ever felt the need to document and record their observations etc. four of PI teachers said that they had in fact never thought about it. However, two of them said that initially they used to keep some records with them but with the passage of time they 'realized' the uselessness of their effort in the 'system'. However, all the PI teachers enthusiastically stressed that the idea of keeping official record of certain activities such as 'subject teacher's examination report' has recently been introduced in the institution. Each teacher fills in a report performa after every term examination dealing with the level of difficulty of questions, suggestion for the improvement of paper, analysis of the topics taught during the term etc. When asked, it was reported that the teachers did not use this information for any purpose; reports were just sent to the authorities and the

¹ From here onwards for convenience 'PI' will be used as an abbreviation for the private institution.

² From here onwards for convenience 'GI' will be used as an abbreviation for the government institution.

teachers did not know the further process or progress, if any. As far as the teachers of GI are concerned, only one of them reported that initially she tried to keep some systematic record of her observations but due to lack of time she gradually stopped doing so.

In response to a question that if, despite all the difficulties and problems, they happen to do some research, what would be the response of the authorities, all but one teacher agreed that it would be appreciated. However, they stressed that appreciation would be 'merely verbal' and would not go beyond saying 'well done!'. To a well experienced teacher even this verbal appreciation depends on the individual traits of the person in authority. However, the teachers of both the PI and the GI agreed that in no case it is considered to be of any importance or would have any impact on their professional growth and development. According to all the PI teachers it is the 'good result' of the students that matters; and the higher the percentage marks the students achieve, the better the teacher is considered. Increments and promotion policies are also based on the same criterion. According to the majority of GI teachers, the abilities of a teacher is judged on the basis of the results she produces; and the ACR (a tool to evaluate performance of government employees) is also written on the same grounds. To one of them, who had a 30 years teaching experience, during her career she had never ever seen or heard anybody doing research and then getting any increment or promotion on that basis, because they 'exist in an environment that is not conducive to research'. However, one young teacher with seven years of experience was hopeful that if she would do some research it would contribute towards her career development as well because research is gathering

significance day by day.

In response to the question regarding if available what type of help, support or assistance would they like to have, and what would be an incentive for them, half of them (six teachers) asserted that only monetary benefits or rewards would not do much. It is more important to create a context where they have the feeling that if they do research it would be of some worth in their overall career. For this purpose there is a need to reform the system in a way that the observations, analyses and experimentation by a teacher would be considered of significant importance.

According to one of the GI experienced teachers, until and unless the desire for doing such a work 'would not come from inside', any such attempt would be 'superficial'. Four of the PI teachers also felt that they would need help in documentation and publication procedures; while only one of GI teachers said that she might need help in this regard. The rest of the GI teachers were not sure exactly in which area would they need help; but majority expressed their eagerness to attend any such workshops/ training programmes that would make their concepts clear in this regard, and would help them start any such activity.

Suggestions and Recommendations

In the light of the findings it is quite evident that despite long years of teaching experience, most of our school and college teachers are not familiar with the concept of action research. Lack of awareness about the opportunities available, and future prospects, has resulted in lack of interest. The teachers are right in asserting that without creating a context in which they and others would find their research significant, it was not possible to generate genuine interest among the school and college teachers to be involved in research.

In Pakistan it is generally assumed that if any research is ever to be done, it is the job of a university teacher; and school/colleges teachers have nothing to do with it. Unless and until we develop a culture of research in our schools and colleges in which their research endeavours are considered as valuable contributions, it was not possible to motivate them to do action research. Presently Higher Education Commission and other concerned authorities are encouraging and promoting research at the university level. However, there was a need to go one step beyond this. Promotion of action research in schools and colleges could have significant implications: it would empower the teachers with a better and more systematic understanding of the context in which they worked. Subsequently, their input in activity designing, syllabus restructuring, selection of suitable teaching methodology, testing and evaluation etc. would increase, if action research is adopted as an approach for teaching.

It is interesting that though most of the teachers were of the view that only monetary help would not motivate them, they emphasized that one of the reasons they find research irrelevant to their context is that such efforts are not recognized in the existing promotion criteria. There is a need to provide incentives, but random efforts, occasional monetary support, and short term planning would not be of much help. There should be a more rigorously designed and strategically chalked out plan to involve school /college teachers and to incorporate their efforts in the system. Intermittent seminars and occasional workshops can neither train nor attune the school and college teachers to conduct action research. A long term planning with the constant involvement and support of higher education institutions/organizations is required. Perhaps a system can be devised in which a certain number of schools/colleges

could be linked/ affiliated with each public sector university; and the resources, both human and technical/logistical, could be utilized in the designing, conducting and supervising action research projects at school and college level.

Action research is concerned with changing individuals, on the one hand, and, on the other, the culture of the groups, institutions and societies to which they belong (Kemmis and McTaggart 1992:16). Thus, the ultimate aim of action research is not only to bring improvement and change in the immediate context or situation rather on a far broader social level. In fact the significance of action research lies in its 'aims to contribute both to the practical concerns of people in an immediate problematic situation and to the goals of social science by joint collaboration within a mutually acceptable ethical framework' (Rapoport, 1970:499). It aims at 'an increased understanding of a given social situation, primarily applicable for the understanding of change processes in social systems' (Hult and Lennung, 1980: 247). If usefulness is the yardstick for research, the utility of action research is undeniable. Keeping in mind 'the collaborative nature of action research, both professional social scientists and non-specialists' need to work together throughout the cycle of action research (Thomas, 2004: 144). In the context of Pakistan, the input of specialists on a broader scale can be provided by the universities.

To chalk out a feasible plan for developing action research in our institutions not only its advantages but also the shortcomings and expected problems need to be considered. As discussed earlier Wellington (2000:20) has pointed out the potential disadvantages or expected problems on the part of the practitioner teacher or teacher researcher such as preconceptions, prejudices, lack of open mindedness as an outsider, lack of time,

³Annual Confidential Report

difficulty when reporting and feeding back, researcher's status in the school etc. Involvement of universities in this regard would not only help to broaden the horizons of action research in the Pakistani educational context but would also help in dealing and overcoming these shortcomings.

Conclusion

Presently the concept of action research is missing in our school and college education system. A systematic and long term plan is required to introduce and inculcate the culture of research; which in turn will play a significant role in empowering teachers in their working environment. Universities can play a role as agents of change in this regard. Through collaborative projects universities can be engaged in the provision of expertise and support in this context.

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Impact of Decentralization on the Performance of the Executive District Officers (Education) in Pakistan

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Since its very inception, the education system in Pakistan remained centralized at the federal and provincial level. Pakistan inherited this centralized educational administrative setup from the British. Attempts had been made to improve the system to some extent through a number of administrative reforms but total revamping of administrative structures did not take place. It has been continuously realized that centralized system of education has been hampering the efficiency and effectiveness of delivery service at the grass root level. Different educational policies of the government of Pakistan had acknowledged the desirability of decentralization of responsibility and authority in the education sector and occasionally recommended specific strategies and structure to achieve this goal. The government of Pakistan launched devolution plan in 1999 through local government ordinance. The study conducted in year 2009 was designed to analyze the impact of decentralization on the performance of the Executive District Officers (EDOs) at district level in Pakistan. For this study both qualitative and quantitative approaches were used. The sample of the study comprised 87 EDOs working in Pakistan. The data was collected by different research assistants through a questionnaire designed for the study. The study concluded that the EDOs in various districts of Pakistan needed training in various disciplines i.e. administrative, financial, academic school mapping, making Annual Development Plan (ADP), budgeting etc. with proper delegation of financial powers. A comprehensive training program for EDOs has been proposed by involving Academy of Educational Planning & Management and Educational Planning Policy Studies and Leadership, Allama Iqbal Open University(AIOU), Islamabad.

Key words; decentralization, Executive District Officer, education, policy, government, school

Introduction

Decentralization may be defined as “the transfer of decision-making authority, responsibility, and tasks from higher to lower organizational levels or between organizations” (Hanson, 1998, p.112). According to Paqueo and Lammert (2000), “deconcentration involves shifting management responsibilities from the central to regional or other lower levels so that the center retains control”. Winkler states (as cited in Mitchell, 2008) and

retrieved through (<http://www.worldbank.org/>) decentralization is of the following three types:

Devolution

Devolution is a type of decentralization where the decision making power lies in the hands of the local government.

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Deconcentration

Deconcentration is a type of decentralization when the decision making power is given to the lower level representatives of the central government and is said to be the weakest form of decentralization.

Delegation

Delegation is the type of decentralization where the decision making power is assigned to the public or the private agencies.

Decentralization provides good training to the people working down the hierarchy, improves their morale and efficacy. Decentralization results in better grassroots participation and coordination in any social system. It ensures development and quick action with lesser wastage of time and resources. It provides flexibility to the implementing officials or departments by efficient decision making. Decentralized systems improve both delivery and quality of services. With decentralization in education, problems of teachers and staff could also be minimized. In year 2000, Pakistan introduced devolution plan with legislative support. Under the devolution plan the district management and community had been empowered at the grassroot level in planning, management, resource mobilization, utilization, implementation, monitoring and evaluation of education systems. Decentralization of administration in Pakistan has been a major innovation and reform in the political and education system. The purpose was to improve administrative and implementation processes by entrusting those closer to the field to increase their participation and to enable them make timely and appropriate decisions.

Advantages of Decentralization

Decentralization in education aims at transferring of school policy making authority from federal to district level. It allows a greater number of educational managers to involve themselves in decision making process. There are several grounds and motives for decentralization. Recent constitutional and legislative changes in several countries particularly in the third world have primarily been motivated by the desire for a more efficient administration of development tasks as the past experience has shown that central governments were often unable to proficiently implement development programs. Decentralization in many countries has resulted in improved governance and service delivery. A decentralized system also guarantees greater freedom and a superior form of democracy because it introduces a certain level of control over actions of the central government. The distribution of powers to different levels of government and the competition among them allows for a system of check and balance which is likely to set limits on the central government if it attempts to overstep or abuse its powers. The decentralized government constitutes a specific and extended expression of the basic constitutional principles of the separation of power. As far as the participation of the masses in decentralization is concerned, the people at grass root level participate in decision making as well as in the implementation process in a decentralized system.

Decentralization is commonly followed by different countries in developed or developing blocks. Decentralization aims at an economic and political system that responds better to people's preferences and requirements. By bridging the gap between implementers and beneficiaries, decentralization measures are expected to

achieve the following three major objectives:

1. Improved efficiency in provision of services
2. More transparency of managers
3. Accountability to beneficiaries

Disadvantages of Decentralization

Despite these advantages, decentralization has some limitations too. According to Fred (1998, P.34) "in spite of all its desirable attributes decentralization is subject to certain limitations which, if ignored or exceeded, will seriously interfere with its usefulness". According to Dale (2000), unsuccessful decentralization can cause:

1. Lack of uniformity of decisions
2. Failure to use the advice of the available specialist
3. Possibility of duplication of efforts
4. Difficulty for executives to accept decentralization which is traced to issues related to tradition, expenses, power and prestige

Carevell (1998) looks at the disadvantages of decentralization as follows:

- o A decentralized approach requires that all managers and supervisors possess an understanding of the goals and procedures used in an organization. If the understanding is not ensured adequately, the decentralization may result in many unforeseen troubles.
- o The operation of several decision making units may also contribute to inter group rivalry which may result in inconsistency in the decision reached.
- o In a decentralized system cost may be higher than in a centralized organization because of increased

duplication of manpower. Each decision making unit may need its own technical as well as ministerial staff which is certainly going to create more financial burden.

- o Decentralized system further creates problems of coordination between separate organizational units.

Premature or excessive decentralization can also be harmful and wasteful, although its effects are usually difficult to distinguish from those of poor administration generally. The form and degree of decentralization must be adapted to circumstances, including in so far as devolution is concerned, the readiness of people to accept and discharge responsibility. The discussion on disadvantages of decentralization can be concluded with the remarks by Dasgis that decentralization should be halted before right orders go to the wrong subordinators and right subordinates report to the wrong superiors. In general decentralization has the following limitations;

- It may be possible that at the local level institutional heads may take decisions without comprehensive understanding of the overall situation. While top level officials may have more information about the institutions as a whole and may have better understanding of the institutional strategy.
- In truly decentralized organization, there may be lack of coordination among autonomous institutions and their heads. This problem can be reduced by clearly defining the strategies and communicating it effectively throughout the organization.
- Lower level managers may have

such objectives which may be different from the objectives of the entire organization.

Decentralization and School Effectiveness

Decentralization improves school's effectiveness in many ways. The under mentioned improvements through decentralization are based on a number of reforms in developing countries.

1. Decentralization increased the ratio of inputs to school.
2. It improves the quality of inputs to school.
3. Increases the relevance of programs by matching program content to local needs.
4. Increases the innovativeness of programs.
5. Increases the range of options available to students.
6. Reduces inequalities in access to quality education.
7. Enhances learning outcomes.
8. Increases the efficiency in allocation of resources.
9. Increases efficiency in the utilization of resources.
10. Increases effectiveness of programs to suit employers' requirements.

According to Fiske (1996 p.13), "Education decentralization is a complex process that deals with changes in the way schools systems go about making policy, generating revenues, spending funds, training teachers, designing curricula, and managing local schools". Shami and Waqar (2007) have also mentioned that districts governments are now involved in taking decisions under the decentralized system. The decision making process has been shifted from the centre to the local level. The purpose is to achieve the objectives of

education effectively and efficiently through good governance by local bodies. Decentralization in education has permitted the community and its representatives to involve themselves in decision-making and implementation process for improvement of schools under the new system.

Decentralization of Education in Pakistan

In Pakistan, decentralization had been suggested in various educational policies and documents. However decentralization in its true spirit took place in the year 2001. There were many crucial problems which led to the process of recent decentralization. These problems were very common and were reported by different national and international agencies at various times. The problems of students' high absenteeism and dropout of female in Baluchistan and FATA, lack of provision of physical facilities in schools, non availability of trained science teachers, in-service training of teachers and heads etc. With decentralization, all educational matters and their decisions i.e. appointment and transfer of the teaching staff and non teaching staff, their service matters, evaluation of students, payment of monthly salaries to staff, implementation of educational plans, their coordination and monitoring etc. were shifted to the district level by giving key position to the Executive District Officers (EDOs). However, designing the curriculum; setting of teacher salary level; and policy of evaluation of the students are still with the federal government. As the process of decentralization has been launched in full swing very recently it will not be possible to assess its complete successes and failures. However, many problems have been noted through different studies and researches. These include uncertainty about the fiscal powers, lack of delegation of financial

authority, insignificant role of School Management Committees and Citizen Community Boards in school management and fund allocation and political pressure etc. There are, however, some achievements which include improvement in retention rate of students, resolution of teacher's problems at the district and tehsil level, and reducing students' dropout especially in Punjab and NWFP (www.worldbank.org).

Education Decentralization Efforts

Since independence, attempts were made to relate the education system to the local needs and aspirations of the people. The first Educational Conference held in 1947 provided basic guidelines for future development of education policy. The National Education Commission, 1959 holds a peculiar position in the history of educational reforms. The Commission proposed the creation of separate sections with considerable autonomy within their spheres of responsibility. This introduced a concept of devolution of authority that had not been implemented in educational administration. National Education policy 1970 also proposed decentralization of educational administration to ensure academic freedom and financial autonomy for effective growth of educational institutions at various levels. National Education policy 1979 stated that educational administration would be decentralized for effective supervision and management of education by providing more powers and facilities to educational management at lower level. National Education policy 1992 emphasized that the process of decision-making will be decentralized. Educational development plans shall be effectively coordinated and monitored. Management of district level education will be improved by associating the local community.

As per recommendation of different polices, the educational administration was decentralized in 1973 in the province of Punjab and Sindh, while the same was implemented in the NWFP during 1979. For decentralization of educational administration, each province was divided into divisions comprising four to six districts. Each divisional office was headed by a Divisional Director (separate for schools and colleges). The division was further divided into districts and the Education Department at district level was headed by District Education Officer who was assisted by Deputy Education Officers/ Assistant Education Officer/ Sub Divisional Education Officers. All the primary, middle, secondary and higher secondary schools were under the administrative control of District Education Officer. The colleges at district level were under the administrative control of Directorate of Colleges.

In the year 2000, Pakistan introduced devolution plan. Under the devolution plan the district management and community was empowered to plan, manage, mobilize and utilize resources, implement, monitor and evaluate the education system. Decentralization of educational administration in Pakistan is a major reform in the political and education system. The purpose was to improve administrative and implementation processes by entrusting those closer to the field to increase the participation and to make the appropriate decisions. Federal government under devolution plan is now responsible for national policy formulation addressing issues such as;

1. Easy access to education
2. Quality of education
3. Setting teacher pay level
4. Defining teacher's qualification
5. Setting the norms for national curriculum and

6. Assessing student's performance through national assessment system

Under the devolution plan responsibilities of the provincial government now include matters related to the implementation of national education policy provisions. The district governments are responsible for planning, monitoring and evaluation of education system. They are also responsible for developing organizational structure for educational programs. The district has to generate its own funds in addition to the funds allocated by the federal and provincial governments, which came as a challenging task. To support the education system under decentralization short term and long term plans have been drawn to facilitate and provide them opportunities to address the implications of decentralization. These areas pertain to the development of framework for district-based planning, management and supervision, monitoring community mobilization, participation and capacity building. District educational management plays a vital role in monitoring the performance of secondary schools in their respective districts. Therefore effective management is pre-requisite for quantitative expansion as well as qualitative improvement of education system particularly after devolving powers at district level. District management coordinates and integrates network activities so that education system may achieve maximum internal efficiency through management, allocation and use of resources available for increasing the number and improving the quality of schools.

Role of EDOs and DEOs Under Devolution Plan

EDO education is a newly created position at the district level that is responsible for the entire education sector at district level. He is assisted by District Education Officer Elementary (Male, Female), Secondary, Special Education, District Sports Officer, Assistant Director (Planning and Budget) and Deputy DEO. However, there is variation in district management structures among provinces. The main functions of EDOs (Education) include implementation of government policies, supervision, coordination of the entire sub sectors of education at district level, formulation of district Annual Development Plan and its implementation, collection and compilation of education data. Now the EDO is authorized to allocate resources for any developmental or non-developmental activity in education sector. However, in the changed scenario the role of the head of the secondary and higher secondary school has remained unchanged. He has to discharge his duties in the same spirit under the authority of EDO. The new system has not devolved any more powers to heads of schools as the process of the devolution of powers at the institution and village level still needs to be decided by the government. The systems hold the District Coordination Officer (DCO) responsible for coordination and supervision of the activities of EDOs. In this way EDOs are now accountable to the DCO at the district level but their service matters like their appointment and transfer are still being dealt by the provincial government. Under the devolution plan the district educational management and its entire supporting staff i.e. teaching and non-teaching staff is the liability of the provincial government. This was the reason that in the coming year after devolution they were paid salaries by the provincial governments. (Local Government

Plan, 2000)

The major changes in the education sector for evolving a mechanism for transferring responsibilities for recruitment, salaries and management of teachers and administrators from province to district level have been introduced. Under the new system, the existing offices in the education sector at the district level have been regrouped and placed under the authoritative control of EDO. Similarly creation of some new offices was proposed to deal with the changing need of the community. The main focus is to make the education system and its managerial set up strong enough so that it can provide efficient and quick services to the community through close coordination with the community and its representatives.

In the devolution plan all the educational managerial issues and accountability has been discussed for providing guidelines to the implementing officials and bodies. However, the role of EDO has specially been focused being the head of education system at the district level. Under the devolution plan, the educational management working at tehsil level has been empowered to decide financial and managerial matters; particularly, salary matters, budgets of the schools, appointment of the staff etc. EDOs not only supervise and coordinate all these activities at the district level but also supervise the execution of the above activities by his supporting staff at tehsil level (World Bank, Report 2004).

According to MSU (2001), some important functions of EDOs (Executive District Officer) as reported in the report are:

1. Implementation of government policies, directives, and orders.
2. Supervision and coordination of functioning of all wings of education in the district.

3. Distribution of budgetary grants.
4. Internal audit and supervision of settlement of external audit.
5. Supervision of curricular and co-curricular activities, expansion and extension of services, increase enrollment and decrease drop-outs.
6. Supervision of proper working of school councils and mobilization of the community
7. Sanctioning all leaves, pension and retirement notifications of officer BS-18 and BS-19
8. Provision of information to the monitoring committees of the District, Tehsil, Union Councils and Citizen Community Boards.
9. Taking appropriate corrective action based on the information received from Monitoring Committees and Citizen Community Boards.

The district educational authorities have a crucial role to play. The devolution plan has considerably categorized all roles of the Executive District Officer, District Education Officer and other responsible officials. The purpose behind this was to empower EDOs as well as DEOs in all the educational matters at the district level. But political involvement has had a negative impact on the working of these officials. There is a need to minimize the political interference to improve the working of the district educational officials.

Research Questions

Answers to the following questions will be sought through the study:

- How far the EDOs understand their new roles and responsibilities?
- To what extent the EDOs at district level can exercise all the vested powers without any political interference?

Are the EDOs skilled to deal with the devolution plan at district level?

Methodology

Descriptive design of the research was used for the study. For the purpose of collection of data survey method was employed. For the purpose of collecting data, questionnaire was developed. The questionnaires covered various aspects of the devolution plan in Education Sector as well as roles and responsibilities of EDOs.

The questionnaire used for the EDOs had two parts i.e. part one consisted of the EDOs profile whereas the part two comprised different aspects and roles of the EDOs under devolution plan. The questionnaire had 20 items and was based on five point rating scale. The questionnaire was improved in consultation with experts in the field and the EDOs not included in the sample.

After getting their feedback and views, questionnaires were improved. Data was collected through MA and MPhil students in Pakistan. They collected data from the concerned Executive District Officers (Education) through their personal visits.

Table 2

Sr. No.	Items	X (calculated)				Significance level		
		Punjab	NWFP	Sind	Balu	0.05	0.01	0.001
01	The New System is proving to be more helpful in formulation of education policy at district level.	21.793***	5.474	17.789***	2.100	-	-	v
02	The new system is more conducive for formulation of need based educational plan in the district.	19.931***	6.421 *	14.00***	.700	v	-	v
03	You are in a position to play leadership role more effectively.	9.172*	7.684**	17.789***	.400	v	-	v
04	New system is more helpful in implementation of educational policy and plan at district level.	10.828**	6.421*	6.421*	1.900	v	-	v
05	More independent administrative decisions can be taken by your office under the new system.	1.931	.737	6.421*	.100	v	-	-
06	It is convenient for you to play your role more effectively at district level.	9.586*	2.000	2.000	4.300	v	-	-

Population and Sample of the Study

The population and sample of the study is given in the following sampling frame

Table 1

PROVINCE	DISTRICT		EDOS	
	Total	Sample	Total	Sample
Punjab	35	29	35	29
N.W.F.P	24	19	24	19
Baluchistan	29	20	27	20
Sindh	20	19	20	19
Total	109	87	107	87
Total sample	-	80%	-	80%

Analysis/Interpretation of Data

The data obtained through questionnaires were tabulated, interpreted and analyzed by using percentage and chi-square techniques. Statement wise analysis of all the aspects of the working of the EDOs under the new system by using chi-square is given below

07	Sufficient manpower has been made available in EDOs office for the effective implementation of devolution plan.	.069	3.895	2.000	1.900	-	-	-
08	Preparation of annual development program at district level has become easier.	32.345***	.737	9.579**	4.900	-	v	v
09	You are more independent in making decisions regarding allocation of development funds to different schools.	5.241	6.421*	2.947	.400	v	-	-
10	You are more independent in making decisions regarding re-appropriation of developmental/non developmental funds to different schools.	5.241	1.368	1.368	3.700	-	-	-
11	The procurement of goods for schools has become speedy	13.724**	10.526**	7.684*	.400	v	v	v
12	The new system is proving to be more helpful in undertaking school mapping in your district.	23.655***	.737	1.117	1.300	-	-	v
13	You have authority to appoint teachers up to bps- 15.	6.276*	2.632	1.684	1.300	v	-	-
14	Decision-making has become more independent regarding transfer of teachers	0.897	2.000	7.684*	.700	v	-	-
15	New system has necessitated the provision of training to heads of schools in some new techniques of planning and management	6.690*	7.684*	10.842**	6.100*	v	v	-
16	You are more independent in making decisions regarding the writing of performance evaluation reports (ACRs) of your staff.	27.586***	4.263	10.842**	9.100*	v	v	v
17	You have much more free time to provide managerial guidance to heads of schools	5.448	2.632	5.159	2.500	-	-	-
18	Meetings of heads of schools are convened by your office to discuss important matters.	36.690***	7.684**	10.526**	12.400**	v	v	v
19	Management information system has been set up for education at the district level	23.931***	9.684**	6.000*	7.500*	v	v	v
	Overall efficiency of the educational system has improved under the new set-up	25.655***	12.263**	13.526**	12.400**	-	-	v

Findings

1. Chi-square values (21.793 and 17.789) of EDOs of Punjab and Sindh for the statement i.e. "The new system is proving to be more helpful in formulation of education policy at district level" were significant at .001 level. The values of χ^2 (2.100 and 5.474) of Baluchistan and NWFP were not significant at 0.05 level. However, EDOs of these provinces reflected high positive perceptions towards the statement.
2. Chi-square values (19.931, 6.421 and 14.000) of EDOs of Punjab NWFP and Sindh for the statement i.e. "The new System is more conducive for formulation of need based educational plan in the district" were significant at 0.001 and 0.05 level. The values of χ^2 (0.700) of Baluchistan was not significant at 0.05 level. However, EDOs of Baluchistan reflected positive perceptions towards the statement.
3. Chi-square values (9.172, 7.684 and 17.789) of EDOs of Punjab, NWFP and Sindh for the statement i.e. "You are in a better position to play leadership role more effectively" were significant at 0.001 and 0.05 level. The value of χ^2 (0.400) of Baluchistan was not significant at 0.05 level. EDOs of Baluchistan indicated divided perceptions towards the statement.
4. Chi-square values (10.828 and 6.421) of EDOs of Punjab, NWFP and Sindh for the statement i.e. "The new System is more helpful in formulation of education policy at district level" were significant at 0.001 and 0.05 level. The value of χ^2 (1.900) of Baluchistan was not significant at 0.05 level However, majority of EDOs indicated positive perceptions towards the statement.
5. Chi-square value (6.241) of EDOs of Sindh for the statement i.e. "more independent administrative decisions can be taken by your office under the new system" was significant at 0.05 level. The values of χ^2 (1.931, .737 and .100) of Punjab, NWFP and Baluchistan were not significant at 0.05 level However, majority of EDOs of Punjab and Baluchistan reflected positive perception whereas EDOs of NWFP reflected negative perceptions towards the statement.
6. Chi-square value (9.586) of EDOs of Punjab for the statement i.e. "It is convenient for you to play your role more effectively at district level" was significant at 0.05 level. The values of χ^2 (2.000, and 4.300) of NWFP, Sindh and Baluchistan were not significant at 0.05 level. However, majority of EDOs of these provinces reflected positive perceptions towards the statement.
7. Chi-square values (0.069, 3.895, 2.000 1.900) of EDOs of all provinces for the statement i.e. "Sufficient manpower has been made available in EDOs office for the effective implementation of devolution plan" were not significant at 0.05 level. However, majority of EDOs of NWFP, Sindh and Baluchistan reflected high positive perception whereas EDOs of Punjab indicated equally divided positive and negative perceptions towards the statement.
8. Chi-square values (32.345 and 9.579) of EDOs of Punjab and Sindh for the statement i.e. "Preparation of annual development program at district level has become easier" were significant at 0.001 and 0.01 level. The values of χ^2 (.737 and 4.900) of NWFP and Baluchistan were not significant at 0.05 level. However, majority of EDOs of these provinces indicated positive perceptions towards the statement.
9. Chi-square value (6.421) of EDOs of NWFP for the statement i.e. "You are more independent in making decisions

regarding allocation of development funds to different schools" was significant at 0.05 level. The values of χ^2 (5.241, 2.97, .400.) for Sindh, Punjab and Baluchistan were not significant at 0.05 level. However, majority of EDOs of Sindh and Punjab reflected high positive perception and EDOs of Baluchistan indicated negative perceptions towards the statement.

10. Chi-square values of EDOs of four provinces of Pakistan for the statement i.e. "You are more independent in making decisions regarding re-appropriation of developmental/non developmental funds to different schools" were 5.241, 1.368, 1.368 and 3.700. These were not significant at 0.05 level. However, majority of EDOs of Punjab, NWFP and Sindh reflected positive perception whereas EDOs of Baluchistan reflected negative perceptions towards the statement.
11. Chi-square values Sindh (13.724, 10.526 and 7.684.) of EDOs of Punjab, NWFP and for the statement i.e. "The procurement of goods for schools has become speedily" were significant at .001 and .05 level. The value of χ^2 of Baluchistan (0.400) was not significant at 0.05 level. However, majority of EDOs of Baluchistan reflected negative perceptions towards the statement.
12. Chi-square value (23.655) of EDOs of Punjab for the statement i.e. "The new system is proving to be more helpful in undertaking school mapping in your district" was significant at 0.001 level. The values of χ^2 (0.737, 1.117 and 1.300) for NWFP, Sindh and Baluchistan were not significant at 0.05 level; However, majority of EDOs of these provinces reflected positive perceptions towards the statement.
13. Chi-square value (6.276) of EDOs of Punjab for the statement i.e. "You have authority to appoint teacher up to BPS-15" was significant at 0.05 level. The values of χ^2 (2.632, 1.684, and 1.300) for NWFP, Sindh and Baluchistan were not significant at 0.05 level. However, majority of EDOs of Sindh and Baluchistan reflected positive perception whereas EDOs of NWFP reflected equally divided positive and negative perceptions towards the statement.
14. Chi-square value (7.684) of EDOs of Sindh for the statement i.e. "Decision making has become more independent regarding transfer of teachers" was significant at 0.05 level. The values of χ^2 of Punjab, NWFP and Baluchistan (.897, 2.000 and .700) were not significant at .005 level. However, a majority of EDOs of three provinces reflected negative perceptions towards the statement.
15. Chi-square values of EDOs of all provinces for the statement i.e. "New system has necessitated the provision of training to the head of schools in some new techniques of planning and management" were 6.690, 7.684, 10.842 and 6.100 which were significant at 0.01 and 0.05 level. EDOs of all four provinces reflected high positive perceptions towards the statement.
16. Chi-square values (27.586, 10.842 and 9.199) of EDOs of Punjab, Sindh and Baluchistan for the statement i.e. "You are more independent in writing ACRs of your staff" were significant at 0.001, 0.01 and 0.05 level. The value of χ^2 (4.263) of NWFP was not significant at 0.05 level. However, majority of EDOs of NWFP reflected positive perceptions towards the statement.
17. Chi-square values of EDOs of four provinces of Pakistan for the statement i.e. "You have much more free time to provide managerial guidance to Heads of schools" were 5.448, 2.632, 5.159 and

2.500 which were not significant at 0.05 level. A majority in three provinces i.e. Punjab, Sindh and Baluchistan reflected high positive perception whereas EDOs of NWFP equally reflected positive and negative perceptions towards the statement.

18. Chi-square values of EDOs of all four provinces for the statement i.e. "Meeting of Heads of schools is convened by your office to discuss important matters" were 6.690, 7.684, 10.526 and 12.400 which were significant at 0.001, 0.01 and 0.05 level.
19. Chi-square value (7.684) of EDOs of NWFP for the statement i.e. "Community participation has been increased in monitoring and evaluating local educational activities" was significant at 0.05 level. The values of χ^2 (5.034, 3.895 and 1.600) of Punjab, Sindh and Baluchistan were not significant at 0.05 level. However, EDOs of Sindh reflected highly positive and EDOs of Punjab and Baluchistan indicated mildly positive perceptions towards the statement.
20. Chi-square values of EDOs of all provinces for the statement i.e. "Overall efficiency of the educational system has improved under the new system" were 25.655, 12.263, 13.526, and 12.400. These values were significant at 0.001 and 0.01 level. All EDOs have high positive perceptions towards the statement.

Conclusions

01. According to overall responses of EDOs the new system was more helpful in formulation of education policy and need based educational plan at district level. However, there were variations in the perception of EDOs of Punjab/Sindh and NWFP/Baluchistan. The position in Punjab and Sindh was comparatively

better than NWFP and Baluchistan.

02. In three provinces i.e. NWFP, Sindh and Punjab, EDOs have an effective leadership role to play but in Baluchistan they reported lack of leadership role. There were variations in the perceptions of EDOs from all provinces
03. In three provinces i.e. NWFP, Sindh and Punjab, the present system was more helpful in the implementation of education policy at district level. However, in Baluchistan perceptions of respondents was different in this regard.
04. Comparatively EDOs of Sindh were independent in taking administrative decisions under the new system. However, in NWFP, Punjab and Baluchistan they were not so independent in taking such decisions.
05. Except Punjab, the new system has not been convenient for EDOs to play their role more effectively by at district level.
06. Adequate manpower was provided in EDOs offices for effective implementation of devolution plan. There were variations in the perceptions of respondents from only one province i.e. Punjab.
07. Responses of EDOs of three provinces i.e. Punjab, Sindh and Baluchistan maintained that preparation of annual development program has not become easier after devolution. However, in NWFP, EDOs felt that it was easier to prepare ADP. There were variations in the perceptions of respondents from the four provinces.
08. EDOs of Punjab and NWFP were more independent in making decisions regarding allocation of development funds to different schools, whereas EDOs of Sindh and Baluchistan were not so independent in such decision-making. There were variations in the

perceptions of respondents from four provinces

09. EDOs were more independent in making decisions regarding re appropriation of developmental /non developmental funds to different schools.
10. EDOs of Punjab, NWFP and Sindh were more independent in making decisions regarding speedy procurement of goods for schools. EDOs of Baluchistan were not independent in making such decisions. There were variations in the perceptions of respondents from four provinces.
11. In Punjab the new system has proved to be more helpful in undertaking school mapping in respective district, whereas in NWFP, Sindh and Baluchistan the new system was not so effective in school mapping at district level. There were variations in the perception of respondents from four provinces
12. EDOs of Punjab had authority of appointing and transferring teachers up to BPS-15. Whereas EDOs of other provinces cannot make such appointments and transfer of teachers. There were variations in the perception of respondents from four provinces
13. According to overall responses of EDOs of four provinces the devolution plan system has necessitated the provision of training to Heads of schools in some new techniques of planning and management.
14. EDOs of all provinces except for NWFP were more independent in making decisions regarding the writing of Performance Evaluation Reports of their staff.
15. EDOs of all provinces did not find

more free time to provide managerial guidance to heads of schools.

16. In all the provinces EDOs convened meetings with Heads of schools to discuss important matters and in all the provinces management information system was set up for education at district level.
17. In a nutshell EDOs of four provinces viewed that, the efficiency of the educational system at district level has improved under the new set-up.

Recommendations

1. The EDOs of Punjab and Baluchistan provinces need to improve the students' retention rate. For this purpose, they may work in close coordination with parents, general masses and their representatives at local level. The work needs to be streamlined to ensure trickledown effect for increasing students' retention rate.
2. The role of School Management Committees (SMCs) may be made more effective by briefing and training of members of its statutory body in all the districts of Pakistan. The active and substantial involvement of parents and community members in the management of schools at the grass-root level will improve the student's participation.
3. The EDOs of three provinces i.e. NWFP, Sindh and Baluchistan may be given the powers of appointing and transferring the teaching and non teaching staff (from BPS 1-15). Moreover, the EDOs of all the provinces may be given an independent atmosphere to play their role more effectively under the new system.

4. The EDOs of Baluchistan may be imparted training in implementing education policy and playing their leadership role to improve overall efficiency in the province. For this purpose, they may be sensitized about the need and importance of involving local community. The training may be given by some federal educational institution preferably by Academy of Educational Planning and Management, Islamabad or Educational Planning Policy Studies and Leadership, AIOU.
5. Training to the EDOs of all Provinces may be given in all the administrative, financial, academic matters and school mapping, etc. This training may be made mandatory for all EDOs.
6. The Federal or Provincial governments may put more funds at the disposal of EDOs and DEOs for the provision of adequate manpower in all the districts of Pakistan enabling them to perform effectively under the new system. Moreover, the district level set-ups may be authorized to generate more funds for this purpose.
7. Apart from training as proposed above, the EDOs of different provinces may also be provided training in the following areas
 - The EDOs of NWFP and Baluchistan may be given training in preparing annual development programs themselves.
 - Similarly, EDOs of Punjab, Sindh and Baluchistan may be imparted training to understand their role in allocating developmental funds to the schools. EDOs of all the provinces need to understand their role in making re-appropriation of developmental/non-developmental funds.
 - The EDOs of NWFP should be trained in the methods and techniques of evaluating the performance of their staff.
 - EDOs of NWFP, Sindh and Baluchistan may be provided with training in techniques of management and decision making while appointing and transferring their teaching and non-teaching staff up to BPS-15.
 - The political figures in these areas may be sensitized about their roles and responsibilities and may be trained in extending their cooperation to EDOs in the management of personnel.
8. In all the provinces, EDOs may allocate much more time for the managerial guidance to heads of higher secondary and secondary schools so that they may perform their duties in a better way.

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Cointegration and Error Correction Modelling of Wheat Consumption in Pakistan

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This paper provides an empirical analysis of wheat consumption in Pakistan for the period 1975 to 2006, using co-integration analysis and error correction model. According to the findings of this research paper, the estimated long run and the short run elasticities suggest that income is the most significant determinant of wheat consumption in the long run, while price of wheat is the major affecting factor of wheat consumption only in the short run. The less elastic nature of wheat demand both in the short and the long run suggests that under the likely Doha Round agricultural trade liberalization, wheat price rise will harm the poor consumers.

Keywords: wheat, staple diet, cointegration, error correction model

JEL Classification: C22, Q11

Introduction

Pakistan is a Low Income Food Deficit Country (LIFDC) with a gross national product per capita of US \$950. Agriculture is a major economic activity in Pakistan. Although its share in the economy is declining and has come down to 20.9 percent of GDP, it still is the backbone of the economy. Agriculture is a dominant sector in terms of employment (43.4 percent), directly sustains 66 percent of the country's population and claims a high share in the total trade (Pakistan, 2006).

Crops are the most important sub-sector of Agriculture sector in Pakistan. Among the major food crops, wheat is the main staple diet of the country's population. It contributes 74 percent to the overall production of food grains. Wheat area constitutes 36 percent of the total cropped area and its production accounts for 30 percent of the value added by major crops (APCOM, 2004, Pakistan, 2006). Pakistan is one of the major producers of wheat in the

world. Yet, the domestic wheat production remains insufficient for the needs of population, which, at present, is growing at about 1.9 percent per annum. Hence to ensure food security, the country has to supplement the local production with imports. It is estimated that imports cover from 10 to 20 percent of the national consumption needs.

Because of the strategic importance of wheat as a major staple food commodity, government intervention not only guarantees affordable supplies to consumers but also provides market support to producers. The present wheat policy is based on a system whereby wheat procurement and releases of wheat is done at officially regulated procurement and release prices. It involves a significant cost to the public

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exchequer on account of marketing and storage of wheat by the public sector. In addition, the government of Pakistan has tried to keep the price of wheat below the international prices by providing subsidy to domestic consumers.

Due to high population growth in Pakistan, the food situation has always been fragile. The per capita net availability of wheat has been declining in the recent years, because of the sub-par harvests that were not completely offset by an increase in government imports and drawing down of stocks. From 1990-91 to 2001-02, per capita wheat consumption averaged 131 kgs/year. However, in the next five years, 2002-03—2006-07, the per capita wheat availability (consumption) fell by nearly 11 percent to 117 kgs/year. As a result of the reduced availability, real prices of wheat and wheat flour rose by 26 and 31 percent, respectively, from 2001-02 to 2006-07.

The objective of this paper is to investigate long and short term relationships of price and income with the demand for wheat in Pakistan. The way this study has been organized is given as under. Section 2 provides literature review. Analytical framework is presented in section 3. Data description and empirical findings are given in section 4. The final section concludes the study.

Literature Review

Development policy for a country's agri-food sector demands a comprehensive approach requiring information on both demand and supply. Agricultural policies in developing countries, in general, tend to focus on the supply while ignoring the demand side. The challenge is to balance the food and nutrition needs along with the development requirements of the agricultural sector.

On the demand side, food policy decisions require knowledge about price and income elasticities. This information is

needed to measure the impact of various price and related policies on food consumption. Reliable demand parameters facilitate policy analysis for meeting the basic food needs of the population. A major reason for the uncertainty about food requirements is due to the lacking knowledge of these parameters.

Wheat, being the staple food of Pakistanis, carries immense importance among all the crops cultivated here. It shares about 80 percent in consumption of food grains and about 50 percent of the calories and proteins intake by the people in Pakistan. Consequently, overall dietary wellbeing of our people is largely dependent on the performance of wheat economy. Given the importance of this issue, it is surprising that little research conducted on wheat demand in Pakistan. We have not come across any study that has been conducted with the sole objective of estimating wheat consumption in the country. However, we do find a few studies that have partially touched the issue in the framework of trade liberalization and subsidy elimination. For instance, Ghani (1998) evaluated the impact on wheat production, consumption and trade of changing the input subsidy and output price subsidy policies. The results of the study indicated that there will be a greater decline in wheat production if the government eliminates the input subsidies at once than if there is a gradual phasing out of the subsidies. There will be a slight decline in the consumption of wheat due to an increase in the consumer price of wheat. However, the low-income household with the higher number of family members will be affected more with the increase in the price of wheat. Imports of wheat would increase if the subsidies are eliminated at once, as compared to their gradual phasing out. Akhtar (1999) estimated the impact of trade liberalization on wheat, rice (both Basmati and non-Basmati) and maize by using simple

welfare analysis for these commodities. According to this study, the estimated wheat demand function was of an inelastic nature and there would be net welfare loss under the trade liberalization scenario. Recently, Afridi et al (2008) have conducted a farm level survey in the year 2006-07 to estimate wheat consumption pattern in Muzaffarabad, Azad Jammu and Kashmir (AJK). Two hundred households (100 from rural and 100 from urban areas) were randomly selected. It was found that non-producers of wheat consumed less wheat in rural areas (81.43) as well as in urban areas (88.77) as compared to wheat producer (109.40 and 94.34 kg). The data depicted that wheat producers consumed about 16.77 kg of more wheat per capita per annum than wheat non-producer consumer. The data further showed that rural consumer consumed 5 kg rice per capita per annum which was lower than urban rice consumer and wheat consumption increased with an increase in income. An income group of Rs.10 000 and above consumed more quantity of wheat (100.65 kg) as compared to income group of Rs.5 000 (87.22 kg). Regression analysis also showed the same results as a negative relationship was observed between per capita wheat consumption and consumption of the other food grains. However, the scope of this study was quite limited as it was only confined to AJK. Moreover, it also lacked time series analysis. Thus no conclusive estimates of wheat consumption at national level in Pakistan could be obtained from this research exercise.

Therefore, there is a lot of scope for estimating wheat consumption in Pakistan and the present study is a step ahead towards this end. With the application of cointegration analysis and error correction technique, we will be in a position to compare the long run and the short run demand elasticity for wheat.

Method of Analysis

Theoretical model

A rational consumer maximizes utility, given a fixed income. Therefore, the demand schedule is derived by maximizing utility. This study assumes that the per capita demand for wheat is a linear function of its own price, prices of substitutes and complementary goods and per capita income i.e.

$$PQ_d = f(P_w, P_o, I). \quad (1)$$

Where PQ_d is per capita quantity demanded of wheat, P_w is domestic market (wholesale) price of wheat, P_o is price of other (substitute) commodity and I is per capita income.

Empirical model

Unit Root Test

Since macroeconomic time-series data are usually non-stationary (Nelson and Plosser, 1982) and thus conducive to spurious regression, we test for stationarity of a time series at the outset of cointegration analysis. For this purpose, we conduct an augmented Dickey-Fuller (ADF) test by carrying out a unit root test based on equation (2)

$$\Delta X_t = \kappa + \phi t + \Theta_t X_{t-1} + \sum_{i=1}^n \varphi_i \Delta X_{t-i} + \varepsilon_t. \quad (2)$$

Where X is the variable under consideration, Δ is the first difference operator, t captures any time trend, ε_t is a random error, and n is the maximum lag length. The optimal lag length is identified so as to ensure that the error term is white noise. While κ, ϕ, Θ and φ

ε_t are the parameters to be estimated. If we cannot reject the null hypothesis, $\Theta = 0$ then we conclude that the series under consideration has a unit root and is therefore non-stationary.

Cointegration Test

The econometric framework used for analysis in the study is the Johansen (1988) and Johansen and Juselius (1990) Maximum-Likelihood cointegration technique, which

tests both the existence and the number of cointegration vectors. This multivariate cointegration test can be expressed as:

$$Z_t = K_0 + K_1 \Delta Z_{t-1} + K_2 \Delta Z_{t-2} + \dots \quad (3)$$

$$\dots + K_{p-1} \Delta Z_{t-p} + \Pi Z_{t-p} + v_t$$

Where

Z_t = a 6x1 vector of variables that are integrated of order one [i.e. I (1)]

The variables are

PCCW= Per capita consumption of wheat

WPW= Wholesale price of wheat

(Lahore market price)

WPB= Wholesale price of basmati rice

(Lahore market price)

WPNB= Wholesale price of non basmati rice

(Lahore market price)

WPM =wholesale price of maize (Lahore market price)

PCI= Per capita income

K = a 6 x 6 matrix of coefficients

Π = 6 x 6 matrix of parameters and

v_t = a vector of normally and

independently distributed error

term.

The presence of r cointegrating vector

between the elements of Z , implies that Π is

of the rank r ($0 < r < 5$). To determine the

number of cointegrating vector, johansen developed two likelihood ration tests: Trace test (λ_{trace}) and maximum eigenvalue test (λ_{max}). If there is a divergence in results of these two tests, it is advisable to rely on the evidence based on the (λ_{max}) test because it is more reliable in small samples (see Dutta and Ahmed, 1997 and Odhiambo, 2005).

Vector -Error Correction Model (ECM)

Engle and Granger (1987) demonstrated that once a number of variables (say, X_t and Y_t) are found to be cointegrated, there always exists a corresponding error correction representation that implies that changes in the dependent variable are a function of the level of disequilibrium in the cointegrating relationship (captured by the error-correction term) as well as changes in other explanatory variable(s). If we exploit the idea that there may exist co-movements among PCCW, WPW, WPB, WPNB, WPM and PCI that they will trend together in finding a long run stable equilibrium, by the Granger representation theorem (Engle and Granger, 1987) we may posit the following testing relationships, which constitutes our vector error-correction model:

$$\Delta PCCW_t = \omega_1 + \sum_{i=1}^l \theta_{1i} \Delta PCCW_{t-1} + \sum_{i=1}^m \gamma_{1i} \Delta WPW_{t-1} + \sum_{i=1}^n \delta_{1i} \Delta WPB_{t-1} + \sum_{i=1}^q \rho_{1i} \Delta WPNB_{t-1} + \sum_{i=1}^r \varpi_{1i} \Delta WPM_{t-1}$$

$$+ \sum_{i=1}^s \psi_{1i} \Delta PCI_{t-1} + \sum_{i=1}^w \lambda_{1i} ECT_{r,t-1} + \mu_{1t} \quad (3)$$

$$\Delta WPW_t = \omega_2 + \sum_{i=1}^l \theta_{2i} \Delta PCCW_{t-1} + \sum_{i=1}^m \gamma_{2i} \Delta WPW_{t-1} + \sum_{i=1}^n \delta_{2i} \Delta WPB_{t-1} + \sum_{i=1}^q \rho_{2i} \Delta WPNB_{t-1} + \sum_{i=1}^r \varpi_{2i} \Delta WPM_{t-1}$$

$$+ \sum_{i=1}^s \psi_{2i} \Delta PCI_{t-1} + \sum_{i=1}^w \lambda_{2i} ECT_{r,t-1} + \mu_{2t} \quad (4)$$

$$\Delta WPB_t = \omega_3 + \sum_{i=1}^l \theta_{3i} \Delta PCCW_{t-1} + \sum_{i=1}^m \gamma_{3i} \Delta WPW_{t-1} + \sum_{i=1}^n \delta_{3i} \Delta WPB_{t-1} + \sum_{i=1}^q \rho_{3i} \Delta WPNB_{t-1} + \sum_{i=1}^r \varpi_{3i} \Delta WPM_{t-1}$$

$$+ \sum_{i=1}^s \psi_{3i} \Delta PCI_{t-1} + \sum_{i=1}^w \lambda_{3i} ECT_{r,t-1} + \mu_{3t} \quad (5)$$

$$\Delta WPNB_t = \omega_4 + \sum_{i=1}^l \theta_{4i} \Delta PCCW_{t-1} + \sum_{i=1}^m \gamma_{4i} \Delta WPW_{t-1} + \sum_{i=1}^n \delta_{4i} \Delta WPB_{t-1} + \sum_{i=1}^q \rho_{4i} \Delta WPNB_{t-1} + \sum_{i=1}^r \varpi_{4i} \Delta WPM_{t-1}$$

$$+ \sum_{i=1}^s \psi_{4i} \Delta PCI_{t-1} + \sum_{i=1}^w \lambda_{4i} ECT_{r,t-1} + \mu_{4t} \quad (6)$$

$$\Delta WPM_t = \omega_5 + \sum_{i=1}^l \theta_{5i} \Delta PCCW_{t-1} + \sum_{i=1}^m \gamma_{5i} \Delta WPW_{t-1} + \sum_{i=1}^n \delta_{5i} \Delta WPB_{t-1} + \sum_{i=1}^q \rho_{5i} \Delta WPNB_{t-1} + \sum_{i=1}^r \varpi_{5i} \Delta WPM_{t-1}$$

$$+ \sum_{i=1}^s \psi_{5i} \Delta PCI_{t-1} + \sum_{i=1}^w \lambda_{5i} ECT_{r,t-1} + \mu_{5t} \quad (7)$$

$$\Delta PCI_t = \omega_6 + \sum_{i=1}^l \theta_{6i} \Delta PCCW_{t-1} + \sum_{i=1}^m \gamma_{6i} \Delta WPW_{t-1} + \sum_{i=1}^n \delta_{6i} \Delta WPB_{t-1} + \sum_{i=1}^q \rho_{6i} \Delta WPNB_{t-1} + \sum_{i=1}^r \varpi_{6i} \Delta WPM_{t-1}$$

$$+ \sum_{i=1}^s \psi_{6i} \Delta PCI_{t-1} + \sum_{i=1}^w \lambda_{6i} ECT_{r,t-1} + \mu_{6t} \quad (8).$$

Where PCCW, WPW, WPBR, WPNBR, WPM, Δ , and PCI have already been defined in section 3.2.2, ECT refers to the error-correction term(s) derived from the long run cointegrating relationship via the Johansen maximum likelihood procedure, and u_s (for $i = 1, 2, 3, 4$) are serially uncorrelated random error terms with a mean of zero.

Estimation and Interpretation of Results

The study has used annual observations for the period 1975 to 2006. The main focus of this paper is on per capita consumption (demand) of wheat (PCCW), wholesale (market) prices of wheat (WPW), basmati rice (WPBR), non-basmati rice (WNBR), maize (WPM) and per capita income (PCI). Ideally the data should be from a single source to maintain consistency. However, there is no single source that can provide all the relevant data. Therefore, different secondary sources have been used to take the required data. The data, expressed in nominal terms, have been obtained from Agricultural Statistics of Pakistan (various issues), Economic Survey of Pakistan (various issues) and Federal Bureau of Statistics, Islamabad, Pakistan. All the variables given here are logarithmic.

The first step in cointegration analysis is to test the unit roots in each variable. To this

end we apply Augmented Dickey-Fuller (ADF) tests on logarithmic form of PCCW, WPW, WPBR, WPNBR, WPM and PCI. From the results of the ADF test presented in table 1, we find that the time-series used in this study are stationary at first difference as expected. This implies that all the series are integrated of order one [i.e. I(1)]. In the next step, we have determined the optimal lag length because Johansen method is known to be sensitive to the lag length. As far as our study is concerned, the Schwarz Bayesian Criteria (SBC) has suggested a lag length of 1 as optimal for annual data. The cointegration test is carried out assuming an intercept in the cointegrating equation.

Table 1. Augmented Dickey Fuller (ADF) Unit Root Tests

Mackinnon Critical Values for Rejection of Hypotheses of a Unit root							
Variables	Level	First Difference	1 %	5 %	10 %	Decision	order of Integr-ation
LPCCW	-0.65	-4.76	-2.58	-1.94	-1.62	Nonstationary at level but stationary at first difference	I (1)
LWPW	6.05	-3.95	-2.58	-1.94	-1.62	Nonstationary at level but stationary at first difference	I (1)
LWPBR	2.51	-6.47	-2.58	-1.94	-1.62	Nonstationary at level but stationary at first difference	I (1)
LWPNBR	3.42	-4.77	-2.58	-1.94	-1.62	Nonstationary at level but stationary at first difference	I (1)
LWPM	4.01	-3.97	-2.58	-1.94	-1.62	Nonstationary at level but stationary at first difference	I (1)
LPCI	8.42	-5.56	-2.58	-1.94	-1.62	Nonstationary at level but stationary at first difference	I (1)

Cointegration relationship among LPCCW, LWPW, LWPBR, LWPNBR, LWPM and LPCI has been investigated using the Johansen technique. Table 2 reports our cointegration test results. Both Trace statistics give percent level of significance. However, we cannot reject the null hypothesis of one cointegrating vector against the alternative hypothesis of two cointegrating vectors, for both the Trace and max-eigenvalue test statistics. Therefore, there is a long run equilibrium relationship among per capita consumption of wheat, wholesale prices of wheat, basmati rice, non-basmati rice, maize and per capita income. The co-integrating equation, given at the bottom of the table 2, has been normalized for LPCCW to get meaningful coefficients. Parameter estimates are all statistically significant, except for LWPBR. LPCI is the most important factor

influencing LPCCW in the long run followed by LWPW. If we are willing to accept all the parameter estimates as long run elasticities, then these results show that own price elasticity, cross price elasticities and income elasticity of wheat demand are small. The low value of own price elasticity demonstrates the inelastic nature of wheat demand while smaller values of cross elasticities show that both types of rice and maize are remote substitutes of wheat. Similarly, low value of income elasticity represents that wheat is a necessity good.

Parameter estimates of the dynamic short run demand for wheat have been reported in the table 3. Here, λ is the error correction term derived from the long run cointegrating relationship lagged by one period. The coefficient of the error-correction term carries the correct sign and it

Since the cointegration methodology involves finding a stationary linear combination of a set of variables, which are themselves non-stationary, therefore, a precondition for cointegration to be held is that all variables should be non-stationary.

Table 2. Cointegration Tests

Null Hypothesis	Alternative Hypothesis	Critical Values			
		95 %		P-values ^{oo}	
λ_{trace} rank tests		Eigenvalues	λ_{trace} rank value		
$H_0 : r = 0$				88.8038	
	$H_1 : r = 1$	0.3806	95.5286 ^o		0.0312
$H_0 : r = 1$	$H_1 : r = 2$	0.2174	49.5759	69.81889	0.1319
$H_0 : r = 2$	$H_1 : r = 3$	0.1084	27.1559	47.85613	0.3268
$H_0 : r = 3$	$H_1 : r = 4$	0.0857	20.3658	29.79707	0.3502
$H_0 : r = 4$	$H_1 : r = 5$	0.0653	12.8975	15.49471	0.391
$H_0 : r = 5$	$H_1 : r = 6$	0.0268	2.1457	3.841466	0.5446
λ_{max} rank tests			λ_{max} rank value		
$H_0 : r = 0$	$H_1 : r > 0$	0.3806	48.1211 ^o	40.9568	0.0046
$H_0 : r \leq 1$	$H_1 : r > 1$	0.2174	20.4200	24.8058	0.1839
$H_0 : r \leq 2$	$H_1 : r > 2$	0.1084	10.1559	17.8671	0.2668
$H_0 : r \leq 3$	$H_1 : r > 3$	0.0857	6.3251	15.8921	0.3457
$H_0 : r \leq 4$	$H_1 : r > 4$	0.0653	4.0122	6.6691	0.4985
$H_0 : r \leq 5$	$H_1 : r > 5$	0.0268	2.1457	3.8414	0.5446

Normalized Cointegrating Coefficients:

$$\text{LPCCW} = -3.77 - 0.25 \text{LWPW} - 0.08 \text{LWPBR} + 0.16 \text{LWPNBR} + 0.13 \text{LWM} + 0.53 \text{LPCI}$$

(-6.29)* (-7.25)* (-0.05) (3.48)* (2.28)* (4.67)*

is statistically significant at 5 percent, with the speed of convergence to equilibrium of 10 percent Short run price elasticities (-0.16, 0.12, 0.04 and 0.11 for LWPW, LWPBR, LWPNBR and LWPM respectively) are considerably smaller in magnitude than the relevant long run estimates. Same is the case with income elasticity of demand. However, consistent with a priori expectations, income elasticity is significantly smaller than unity

(0.13), indicating that wheat is a necessity good for Pakistani consumers².

Pakistan joined World Trade Organization (WTO) in 1994. Being a signatory of WTO; Pakistan has accepted both the opportunity and the challenge of trade liberalization. The likely impact of agricultural trade liberalization under Doha Round of WTO has been predicted more for wheat than for most other grains partially

Trace test indicates 1 cointegrating equation(s) at 5 percent significance level.

Max-eigenvalue test indicates 1 cointegrating equation(s) at 5 percent significance level.

^o denotes rejection of the null hypothesis at 5 percent significance level.

^{oo} MacKinnon-Haug-Michelis (1999) p-values.

* t-values given in parenthesis indicate significance at 5 percent probability level.

Table 3. VEC Model

Dependent Variable: $\Delta(\text{LPCCW})$		
Regressor	Coefficient	t-Statistic
Constant	-0.03	(-3.21)*
$\Delta(\text{LPCCW} (-1))$	0.19	(1.20)
$\Delta(\text{LWPW} (-1))$	-0.16	(-3.12)*
$\Delta(\text{LWPBR} (-1))$	0.10	(3.45)*
$\Delta(\text{LWPNBR} (-1))$	0.04	(1.71)
$\Delta(\text{LWPM} (-1))$	0.11	(3.98)*
$\Delta(\text{LPCI} (-1))$	0.13	(3.04)*
λ	- 0.10	(-3.07)*
R-squared	0.65	
Adj.R-squared	0.61	
F-statistic	5.68	
Note: * indicates significance at 5 percent level		

due to the greater degree of subsidization of wheat in the past. Any successful conclusion of issues relating to agricultural trade liberalization under Doha Round means reduction of the government subsidies to wheat farmers in the major wheat net exporter countries like the United States and Canada. These two countries are major sources of wheat imports in Pakistan. Since they are major supplier of wheat in the world too, they are the price leaders. The elimination of subsidies on wheat by these countries would result in higher prices of Pakistan's wheat imports. As the demand elasticity is found less elastic both in the short and the long run, which shows that along with increase in its price, there will be very small decrease in the demand of wheat. It is evident that with the increase in wheat price, there will be an increase in the import bill of

wheat and more burden on the poor people who purchase food grains from the market.

CONCLUSION

Agriculture is a key sector in Pakistan because of its major share (around one-fourth in GDP) in the economy in terms of its contribution to national income and employment. Crops are the most important sub-sector in Agriculture sector of Pakistan. Among the major food crops, wheat is the main staple food of the country and it occupies more land under agriculture than any other crop. Because of the importance of wheat, successive governments of Pakistan since Independence have intervened heavily in wheat markets, procuring wheat at administratively set prices to support farmer incomes and subsidizing wheat sales to flour mills or

directly to consumers with the objective of stabilizing prices at levels affordable to consumers.

This paper examines the demand characteristics of the Pakistani market for the period 1975 to 2006. The existence of a long run equilibrium relationship among per capita consumption, the prices of wheat, basmati rice, non-basmati rice, maize and per capita income has been verified using cointegration methodology. Short and long run dynamics of the demand for wheat have been determined through the estimation of an error correction model. Income is the most important determinant of wheat consumption in the long run while own price is determined to be the most significant influencing factor of the demand for wheat in the short run. Low values for cross elasticities estimates indicate that both types of rice and maize are remote substitutes of wheat in Pakistan. The income elasticity of demand is significantly lower than unity, underlining the importance of wheat in the Pakistani diet both in the short and the long run.

Because of agricultural trade liberalization under Doha Round of WTO, it is expected that domestic price of wheat will rise in future and as a result will harm the poor consumers. In order to protect the consumers from high or sudden rise in price and to ensure food security, following essential conditions are recommended:

- (a) Food security objectives should not be compromised upon in any case and major reliance will have to be placed on government stocks for price stability and availability of staple food to entire population.
- (b) Along with public sector, efforts should be made to encourage the investment by the private sector in marketing and procurement of wheat. But the issue of food security cannot be left entirely at the mercy

of private sector and the government should always be there to play a supervisory and dominant role.

- (c) Targeted consumer subsidies should be provided to the low-income groups and people below the poverty line who are expected to be adversely affected by increase in food prices.

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² Detailed results of VECM are given in Appendix.

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APPENDIX

VECM Results						
Error Correction:	D(LPCCW)	D(LWPW)	D(LWPB)	D(LWPNB)	D(LWPM)	D(LPCI)
CointEq1	-0.104712	-0.0797	0.239945	0.272269	-0.13459	0.047055
	-0.03409	-0.04293	-0.07916	-0.09166	-0.08199	-0.02701
	[-3.07163]	[-1.85625]	[3.03126]	[2.97055]	[-1.64161]	[1.74236]
D(LPCCW(-1))	0.19199	1.725154	1.30214	-0.37206	1.840888	-1.0062
	-0.15942	-0.57225	-1.05505	-1.22166	-1.09278	-0.35996
	[1.20429]	[3.01471]	[1.23419]	[-0.30455]	[1.68459]	[-2.79529]
D(LWPW(-1))	-0.16357	0.011909	-0.61184	-0.39411	-0.08323	0.042479
	-0.0524	-0.18808	-0.34677	-0.40153	-0.35917	-0.11831
	[-3.12158]	[0.06332]	[-1.76438]	[-0.98151]	[-0.23174]	[0.35904]
D(LWPB(-1))	0.107334	0.262564	-0.18166	0.386959	0.030845	0.125837
	-0.03111	-0.11165	-0.20585	-0.23836	-0.21322	-0.07023
	[3.45068]	[2.35162]	[-0.88248]	[1.62342]	[0.14466]	[1.79170]
D(LWPNB(-1))	0.042781	-0.15464	0.22312	-0.06963	-0.11225	-0.01309
	-0.02503	-0.08986	-0.16568	-0.19184	-0.1716	-0.05653
	[1.709188]	[-1.72083]	[1.34672]	[-0.36298]	[-0.65415]	[-0.23149]
D(LWPM(-1))	0.107693	0.163066	0.031308	0.404524	-0.13252	-0.01817
	-0.02953	-0.10601	-0.19544	-0.22631	-0.20243	-0.06668
	[3.98554]	[1.53828]	[0.16019]	[1.78751]	[-0.65463]	[-0.27253]
D(LPCI(-1))	0.136108	0.670332	-0.71538	-0.96133	-0.46252	0.119201
	-0.044760	-0.30232	-0.55739	-0.6454	-0.57732	-0.19017
	[3.04084]	[2.21731]	[-1.28345]	[-1.48951]	[-0.80115]	[0.62682]
C	-0.03144	0.003902	0.174782	0.167675	0.162825	0.078441
	-0.00981	-0.0352	-0.06489	-0.07514	-0.06721	-0.02214
	[-3.20629]	[0.11085]	[2.69336]	[2.23148]	[2.42249]	[3.54291]
R-squared	0.613993	0.576853	0.579116	0.493456	0.273182	0.363752
Adj. R-squared	0.491172	0.442216	0.445198	0.332283	0.041922	0.16131
Sum sq. resids	0.005543	0.071418	0.242769	0.325493	0.260442	0.028259
S.E. equation	0.015873	0.056976	0.105047	0.121635	0.108804	0.03584
F-statistic	5.680106	4.284487	4.324414	3.061656	1.181278	1.796818
Log likelihood	86.37821	48.03784	29.6845	25.28602	28.63046	61.94484
Akaike AIC	-5.22521	-2.66919	-1.44563	-1.1524	-1.37536	-3.59632
Schwarz SC	-4.85156	-2.29554	-1.07198	-0.77875	-1.00171	-3.22267
Mean dependent	-0.0029	0.08469	0.061934	0.093375	0.084967	0.101442
S.D. dependent	0.022252	0.076289	0.141031	0.148855	0.111159	0.039135

The Effect of Heroin Addiction on Crime

Dr. Rana Saba Sultan*

Pakistan has witnessed massive proliferation of heroin use in the past couple of decades. According to a survey conducted by the United Nations Office on Drugs and Crime (UNODC) in year 2000, the estimated number of chronic heroin addicts was 500,000 in the country. The National Assessment Report on Problem Drug Use in Pakistan, released in 2006, estimated 628,000 opiate users of which 482,000 (77%) were heroin addicts. According to the report, the average age of opiate users, both heroin and other opium derivatives, was 35.5 years, while 33 percent were between 31 to 40 years of age. According to the report findings, in Punjab and Sindh, the two provinces home to a majority of the country's population, almost 40 percent of the drug users were between 16 and 30 years of age; 72 percent had a home; 38 percent had no education; 25 percent had primary and 33 percent had secondary education; 33 percent were unemployed; while another 39 percent supported themselves through part or fulltime jobs. These findings indicated that a significant number of heroin drug addicts participated in economic activity. The National Assessment Report on Problem of Drug Use in Pakistan; however, did not assess how the unemployed drug users fund their habit and it also ignored the link between addiction and crime. The present study, conducted in year 2008, attempts to establish a link between heroin use and criminal behaviour of heroin addicts in Karachi. It discovers the causal relationships between heroin addiction and crime and suggests some remedial measures.

Introduction

The world is fast shrinking into a global society, but there exist evident dissimilarities in the rates of problem behaviour across the world. These differences become obvious when problem behaviour is viewed as the basis for drug addiction and crime. Drug use is also difficult to compare internationally owing to inherent difficulties in measurement, and to the lack of standardization within and across countries. Many countries compile statistics on drug-related deaths, but such data could also be affected by factors other than mere drug use, such as purity of drugs and the general health of users; thus making comparison of such indicators problematic.

Mugford S K and P Cohen (1989) described two classes of drug users in their study of recreational cocaine users in Sydney,

Canberra and Melbourne. Their research showed that for most users of illicit drugs, their drug use did not interfere significantly with their lifestyles. For these users, there is no drug-crime nexus; that is, they do not engage in any criminal activities associated with their drug-use other than the drug-use itself. Mugford refers to these classes of users as 'leisure users'. Such users constitute the bulk of drug users, probably in all countries. There is a smaller number of what Mugford describes as 'deficit users.' Deficit users are frequently engaged in drug-related criminal behaviour; however, there is also a range of behaviours within this category of users. The most common crime category for many hard drug users is drug trading. Beside drug sellers, it includes those engaged in acquisitive crime.

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Mugford contended that deficit users usually took lower-status drugs. The predominant drug of choice for deficit users continued to be heroin, which is cheaper than other opium derivatives. Deficit drug users shared many of the same social structure characteristics across the world. Research in the USA, the UK and the Netherlands showed that deficit users had marginal skills, were less educated and financially worse off. They often resided in economically backward areas, poor neighbourhoods with high rates of unemployment and crime. Mugford noted that some illegal drugs, especially heroin, were intertwined with patterns of relative poverty and urban inequality.

The heroin epidemic in the UK, in the mid 1980s, occurred in the poorer areas of the cities, during a period of economic downturn and rapidly escalating unemployment. The heroin epidemic was concentrated in neighbourhoods that were already suffering high levels of unemployment, housing decay, and other signs of urban deprivation. The highest rates of crime, victimization and fear of crime were concentrated in these neighbourhoods. The heroin epidemic mainly affected white working-class communities and was primarily experienced by unemployed white males residing in the poorer areas of the cities. (Pearson, 1987) Although there were some basic similarities across deficit users, they were a heterogeneous group of addicts, with prevalence of only a small number of addicts that accounted for most of the acquisitive crimes. Drug sales appeared to be the preferred, and certainly the most frequent, criminal activity for many addicts. However, some of the addicts did not report any criminal activity. In several countries, research findings showed that addicts of younger age were more involved in higher levels of property crimes.

There is considerable evidence to

demonstrate that drug use is inextricably linked to crime (Nurco et al., 1989; Speckart and Anglin, 1985; Hunt, Lipton and Spunt, 1984; Inciardi, 1986; Wish and Johnson, 1986; Johnson, 1987). Later researches showed that behavioural linkages between drug use and criminal behaviour were much more complex, indirect, and probabilistic than previously believed. No drugs or particular drug combinations have been established as inherently or directly crime-causing (Gropper, 1985). Both drug use and criminality can and do exist without the other, demonstrating that neither is a necessary condition for the existence of the other (Anglin and Speckart, 1988; Hunt, Lipton and Spunt, 1984). Drug use may be one cause of criminal behaviour, but it is neither necessary nor sufficient to cause crime (Gropper, 1985; Graham and Zedlewski, 1990).

Heroin Use in Pakistan:

Heroin is produced when morphine is treated with a chemical known as acetic anhydride. The drug was first discovered in 1874, but its use was limited till 1898, and by the end of 1900 some of its hazards were recognized (Mir, 1997:3). On entering the body, it produces strong sensations of pleasure, euphoria and a peculiar state of wellbeing (Isbell, 1953:358). As a drug of use, heroin was virtually unknown to Pakistan prior to 1979. Since then, heroin addiction has reached epidemic proportions and has adversely affected a broad spectrum of the country's population across all socioeconomic groups. With barely 5,000 heroin users in 1980, according to the National Survey on Drug Abuse, 1993, the chronic heroin user population in Pakistan reached 500,000 addicts by the start of the 21st century (UNODC, Survey 2000).

If the average family size in Pakistan is assumed to be consisting of seven members, this staggering figure of addicts implies that 3.5 million persons are affected by the drug

usage throughout Pakistan; since presence of one addict in a family adversely affects the whole family. Similarly, if average consumption of heroin is assumed to be two grams per head, half of million addicts would consume a little less than one ton of heroin per day. Calculated on a yearly basis, this would work out to be 364 tons per year. Furthermore, if an addict on average spends Rs. 150 per day for drug purchase, 500,000 drug addicts would be spending Rs.75 million per day to procure heroin, an annual outlay of more than Rs. 2 billion.

The problem, thus, has grave social and economic implications. Addicts who have no ostensible source of income are bound to engage in criminal activities to generate money in order to fund their habit. Similarly, deprivation of or interruption in drug supply may lead to frustration-based commission of crimes in which violence may be an integral part. Both predator crimes including robberies, assaults, rapes and homicide and non-predator crimes like illicit drug sales can be committed by drug addicts depending on their socio-economic conditions and psychological factors. Given their pharmacological condition, their criminal behaviour would be driven more by the incentive to get money by committing crimes to ensure a smooth supply of heroin at all times.

Objectives of the Study

The research has been undertaken with the following objectives:

1. To identify factors responsible for crime causation among heroin addicts.
2. To investigate and establish the correlation between age, education, income, living status of heroin addicts with crime committed by them; the number of times they were arrested by police; crimes charged with and period of incarceration.

3. To explore the drug-crime nexus and determine the interface between heroin addiction and criminal behavior of addicts.
4. To suggest remedial measures to prevent criminal activity among heroin addicts.

Hypotheses of the Study

The following hypotheses have been formulated for the study:

1. Heroin addiction is associated with crime commission.
2. Crime commission is associated with funding the drug habit.
3. There is a linkage between age of the drug-user and involvement in crime.
4. Literacy rate of the drug-user is related to involvement in crime.

Research Methodology

This study is explanatory and attempts to identify the relationship between heroin addiction and crime. It also intends to find out the nature and types of crimes committed by heroin addicts in Karachi. As many as four hypotheses were postulated and tested to find out the interrelationship between a variety of cause and effect factors. Quantitative methodology has been employed for the purpose of research. Data was collected from a pre-test sample of 49 addicts and a test sample of 222 respondents/heroin addicts through a structured questionnaire containing closed and open-ended questions. These questions were answered alphanumerically, that is, both, in descriptive form and in numbers. The descriptive data was quantified and both descriptive and numerical data were analyzed using statistical tools. The universe for the study is the city of Karachi with an estimated heroin-addict population of 100,000 (ANF, 2009). The city comprises 18 towns, namely Saddar Town, Jamshed Town, Lyari Town, Keemari Town,

Baldia Town, New Karachi Town, Orangi Town, Gadap Town, Gulshan Town, Shahrah-e-Faisal Town, Bin Qasim Town, Landhi Town, Korangi Town, Liaquatabad Town, Gulberg Town, North Nazimabad Town, Clifton Town and S.I.T.E Town. Non-probability quota sampling method has been used in the study and a representative sample size was determined using the following formula (Foddy, 1988: 105):

$$S = \frac{pqz^2}{E^2}$$

In order to estimate the sample size we need the value of 'p' which is a proportion estimate; 'q' in the above given equation is derived by subtracting 'p' from 1 (or 100%); 'Z' is the value corresponding to the confidence level chosen for the study; and 'E' denotes the maximum deviation from the true proportions that can be tolerated in the study. The value of 'p' is estimated on the basis of available data; the value of 'Z' and 'E' are chosen freely by the investigator. 'Z' refers to the level of confidence that our estimates are correct in 95 percent cases and that the risk of getting a wrong value 5 percent. If 95 percent probability is assumed, the value of 'Z' is 1.96 (Sarantakos, S., Social Research, 1993 p.145) Thus:

Total number of heroin addicts in the country= 500,000

Proportion of heroin addicts in Karachi = 100,000

p = 0.2 or 20% (being one fifth of country's heroin population)

q = 1 - 0.2 = 0.8 or 80%

Z = 1.96

E = 0.5 or 5%

Therefore the sample size from a

proportionate population of 100,000
 $S = (0.2 \times 0.8 \times 1.96^2) / (0.5)^2 \approx 246$

The test sample of heroin addicts was selected from the New Horizon Care Centre for drug addicts, located at Gulshan-e-Iqbal, Karachi. The heroin addicts selected for the research comprised under treatment as well as those who did not receive any treatment. Those who have not yet been treated were approached and interviewed through various outreach centres of New Horizon Care Centre located in Gulshan Town, Korangi Town, New Karachi Town, Jamshed Town, Liaquatabad, Gulberg Town, Baldia Town and Orangi Town, Karachi. The respondents' sample was distributed amongst the towns of Karachi as under:

Saddar Town (11), Jamshed Town (12), Lyari Town (13), Keemari Town (10), Baldia Town (10), New Karachi Town (10), Orangi Town (13), Gadap Town (17), Gulshan Town (18), Shahrah e Faisal Town (16), Bin Qasim Town (10), Landhi Town (11), Korangi Town (12), Liaquatabad Town (11), Gulberg Town (12), North Nazimabad Town (12), Clifton Town (12) and S.I.T.E Town (12)

After data was collected, analyzed and classified, the findings were summarized in a tabulated form. Statistical Package for Social Sciences (SPSS) version 16 was used to create simple and contingency tables. To test the hypotheses and relationships between variables, Chi-Square test and t-test were employed.

Testing of Hypothesis

Contingency Table No: 1

Hypothesis

H₀ = Heroin addiction is not associated with crime commission

H_a = Heroin addiction is associated with crime commission

one-sample statistics				
	n	Mean	Std. Deviation	Std. Error of Mean
Involved in crime or not	222	.2928	.45607	.03061

H₀: On the average 50% of the heroin addicts commit crime.

H_a: On the average less than 50% heroin addicts commit crime.

	one-sample t-test					
	Test Value = .5					
	T	Degree of freedom	p-value	Mean Difference	95% Confidence Interval of the Difference	
involved in crime or not	-6.769	221	.000	-.20721	Lower -.2675	Upper -.1469

The sample mean shows that on the average, 29 percent of the heroin addicts are involved in crimes. To test it inferentially to be less than 50%, t-test was used. Data in table 2 shows that the test is significant at 0% significance level. This leads to the inference that majority of heroin addicts do not commit crimes.

Null Hypothesis (H₀) is accepted here.

Contingency Table No: 2

H₀: There is no association between age and involvement in crime.

H_a: There is association between age and involvement in crime.

Contingency tables 2 and 2.1 show that with an increase in age the percentage of addicts involved in crime declines, which shows that the variables, age and involvement in crime, are inversely related. The Chi-Square value of 10.997 and the associated p value of 0.004 shows that the test is statistically significant, i.e. there is an inverse relationship between

age group and involvement in crime.

The results indicate that heroin addiction is not associated with crime but only with the need to buy drugs. There is no causal relationship between drug addiction and crime in view of these findings.

H₀ = There is no association between age and involvement in crime

H_a = There is association between age and involvement in crime

	Involved in crime or not				
Age group	Not involved in Crime		Involved in Crime		Total
	Frequency	Percentage	Frequency	Percentage	
15-30	83	62.4%	50	37.6%	133
31 to 45	52	80.0%	13	20.0%	65
46 to 66	19	90.5%	2	9.5%	21
Total	154	70.3%	65	29.7%	219

Table 2.1: Chi-Square Test

	Value	Degree of freedom	Significance level
Pearson Chi-Square	10.997 ^a	2	.004
Likelihood Ratio	11.998	2	.002
Linear-by-Linear Association	10.740	1	.001
N of Valid Cases	219		

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 6.23.

Contingency Table No: 3

Ho = A minority of addicts is not associated with crime to fund their drug habit
 Ha = A minority of addicts is associated with crime to fund their drug habit

Responses	Frequency	Percent
Information not provided	9	4.1
From own income	105	47.3
From family's income	48	21.6
From begging and committing crimes	50	22.5
From other sources	10	4.5
Total	222	100.0

Table 3.1: One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
funding through Legal or Crime	222	.2252	.41867	.02810

Table 3.2: One-Sample Test

	Test Value = 0.3					
	t	Df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
funding through Legal or Crime	-2.661	221	.008	-.07477	-.1302	-.0194

Contingency table 3 shows that 22.5 percent of the drug addicts fund their habit through crime. When this value was inferentially tested with the hypothesis given below:

H₀: 30% drug addicts fund their drug habits through illegal means.

H_a: Less than 30% addicts fund their drug habits through illegal means.

The test is statistically significant at 0.08 (two tailed test) and it will be significant at 0.04 for one tail test. The value reveals that less than 30% drug addicts resort to illegal means for funding their drug habits.

The results indicate that a minority of heroin addicts fund their drug habit through crime and other illegal means. There is positive association between age and involvement in crime.

Contingency Table No: 4

H₀: Higher the literacy level of an addict, higher the involvement in crime.
 H_a: Higher the literacy level of an addict, lower the involvement in crime.

Cases					
Valid		Missing		Total	
N	Percent	N	Percent	N	Percent
222	100.0%	0	.0%	222	100.0%

Literacy	involved in crime or not				
	Not involved in Crime		Involved in Crime		Total
Illiterate	58	68.2%	27	31.8%	85
Literate	99	72.3%	38	27.7%	137
Count	157	70.7%	65	29.3%	222

Table 4.2: Chi-Square Tests

	Value	Df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.411 ^a	1	.522	.546	.311
Continuity Correction ^b	.239	1	.625		
Likelihood Ratio	.409	1	.523		
Fisher's Exact Test					
Linear-by-Linear Association	.409	1	.522		
N of Valid Cases	222				

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 24.89.

b. Computed only for a 2x2 table

H₀ = There is association between literacy rate and crime commission

H_a = There is no association between literacy rate and crime commission
Contingency table 4 shows that with the increase in literacy level the percentage of addicts involved in crime shows no significant rise, which shows that the two variables, literacy rate and involvement in crime, are not related.

The Chi-Square value of 0.411 and the associated p value of 0.522 shows that the test of significance at 26 percent significance level is statistically insignificant, thereby establishing that there is no association between literacy rate and involvement in crime.

H₀ is therefore rejected. There is no association between literacy rate and involvement in crime.

Findings of Statistical Analysis of Hypothesis:

To analyze the data collected to study the "Effect of Heroin Addiction on Crime: A Study of the Criminal Behaviour of Heroin Addicts in Karachi", four hypotheses were formulated which were tested by using the statistical

techniques of Chi-Square and t-tests for validity. The results are enumerated below:

The first hypothesis inferred that there was an association between heroin addiction and crime. The sample mean showed that about 29 percent heroin addicts were involved in crime commission. To test it inferentially to be less than 50%, t-test was used. Data in table 1.1 showed that the test was significant at zero percent significance level, which inferentially showed that the majority of heroin addicts did not indulge in crime. A small minority, who did indulge in crime commission, did so with the prime motive of funding their drug habit, the reasons for which were purely economic. No causal relationship was found between drug addiction and crime commission in view of these findings.

The second hypothesis inferred that age was associated with involvement in crime. Table 2 and 2.1 explicitly showed that with an increase in age, the percentage of addicts involved in crime declined, which showed that both the variables namely; age and involvement in crime were inversely related. The Chi-Square value of 10.997 and the associated p value of 0.004 showed that the

test was statistically significant, i.e. there is association between age group and involvement in crime.

The third hypothesis inferred that a minority of drug addicts funded their drug habit from crime proceeds. Table 3 and 3.1 showed that 22.5% of the drug addicts funded their habit through crime commission. When this value was inferentially tested with the hypothesis given below:

H₀: 30% drug addicts fund their drug habits through illegal means.

H_a: Less than 30% addicts fund their drug habits through illegal means.

The test was statistically significant at 0.08 (two-tailed test) and it would be significant at 0.04 for one tail test. The value revealed that less than 30% drug addicts resort to illegal means for funding their drug habit. The results indicated that a minority of heroin addicts fund their drug habit through crime and other illegal means.

The fourth hypothesis postulated that literacy rate was associated with involvement in crime. Table 4, 4.1 and 4.2 showed that increase in literacy level did not have any affect on the percentage of addicts involved in crime. The two variables, literacy rate and involvement in crime, were not related. The Chi-Square value of 0.411 and the associated p value of 0.522 showed that the test of significance was statistically insignificant, thereby establishing that there was no association between literacy rate and involvement in crime.

Conclusion:

The present study was conducted to find out the relationship of heroin addiction with crime; to identify the factors leading to crime commission by heroin addicts; to test the findings of research conducted on the subject in the United States, Europe and Australia with the drug-crime nexus and criminal behaviour of heroin addicts in

Karachi.

The findings of the study established that there was no association of heroin addiction with crime. A minority of heroin addicts indulged in crime to fund their drug habit. The reasons for indulgence in criminal activity were purely economic and deviant behaviour was not found associated with heroin use.

Amongst the small minority that indulged in crime to fund their drug habit, a relationship between age and involvement in crime was however established; the younger the age, the higher the involvement in crime. As revealed in the study, the majority of crimes were committed by addicts in the age group ranging from 15 to 30 years. As the age increased, the involvement in crime declined.

There was no association between literacy rate and involvement in crime. Among the minority that indulged in crime commission primarily to fund the heroin habit, the illiterate and the literate, both exhibited similar patterns of involvement in crime.

Suggestions:

The findings of this study can be extended to the whole population of drug addicts in Pakistan. Based on these findings the following suggestions are put forth:

Policy Level

Policy making needs to undergo a paradigm shift. Policy makers need to address the problem of heroin addiction, as other drug abuse, from the points of view of harm reduction and drug demand reduction. Emphasis on supply reduction might not bring meaningful results in the absence of harm and demand reduction strategies.

Social

Awareness programmes should be promoted on a large scale to prevent people, particularly the youth from using heroin, or

other drugs. A complete social action programme needs to be chalked out in this regard in which Community based organizations and non-governmental organizations can be engaged for better results.

Administrative and Legal

Police must not arrest heroin addicts, rather they should facilitate the outreach workers to reach them and counsel them for treatment. Incarcerations of drug addicts must be disallowed by law and if convicted for drug sales or other offences, they must be remanded to institutional care on probations for supervised treatment and rehabilitation.

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Impact of Remittances on the Socioeconomic Conditions of Rural Families in District Poonch of Azad Jammu and Kashmir

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This study, conducted in December 2008, attempts to examine the impact of remittances on the socioeconomic conditions of rural families of District Poonch, Azad Jammu and Kashmir (AJ&K). The key findings of the study revealed that the primary source of income for the residents of the area had been remittances from abroad. The residents of rural areas of the district emigrated in search of better employment opportunities. After emigration, the savings of the families of the emigrants increased manifold, and so did their expenditure on basic needs, ceremonies and luxury items. With increase in their incomes, the children were shifted from public to private educational institutions. Purchase of commercial plots; retirement of outstanding debts; construction and renovation of houses; purchase of vehicles; and setting up of new businesses were the major uses of remitted funds. Respondent families expressed satisfaction with their present financial status and favoured emigration for their children to ensure financial security and a better future. However, a few negative impacts, including psychological disorders among women, feelings of insecurity and an increasing instances of children dropout from schools was also witnessed in the area. The overall living standard, financial position, status of the respondent families substantially improved due to incoming remittances. The study also suggests that by providing proper guidance to the beneficiaries of incoming remittances the living standard of the beneficiaries could be further improved.

Key words: Remittances, Socioeconomic conditions, rural families, Household remittances, income, living standard. District Poonch of AJ&K.

Introduction

Remittances have been one of the major sources of foreign exchange for many developing economies of the world. Incoming remittances can alter the local status hierarchy, providing an opportunity to those in lower economic strata of the

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society to raise their financial and social status.

In the past, a vast majority of those who created flurry of remittance inflows in Pakistan were young male emigrants from households of middle socioeconomic rank of rural areas. Those who returned to their native towns found that they had acquired a great deal of influence not only within their families but also among their social circle. Those members of the family, who were employed abroad, gained the status of a useful member of the family, while those, who found themselves sidelined for not contributing to the family income, usually resorted to ways that erupted tensions within the families and such families experienced emotional stress despite economic prosperity as a result of massive new inflows of wealth (Gardner 1995).

Remittances are financial flows into households that do not require a quid pro quo in economic value (Addison, 2005). Buch and Kuckulenz (2004) report that worker remittances constitute an increasingly important mechanism for the transfer of resources from developed to developing countries. The economic impact of remittances has been considered beneficial both at the micro and macro levels at least in the short term, and there is increasing evidence that remittances from abroad are crucial to the survival of communities in many developing countries. Ratha (2003) also corroborates the notion that migrants may increase remittances in times of economic hardship, especially in low-income countries where their families may depend significantly on remittances as a primary source of income. Economic downturns in a country may encourage workers to seek employment abroad. He further argues that while capital flows tend to rise during favorable economic cycles and fall in bad times, remittances appear to show less volatility and remarkable stability overtime.

Remittance has its impacts at different levels. At household level, it helps an increase in income and consumption smoothing (Kannan and Hari, 2002); increases saving and asset accumulation (Hadi, 1999); improves access to health services, better nutrition (Yang, 2003); and to better education facilities (Edward and Ureta, 2001). At community level, remittance income can help to develop local commodity markets and generate local employment opportunities. The impact of remittances on poverty and inequality, however, depends on how far poor households are able to participate in the development process resulting from remittance inflows.

Emigration of workers from Pakistan is a very common phenomenon and like other developing countries it can have a profound socioeconomic impact, both on the economic conditions of the people as well as that of the country. Emigration started immediately after independence in 1947, but it accelerated in 1970's due to the construction boom that gained impetus in Middle East countries as a result of phenomenal rise in oil prices. The colossal construction activity in these Middle East countries was made possible due to the efforts of the foreign labour force, and Pakistan became one of the leading manpower exporters to the Middle East market owing to the cordial relations between Pakistan and the Gulf states.

The state of Azad Kashmir was founded in 1947, with an area of 5,134 sq. miles, comprising mainly hilly topography in addition to valleys and stretches of plains. According to socioeconomic survey 2007 of AJ&K, about 51.2 percent people migrated from Azad Kashmir in 1992, while 40.7 percent of them were employed in Pakistan. However, this was not the first instance of massive transit, as thousands of people were forced to migrate when Mangla Dam was being constructed.

The other reasons for migration included; lack of job opportunities; desire to improve living standards, debt burdens and awareness about better employment prospects in a foreign land.

The living standard of people in Azad Kashmir has ameliorated because of the remittances sent by the migrants to their relatives on a regular basis. According to the socioeconomic study of AJ&K about 35 percent of migrants were sending remittances up to Rs.70,000 per year; 46.4 percent remit Rs.40,001 to Rs.90,000; about 23 percent Rs.65,001 to Rs.150,000; while some 6 percent were sending above 100,000 per year to their families. Emigrants, who maintain their bank accounts in AJ&K/Pakistani banks, are investing these remitted funds to buy agricultural as well as commercial land. As urban area in AJK is limited, a majority of buyers buy plots up to 5 to 20 marlas.

The social status of people improved as a result of remittance inflows and so did their income level, outlook of their houses, education of children and health status of family members. With an increase in purchasing power of the AJK residents, overall facilities like schools, colleges, shopping centers, road transportation, electrification, communications and banking facilities also improved. Spending on non-productive activities like marriages, ceremonies, gifts to friends/relatives, spending on festivals and funerals also increased due to increase in income (Socioeconomic Survey of AJ&K, 2007).

These developments did not take place without a toll. In exchange for seeking financial prosperity, the families of the emigrants paid the price in the form of children's lack of interest in education in the absence of their fathers, increasing workload of women in the absence of male members of the family, emotional problems for women in the absence of their husbands, and other

family sufferings. The present study is an effort to analyze all these positive and negative impacts of emigration in the target area.

Objective

The objective of this study is to gauge the impact of remittances on the socioeconomic conditions of the target population.

Indicators of socioeconomic conditions include:

- a) Income level of household
- b) Education level of children
- c) Family system
- d) Savings of households
- e) Landholding
- f) Household consumption durables

Methods and Materials

The universe of the study included two villages of district Poonch of AJK. AJK consists of seven districts. Among these, Mirpur and Poonch have a higher emigration ratio. District Poonch was selected for the present study and a list of all the villages in District Poonch was obtained. Two villages namely Pachiot Sharqi and Pakkar were selected purposively, because comparatively these two villages had a large number of emigrants. There were about 500 households in each village. A total of 50 migrants' households were randomly selected from each village. Data were collected by means of well-designed questionnaires that were filled in through face-to-face interviews with the emigrant's household families. Furthermore, for actual situation analysis personal observations were made to understand and analyze the lifestyle and living standards of the people in the area. The collected data were analyzed by using Microsoft Excel software to obtain the percentages and averages.

Results and Discussion

Number of Emigrants per Household

Table I presents the number of emigrants per household. The survey findings showed that almost 87 percent of the households in both villages had one emigrant per household; eight percent had two emigrants; two percent had three members of the family settled overseas; while another three percent had more than three persons per household working abroad. In village Pakkar, 94 percent households had one of their family members working abroad, while in village Pachiot Sharqi 80 percent household had one member working abroad. As results indicated a large number of households were dependent upon earnings of only one family member, which reflects a high dependency ratio.

Reasons for Emigration

The data in Table II shows the reasons for emigration provided by the respondents. According to the table, 48 percent of the respondents' family members emigrated due to poor economic conditions; 40 percent because of unemployment; and 12 percent due to competition in the job market. In village Pakkar, 56 percent people emigrated due to poor economic conditions, while for 50 percent in village Pachiot Sharqi unemployment was the cause of emigration. Unemployment and poor economic conditions are interrelated. Due to unemployment the economic condition deteriorates and to improve their livelihood by tapping better employment opportunities abroad, people tend to migrate. Similarly, due to unemployment households have lesser purchasing power, which discourages business activity and thus fewer employment opportunities are created.

Table I: Respondents distribution on Number of Emigrants per Household

Villages	No.. of emigrants per household								Total
	1 person		2 persons		3 persons		More than 3 persons		
	No.	%age	No.	%age	No.	%age	No.	%age	
Pachiot Sharqi	40	80	6	12	2	4	2	4	50
Pakkar	47	94	2	4	0	-	1	2	50
Total	87	87	8	8	2	2	3	3	100

Table II: Respondents Distribution on Reasons of Emigration

Villages	Reasons						Total
	Poor economic conditions		Un-employment		Competition		
	No.	%age	No.	%age	No.	%age	
Pachiot Sharqi	20	40	25	50	5	10	50
Pakkar	28	56	15	30	7	14	50
Total	48	48	40	40	12	12	100

Place of Migration

Data presented in Table III shows the place where the breadwinner of the family migrated to. The data shows that 70 percent of the migrants were working in the Middle East, 10 percent in Europe, and 20 percent in the United States. As indicated by survey results, the major job market for our labour force is in the Middle East; hence there is a greater flow of people towards Middle East countries.

Table III: Respondents Distribution on Place of migration

Villages	Place of migration						Total
	Middle East		Europe		USA		
	No.	%age	No.	%age	No.	%age	
Pachiot Sharqi	29	58	6	12	15	30	50
Pakkar	41	82	4	8	5	10	50
Total	70	70	10	10	20	20	100

Sources of Finance for Migration

The biggest problem for those seeking employment abroad is of arranging funds needed for travelling and supporting oneself before getting a job in the foreign land. Most of the migrants seek the help of commission agents or companies to sponsor migration. These companies and agents provide this service against a fee, which results in additional financial burden for those who wish to go abroad. As indicated in Table VI, 38 percent migrants fulfilled their financial

requirements from their own resources; eight percent were financed by their households and 54 percent borrowed from their relatives and friends to settle abroad.

Monthly Income

Table V showed that 14 percent of the total households got monthly income between Rs 10,000 and 20,000; monthly income for 20 percent ranged from Rs 20,001 to 40,000; 22

percent between Rs 40,000 and 60,000; 20 percent between Rs 60,000 and 80,000; and income of 13 percent was between Rs 80,000 and 100,000.

In village Pachiot Sharqi 14 percent families had monthly income above Rs 100,000, while in village Pakkar 8 percent had a monthly income above Rs 100,000; 24 percent had monthly income ranging between Rs 40,000 and 60,000.

As results show, emigrants had been able to earn much more than what they could

Table VI: Respondents Distribution Sources of finance for migration

Villages	Sources						Total
	Migrant's own resources		Household head		Borrowed from relatives/friends		
	No.	%age	No.	%age	No.	%age	
Pachiot Sharqi	21	42	5	10	24	48	50
Pakkar	17	34	3	6	30	60	50
Total	38	38	8	8	54	54	100

have earned working in the domestic market, therefore the living standard of their families also increased as compared to the families of those working in Pakistan at the same level. A higher income for the same job also prompts people to work abroad.

Total Average Remittances received in one year

The data presented in Table VII shows that of total respondents, 32 percent of the families received annual remittances between Rs 100,000 and 200,000; 28

Table V: Respondents Distribution on Monthly incomes

Villages	Monthly income (Rs)												Total
	10,000-20,000		20,001-40,000		40,001-60,000		60,001-80,000		80,001-100,000		Above 100,000		
	No.	%age	No.	%age	No.	%age	No.	%age	No.	%age	No.	%age	
Pachiot Sharqi	5	10	8	16	10	20	12	24	8	16	7	14	50
Pakkar	9	18	12	24	12	24	8	16	5	10	4	8	50
Total	14	14	20	20	22	22	20	20	13	13	1	1	100

Pre-Emigration Total Annual Income of the Sample Households

Table VI shows the total annual incomes of the households. The data in table depicts that in pre-emigration period the total annual incomes of the households were very low. Of total respondents, 47 percent had annual income between Rs 12,001 and 24,000; 25 percent between Rs 24,001 and 36,000 and 10 percent had the annual income ranging between Rs 36,001 and 50,000. Only five percent households were with annual income above Rs 50,000.

percent received between Rs 200,000 and 300,000; 22 percent between Rs 300,000 and 500,000; and 15 percent received remittances between Rs 500,000 and 1,000,000.

In village Pachiot Sharqi, 20 percent households received annual remittances between Rs 500,001 and 1,000,000 and 28 percent between Rs 300,001 and 500,000. In village Pakkar 32 percent respondents received annual remittances between Rs 200,001 and 300,000 and 16 percent between Rs 300,001 and 500,000. The annual

Table VI: Respondents Distribution on Pre-emigration total annual income

Villages	Income (Rs.)										Total
	Below 12000		12001-24000		24001-36000		36001-50000		Above 50000		
	No.	%age	No.	%age	No.	%age	No.	%age	No.	%age	
Pachiot Sharqi	7	14	22	44	12	24	6	12	3	6	50
Pakkar	6	12	25	50	13	26	4	8	2	4	50
Total	13	13	47	47	25	25	10	10	5	5	100

flow of remittances was more in village Pachiot Sharqi than village Pakkar and hence the living standard of people of village Pachiot Sharqi was superior to those of village Pakkar. Results also indicated that there was a remarkable improvement in annual incomes of migrant's families as compared with their pre-emigration annual incomes (Table VII), therefore the study showed that emigration had a very positive effect on both the income and living standard of respondent families of both the villages.

percent. Similarly in village Pakkar, the total annual income of the sampled households before emigration was Rs 1,164,000 while after emigration it increased to Rs 13,875,000—a change of approximately 1,092 percent. The total change in annual income before and after emigration of sample from both the villages was an increase of 1,240 percent. Results from Table VIII also indicated that the average annual pre-emigration income of a single family in village Pachiot Sharqi was Rs 24,600, which increased to Rs 364,000 after emigration. In

Table VII: Total average remittances received by households in one year

Villages	Remittances (Rs.)												Total
	5000-100000		100001-200000		200001-300000		300001-500000		500001-1000000		Above 1000000		
	No.	%age	No.	%age	No.	%age	No.	%age	No.	%age	No.	%age	
Pachiot Sharqi	0	-	14	28	12	24	14	28	10	20	0	-	50
Pakkar	3	6	18	36	16	32	8	16	5	10	0	-	50
Total	3	3	32	32	28	28	22	22	15	15	0	-	100

Total annual income before and after emigration

Data presented in Table VIII depicts a drastic change in the incomes of respondent families before and after emigration. Results show that before emigration, the total annual income of sample households of village Pachiot Sharqi was Rs 1,230,000 while after emigration it increased to an aggregate of Rs 18,200,000—a change of about 1,380

village Pakkar, the average per year income of single respondent family was Rs 23,280 before emigration, which shot up to Rs 277,500 after emigration. Due to the difference in pre-emigration and post emigration incomes, the living standard of respondent's families improved to a great extent.

Table VIII: Respondents distribution on total annual income before and after emigration

Villages	Income/year (Rs)		%age change	income/household		%age change	Total
	Before	After		Before	After		
Pachiot Sharqi	1,230,000	18,200,000	1,379.675	24,600	364,000	1,379.675	50
Pakkar	1,164,000	13,875,000	1,092.01	23,280	277,500	1,092.01	50
Total	2,394,000	32,075,000	1,239.808	23,940	320,750	1,239.808	100

Utilization of remittances

Remittances were utilized for different purposes by the households. Table IX shows that of the total respondent families from both the villages, 60 percent households used incoming remittances for purchase of plots, 91 percent used it for construction and renovation of houses, 40 percent for purchase of vehicles, 83 percent for purchase of household appliances, 80 percent for purchasing ornaments and 100 percent of the households used remittances for fulfilling their daily expenditures, particularly related to education and health. Almost 23 percent households used remittances for starting up a new business and 18 percent used it for expanding existing business.

In village Pakkar, about 64 percent households used remittances for purchase of plots, while in village Pachiot Due to

consumption of durables also increased as shown in Table X. Before remittances started coming in, only six households had refrigerators, however, after the increase in income due to foreign remittances, almost every Sharqi as many as 56 percent respondents purchased plots. About 94 percent respondents in village Pakkar and 88 percent in Pachiot Sharqi used remittance proceeds to construct houses. Almost 84 percent and 86 percent households spent remittances on social ceremonies in village Pakkar and Pachiot Sharqi respectively.

Impact of remittances on the household consumption durables

Due to remittance inflows, the household consumption of durables also increased as shown in Table X. Before remittances started coming in, only six households had

income due to foreign remittances, almost every household that was surveyed purchased refrigerators. The total percentage increase in refrigerators was 88 percent. Similarly, the increase in televisions was 75 percent; for heaters it was 70 percent; for vehicles the increase was 60 percent, for VCRs, cameras and sewing machines it was 92 percent, 94 percent and 58 percent respectively, while for electronic household appliances like mixers/blenders, tape recorders and dish antennae it was 92 percent, 63 percent and 87 percent respectively.

In village Pachiot Sharqi there were only 20 TVs, 5 VCRs, 6 dish antennas and no motorcars before remittance inflows started. However, after emigration there were 50 refrigerators, 80 TVs, 52 VCRs, 45 dish antennas and 22 motorcars after emigration. Similarly in village Pakkar,

cameras, 4 dish antennas and no motorcar before emigration while after emigration their number changed to 40 refrigerators, 66 TVs, 85 dish antennas and 13 motorcars. Therefore, on the whole there was 90 percent change in both the villages in their household consumptions durables after emigration.

Negative impacts of emigration

Data presented in Table XI indicates few negative impacts of emigration in the sample area. Table indicates that 18 percent women reported having psychological problems, due to long time absences of their male counterparts, 11 percent families had a feeling of insecurity in the absence of their male members and 9 percent families experienced children dropping out from school due to lack of parental control. Almost 62 percent families in the sample area had no negative impacts of emigration of their social as well as their family life.

Table IX:Utilization of remittances by the sample households

Utilization	Pachiot Sharqi		Pakkar		Total	
	No.	%age	No.	%age	No.	%age
Purchase of plot	28	56	32	64	60	60
Construction/renovation of house	44	88	47	94	91	91
Start a new business	10	20	13	26	23	23
To expend a business	10	20	8	16	18	18
Purchase of vehicle	25	50	15	30	40	40
Purchase of household appliances	42	84	41	82	83	83
Buy animals	25	50	35	70	60	60
Buy ornaments	38	76	42	84	80	80
Expend. on social ceremonies	42	84	43	86	85	85
Daily expenses	50	100	50	100	100	100
Medical expenses	50	100	50	100	100	100
Educational expenditure	50	100	50	100	100	100
Total	50		50		100	

Table X: Impact of remittances on the durable consumption before and after emigration

Consumption durables	Pachiot Sharqi			Pakkar			Total		
	Before	After	%age	Before	After	%age	Before	After	%age
Refrigerator	6	50	88	5	40	87	11	90	87
T.V	20	80	75	17	66	74	37	146	74
Heater	15	50	70	18	60	70	33	110	70
Motor car	0	22	-	0	13	-	0	35	-
Motor cycle	2	2	-	0	3	-	2	5	60
Tractor	0	1	-	0	2	-	0	3	-
Cooking hearths	30	130	77	12	97	87	42	327	81
Washing machine	6	75	92	4	46	91	10	121	92
VCR	5	52	90	3	60	95	8	112	92
Camera	7	82	91	5	90	94	12	172	94
Sewing machine	18	41	56	22	55	60	40	96	58
Mixer/blender	10	115	91	8	105	92	18	220	92
Tape recorder	43	100	57	35	111	68	78	211	63
Dish antennae	6	45	16	4	85	88	10	80	87

Table XI:Negative impacts of emigration on respondent families

Villages	Negative impacts								Total
	Psychological disorders		Insecurity		Children dropout		No negative impacts		
	No.	%age	No.	%age	No.	%age	No.	%age	
PachiotSharqi	8	16	5	10	5	10	32	64	50
Pakkar	10	20	6	12	4	8	30	60	50
Total	18	18	11	11	9	9	62	62	100

Conclusion and Recommendations

The main findings of this study concluded that major causes of migration in the sample area were unemployment and poor economic conditions. Overseas emigration had a significant effect on the economic wellbeing of the people in the project area. Their monthly income has substantially increased after emigration and they had started savings, which are vital for investment in the home country. Emigrant's households in the sampled area purchased new landholdings including commercial plots, which was a profitable long run investment. Emigrant's households had started new businesses and also invested in existing businesses that increased their incomes and also created employment chances for other family members. Emigrant's households became able to choose better educational institutions for their children as a result of improved financial status. Respondent household possessions of valuable goods increased manifolds due to remittances and their living standard and social status improved significantly. Most of the emigrants were satisfied with their financial conditions and wanted to continue their existing jobs abroad. Few emigrant families suffered from negative impacts of emigration like psychological disorders among women, children dropout from schools and feeling of insecurity. The study as a whole concludes that emigration plays an important role in bringing a drastic change in the household level economy. The study also suggests that

the government should set up an investment advisory service facility to provide investment advice to the households so that they may be able to make better a sustainable use of the remittance funds. Setting up of such an advisory service is likely to encourage the workforce abroad to send more money and these funds can than be channelized to be invested in the growing sectors of the national economy.

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Nexus between Social exclusion and Fertility: A Comparison between Urban and Rural Women in Pakistan

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Present paper is an attempt to examine the conceptual framework of social exclusion as a determinant of fertility and use of contraception among rural and urban women in Pakistan. The present study is a departure from mainstream social exclusion studies which use conventional indicators that emphasize poverty and marginalization. In this study, an attempt has been made to measure exclusion by level of women's participation in social, cultural, political and economic activities and in the process of decision making for personal and family concerns. Patriarchal structure of Pakistani society and gender discrimination are the main basis of exclusion of women from the mainstream of life. This study was conducted in five villages of Kasur district and in an urban town of Lahore district. Data were collected from 655 ever married women through administering household and individual questionnaires. The findings of the study suggest that social exclusion of women is prevalent in both rural and urban areas of Pakistan, though; the extent of exclusion is relatively low in urban areas. The study clearly predicts that low social exclusion of women does not result in low fertility.

Introduction

The key question examined in present research is to explain why; comparatively speaking, Pakistani women still have high fertility despite government's systematic efforts to reduce population growth for the last four decades. Though, in recent year, Sathar and Casterline (1998) have documented that demographic transition has already set in; the concern about the need to sustain and to accelerate this change still prevails. Several studies on the limited success of Pakistan family planning and reproductive health program point to socio-cultural constraints on the acceptability of contraception and adoption of small family norm, Particularly in rural Pakistan (Mahmood, 2005).

Some experts argue that this is so

because by and large Pakistani women in general and rural women in particular, suffer serious socio-cultural and institutional impediments in exercising their full potential. This study aimed at examining the effect of socio-cultural constraints, by using conceptual framework of social exclusion on Pakistani women that effect their choices to adopt small family norms.

It has long been debated that women are being excluded from social structure of Pakistani society. Experts argue that social exclusion of women is largely based on gender biases (Hooper and Hamid 2003, Mumtaz 2003). Pakistani society is patriarchal and women have not been given equal

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opportunities to participate in different social spheres of life. Women are marginalized and are kept isolated from the socio-economic main stream of life. Their access to resources and opportunities is in many ways restricted.

Social exclusion broadly refers to the societal and institutional process that exclude certain groups from full participation in social, cultural and political life of societies (Narayan, 1999). Other definition of social exclusion include patterns and process of generalized disadvantage in such areas as education, healthcare, housing, employment and financial resources (atkinson and Davousi 2000, Burchardt 2000, sen 1998); the inability to participate effectively in economic, social, political, and cultural life, alienation and distance from the mainstream society (Duffy 1995; Walker and Walker 1997); a process through which individuals and groups are wholly or partially excluded from participation in the society in which they live (stewart 2003).

This study hypothesizes that social exclusion of women has been widely practiced particularly in rural areas of Pakistani society because of "traditional" patriarchal system prevailing in society. This system impedes women's development with respect to health, education and social participation. This study is focusing as to what extent of social exclusion of women in rural areas is prevailing because of patriarchal society and to what extent reproductive health behavior is being affected by this social exclusion.

Objectives of Study

The following are main objectives of the research

- To examine the level of social exclusion among women in rural and urban areas
- To study how social exclusion of women affects their fertility

Material and Methods

Data for present study was collected from five villages and one urban community. Multistage simple random sampling was used to draw the sample. At first stage Kasur district was selected amongst four contigions districts of Lahore. Kasur district had three tehsils, Pattoki, Chunian and Kasur Tehsil. Kasur Tehsil was split into nine Qanun go Halqa and Kot Radha Kishan was selected at the second stage of sampling. Kot Radha Kishan had nine Patwar Circles (PC) and from among these, Baghiar Mar PC was selected by using simple random sampling. All five villages of Bhagiar Mar PC were selected to draw one sample each ever-married women. A household survey was conducted to get the sample of respondents.

For comparing with urban women, an independent sample of urban women was extracted. To draw an urban sample, Lahore district was selected randomly amongst the four districts i.e. Lahore, Kasur, Okara and Sheikhpura. Lahore district had nine towns and Nishtar town was selected randomly from the nine towns. From all Union Councils of Nishtar Town, UC No. 140 was selected. This Union Council had four blocks and one Mariyam Colony. Block No 5 (Green Town) was selected through simple random sampling and household sample was conducted.

Sampling Procedure

The respondents were approached in the last stage by using systematic sampling method. In rural areas, to select a sample of 333, a sample of 255 households was selected out of 1535 households in all selected villages. The k^{th} value was worked out at 6, and every 6th household was selected from total 1535 households. Similarly same procedure was adopted to select 325 respondents-EMW- from 1637 households in urban area. The k^{th} value obtained was 6, so every 6th house was selected to obtain a sample of 250

households. First household was selected by applying simple random sampling method while the subsequent values were obtained by adding k^{th} values in both rural and urban sample. All ever married women in the selected households were interviewed. A sample of 332 in rural and 323 in urban areas was finally obtained. One respondent in rural and two in urban area could not be contacted.

Categorization of Social Exclusion Index on the basis of above Seven Explanatory Indicators

For measure social exclusion, seven indicators: age at marriage, highest level of education, household income, involvement in decision making, distance to health facility, participation in religious activities and political participation were taken. Social exclusion was categorized into three levels on the basis of these seven factors and was termed as: Least excluded, moderately excluded and highly excluded.

Categorization for Exclusion Variable (for Urban Sample)

Respondents having $\leq 2Hs$ = Least Excluded

Respondents having 3-4 Hs = Moderately Excluded

Respondents having 5+ = Highly Excluded

Categorization for Exclusion Variable (for Rural Sample)

Quartile have been applied to categorize the explanatory variables as under:

\leq Median Moderately Excluded
>Median Highly Excluded

Coding Procedures for Dependent Variable

a. Fertility (NO. of Live Births) for Urban sample

No. of Live birth: 5 or more = H

No. of Live birth: 3 or 4 = M

No. of Live birth: \leq = L

b. Fertility (No. of Live Birth for Rural sample

A minor change was made in rural criterion due to less expected cell frequency; therefore, median was used to determine high and low categories.

(\leq Median) = L

> Median) = H

Inferential Analysis

To draw inferences, chi square test was used to test association between social exclusion and fertility of ever-married women. Association between these two variables was tested for urban, rural and total samples. Hypothesis: Fertility of ever married women is affected by the extent of their social exclusion.

In order to test the hypothesis, data were presented in contingency table 1.1 by categorizing fertility in high (5 and above live births), medium (3 to 4 live births) and low (≤ 2 live births) by the level of social exclusion.

Data for total sample in Table 1.1 reflect that social exclusion of women, by and large, exists in Pakistani society. Distribution of data for the total sample suggests that 58 percent and 37 percent of women were highly and moderately excluded, respectively; whereas only five percent were least excluded. As such, the findings support our assumption that women in Pakistani society are by and large excluded from the mainstream socioeconomic life. It was assumed that exclusion of women might be low in the urban areas than in the rural areas. As expected it was observed

Table 1.1 Contingency Table for Frequency and Percentage Distribution by Social Exclusion and Fertility of EMW (Total, Urban Rural Samples)

Sample	Fertility	Level of Social Exclusion							
		Highly excluded		Moderately excluded		Least excluded		Total	
		n	%	n	%	n	%	N	%
Total	High	117	31.0	79	32.4	19	57.6	215	32.8
	Medium	92	24.3	63	25.8	9	27.3	164	25.0
	Low	169	44.7	102	41.8	5	15.2	276	42.1
	Total	378	100	244	100	33	100	655	100
Pearson χ^2 significant at p<.05									
Urban	High	41	38.3	62	33.5	18	58.1	121	37.5
	Medium	38	35.5	55	29.7	9	29.0	102	31.5
	Low	28	26.2	68	36.8	4	12.9	100	31.0
	Total	107	100	185	100	31	100	323	100
Pearson χ^2 significant at p<.05									
Rural	High	196	72.6			54	87.1	250	75.3
	Low	74	27.4			8	12.9	82	24.7
	Total	270	100			62	100	332	100
Pearson χ^2 significant at p<.05									

that out of 323 women in urban sample 33 percent were highly excluded. In rural areas, out of 332 women 81 percent were highly excluded. These percentages support our assumption that in rural areas exclusion is high.

Social Exclusion and Fertility

As far as association between social exclusion and fertility of women in total sample is concerned, value of chi-square suggests that there is an association between exclusion and fertility ($p < .05$). However, the distribution of percentages did not support this assumption. Results also show that least excluded are more likely to have higher fertility. At least 57.6 percent of the least excluded claimed to have high fertility which

is significantly higher than the percentage for the women who are highly excluded (31%). Similar findings can be noted in urban and rural samples as distribution of percentages in urban sample shows that 58.1 percent least excluded were likely to have high fertility compared with 38.3 percent, who were highly excluded and have high fertility. Rural sample also shows that 87.15 percent least excluded had high fertility whereas, 72.1 percent highly excluded fell in same category. Over all, results in all the three domains (Total, Urban and Rural) do not support the assumption that highly excluded women had high fertility. This unexpected finding could be due to the instability of data as there were only a small number of cases particularly among the least excluded.

Number of highly excluded women per total number of women (378/655*100)
 Number of moderately excluded women per total number of women (244/655*100)
 Number of least excluded women total number of women (33/655*100)
 Number of highly excluded per total women in urban sample 107/ 323*100 = 33%
 Number of highly excluded per total women in rural sample 270/ 332*100=81%

Multivariate Analysis

From the analysis of social exclusion and its association with fertility at bivariate level an attempt was made to disaggregate net-effect of social exclusion on the dependent variable i.e. fertility. Multiple regression analysis was used to single out variables that were closely associated to fertility.

The following multiple regression model was used for fertility and seven factors of determining social exclusion:

$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \dots + \beta_k X_k$
 Where Y = Fertility, X_1 = House Hold Income, X_2 = Distance to Health Services, X_3 = Age at Marriage, X_4 = level of education completed, X_5 = Frequency of consultation X_6 = Frequency of Participation in Religious Activities, X_7 = frequency of political participation.

analysis, negative coefficients indicate low level of exclusion at 0.05 level of significance level. It clearly lends support to the hypothesis. Results of analysis show that age at marriage, level of education and frequency of political participation significantly affected fertility in anticipated direction for total, urban and rural samples (Table 1.2).

The foregoing analysis reconfirms association between education and fertility. This finding is consistent with the findings of earlier researches which documented that women's education tended to lower their fertility (Sathar and Manson 1993; sathar and Casterline 1998 Mahmood 2002, 1996, 1997, 2005). From the empirical data, it seems plausible to argue that higher level of education of women result in delaying early

Table 1.2 Multiple Regression Analysis of Social Exclusion (Independent Variable) and Fertility (Dependent Variable)

Exclusion Factors	Regression Coefficients		
	Total	Urban	Rural
(Constant)	6.712	6.395	6.761
House Hold Income	0.277**	0.262*	0.364*
Distance to Health Services	-0.035	-0.102	0.063
Age at Marriage	-0.863**	-0.933**	-0.805**
Level of education	-0.301**	-0.154*	-0.471*
Frequency of consultation	0.045	-0.079	0.157
Frequency of Participation in Religious Activities	0.130	0.045	0.194
Frequency of Political Participation	-0.335*	-0.206*	-0.534*
Total, Urban and Rural (1df) *P<.05 **p<.01			

Given the discrete nature of the dependent variable (fertility), multiple regression analysis was applied to examine the strength and direction of potential factors of social exclusion that could affect fertility in total, urban and rural domains. Since the hypothesis was "higher social exclusion leads to higher fertility", therefore in regression

marriages, which eventually results in low fertility. Similarly, this study also reconfirms that age at first marriage affects fertility. Overall, education and age at marriage both exert influence on women's fertility.

Women's decision making and its association with fertility has been established by several researchers like Sathar and Kazi

(1970) and Sathar et al. (1988). Analysis of our survey data endorses this well established finding. Various studies have documented that women's political participation could expand their freedom and ultimately empower them to have a greater control on their fertility. It is observed that women who cast vote with their own choice tend to have low fertility. The Beta coefficient is negative and significant, indicating support for the assumption that greater autonomy leads to lower fertility.

Overall, the analysis shows that women with high level of education and late marriages acquire some degree of autonomy and freedom to exercise their right to make independent decisions. So, the negative coefficients of these three predictors show that unit increase in each of these indicators will lower the exclusion which, in turn, results in lowering fertility.

Another factor which is significant in regression analysis for determining fertility is household income. By taking into consideration our assumption, positive coefficient of household income shows that high income leads to high fertility, which is contrary to our hypothesis.

Reverse indication of relationship between fertility and income can be understood in the cultural context of Pakistani society where interplay of certain other factors undermines relationship between income and fertility. In Pakistani society, there is a cultural tradition that people cherish large family size as it adds to their family's strength and clout. It is therefore understandable that people with high income tend to have larger family size because they do not have to suffer financial problems in meeting the needs of large family.

Religion can be another factor which affects association between income and fertility. People believe that their religion does not permit family planning or to limit

their fertility. "Family planning is against religion and nature" is the common perception existing in conservative sections of the society. A note of caution is that the association between religious injunctions and family planning is not simple and straight. It is complex, deceptive and multidimensional. It may be noted here that people might use religion as a cover to justify their pragmatic desires to produce more children.

The motivation behind the desire of large size of family could be to ensure masculine hegemony or to ensure control on sexuality and reproduction. Other factors for desire to have large family size can be old age security, psychological satisfaction or desire to have more children as to engage them in child labor. Understandably, when children are considered as family's financial resources then lowering fertility means slashing opportunities for enhancing family income and social clout. Going by this logic, some people consider family planning as a willful and voluntary attempt to deprive oneself for blessings of God (i.e. child).

Discussion of Results:

the overall finding of the study confirm common perceptions that exclusionary practices are widely prevalent in Pakistan, especially in rural areas where exclusion of women is 81 percent.

Statistical analysis does not support the assumption that high level of social exclusion leads towards relationship between social exclusion and fertility. Further it also analyzed net-effect of seven factors of social exclusion, namely household income,

What is the exact position of Islam about family planning falls beyond the scope of this research. Among Ulema (religious scholars) there is hardly any consensus on this issue. The conservatives and traditionalists believe that family planning is against the spirit of Islam, whereas modernists assert that use of contraception is not explicitly forbidden.

distance from nearest health service facility, age at marriage, level of education, frequency of consultation with family members, frequency of participation in religious activities and political activities, on fertility. Although association between social exclusion and fertility has not been fully established, particularly low level of exclusion did not result in low fertility. Explanation for the absence of association of social exclusion with fertility might be that large family size is still a norm of Pakistani society.

Hence, unexpected results of statistical analysis for our assumption "low level of exclusion results into low fertility" should be understood in the cultural context of Pakistani society. This understanding provides ample evidence of intervening variables that firstly, undermine the appropriate use of contraception and secondly affect association between social exclusion and fertility.

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Perceptions about Impact of Daylight Saving Time on Sleeping and Electricity Consumption in Pakistan During 2009

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This study attempts to collect perceptions of a cross-section of society including students, unemployed and employed persons about the impact of Daylight Saving Time (DST) on the sleeping patterns of the people. DST is widely practiced across the world as a measure to save electricity by using the maximum of daylight; however, the benefits claimed from this exercise are supposed to be controversial even in Europe and America. The present study found out that DST has mostly affected government employees and students, while a major part of private sector employees was less affected by DST. Some of the people contested the idea that the DST reduces electricity consumption and some were of the view that the electricity consumption increased as a result of DST and it also caused night time sleep deprivation. The research also found that the DST results in saving day time not energy.

Key words: Daylight Saving Time (DST), Day Time Saving (DTS).

Introduction

Owing to the worst electricity crisis ever, the Government of Pakistan decided to adopt Daylight Saving Time (DST) once again in year 2008 and 2009. The concept of Daylight Saving Time was first introduced in year 2002 (timeanddate.com) whereby clocks were advanced by one hour. The primary purpose of advancing clocks is to optimize utilization of sunlight; therefore, it is termed as Daylight Saving Time (DST). George Vernon Hudson proposed DST in 1895. The longer days near the summer solstice in high latitudes offer more room to shift daylight from morning to evening so that early morning daylight is not wasted. In this regard, clocks' hands are turned forward one hour near the start of spring and are re-adjusted backward in autumn. In general, the countries which are located near the equator, the sunrise time do not vary enough with the changing seasons

to justify the formula. Therefore, it is not observed in the countries which are near the equator, except a few countries including Pakistan (wikipedia.com).

The watches of people in Pakistan community were advanced by one hour on April 15, 2009 after the government's decision to follow the Daylight Saving Time. The time was scheduled to be reverted to the original position on Aug 31, 2009. But the Federal Cabinet decided to keep the watches one-hour advanced for another couple of months till October 31, 2009. (worldtimezone.com). While the DST has been in practice for quite some time now, the effects of DST in Pakistan have not yet been assessed in depth. The DST is repeatedly adopted in different countries, the pros and

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cons of it are still widely discussed across the world and researches are being conducted to assess its merits and demerits.

Theories of social change suggest that although the process of social change is continuing but people by and large do not feel comfortable with change. No doubt, DST has many benefits but the Government of Pakistan adopted this system for the sake of energy saving. In order to know to what extent the targets were achieved by the stakeholders require a comprehensive study on electricity usage, bills, sleeping patterns, etc.

Electricity usage is greatly affected by geography, climate, economic activities and cultural patterns. But the available social indicators quite visibly reflect that DST disrupts meetings, travel, ceremonies, recordkeeping and sleeping patterns. Many computer-based systems can adjust their clocks automatically, but this can be limited and error-prone. So, since its inception, Daylight Saving Time is supposed to be controversial and still debate is on whether or not the advantages of the DST outweigh its disadvantages.

The available literature reveals that DST has reduced evening usage of artificial light by providing more afternoon sunlight for outdoor exercise. Although sunlight triggers vitamin D synthesis in the skin but over exposure to the same can lead to skin cancer and acute depression, etc. Clock shifts disrupt sleep and reduce working efficiency. In 2008, a Swedish study explored that heart attacks were significantly more common during the first three weekdays after the spring transition and significantly less common the first weekdays after the autumn transition (wikipedia.com). Another study conducted by the psychologist (Coren, 2008) revealed 7 percent increase in traffic accidents during the day after Daylight Savings Time started while the same proportion of accidents decreased in the fall

when the clocks returned to the Standard Time.

A study was carried out by the US Law Enforcement Assistance Administration (2008) and found that crime was consistently less by 10 to 13 percent due to sufficient light during periods of Daylight Saving Time in comparison to standard time periods. California Energy Commission resource economist (Kandel, 2007) discovered that extending daylight time had little to no effect on energy use in California. Similarly, (Lahart, 2008) findings revealed that switching to daylight-saving time each year, rather than staying on standard time costs Indiana households an additional \$8.6 million in electricity bills. He concluded that the reduced cost of lighting in afternoons during daylight-saving time is more than offset by the higher air-conditioning costs on hot afternoons and increased heating costs on cool mornings.

Emery (2008) reported that the chance of a heart attack goes up in Sweden during the first three weekdays after the springtime shift to daylight saving time, possibly because of sleep deprivation. But on the autumn Monday after clocks go back and people can get an extra hour of sleep resulting in a decline in the heart attack risk.

Objectives

The following specific objectives were pursued through this study:

1. To know if people are following the change in time.
2. To determine the effect of DST on night time sleep;
 1. To know the perception of people regarding Daylight Saving Time;
4. To know the routine matters of daily life of respondents during DST; and

5. To know the perception about electricity consumption during DST.

Methodology

Proposed design of this study is descriptive research with special reference to Descriptive Survey. A descriptive survey design is appropriate for obtaining people's perceptions on social issues and social facts and/or for describing the nature of existing conditions (Cohen and Manion, 1980; Trochim, 2000). This research design was selected because the primary purpose of the present study was to explore the perceptions about impact of daylight saving time on sleeping and electricity consumption in Pakistan during 2009.

The primary data were collected from Tando Jam town of Hyderabad district. Stratified sampling method was applied since the population was divided into four distinct categories viz. students, unemployed, public sector employees and private sector employees. Tando Jam is a town and Union Council of Hyderabad District in lower Sindh province of Pakistan. It is located at 25°25'60N 68°31'60E and lies about 20 km away from Hyderabad, along Hyderabad and Mirpurkhas Road.

Since population of public, private, students and unemployed persons are not available to be enumerated through available documentation and resources;

number/sample size from each category. Hence, a sample of 25 respondents from each stratum was randomly selected and the total sample size was worked out as 100 respondents. The sample size of 100 respondents were taken in view of available resources and time restrictions for this study. A representative sample size was selected and justified at 10 percent error rate and 95% confidence level. The data were collected by the final year students of BSc of the Department of Rural Sociology, Sindh Agriculture University, Tando jam. Statistical Package for Social Science (SPSS) was used to analyze the data.

Though the data was collected from Tando Jam, district Hyderabad, but the DST issue is nationwide. Therefore, the present research work covers the issue through stratified sampling which represents almost all the working groups.

Results and Discussion

Survey results summarized in Table 1 revealed that 40 percent of the respondents were of the opinion that sleeping hours had reduced by one hour due to daylight saving time. Segregated data reflected that a majority (64%) of the public sector employees reported that their sleeping hours have reduced. The survey results were supported by a news report published in "The Guardian" during 2007, which claimed that switching over to daylight

Table 1: Perception about reduced sleeping by profession

Profession of respondents		Sleeping hour has reduced to 1 Hour						Overall	
		Yes		No		Un- decided			
		N	%	N	%	N	%	N	%
Employees	Private	5	20.0	13	52.0	7	28.0	25	100.0
	Public	16	64.0	8	32.0	1	4.0	25	100.0
Unemployed		9	36.0	15	60.0	1	4.0	25	100.0
Student		10	40.0	9	36.0	6	24.0	25	100.0
Overall		40	40.0	45	45.0	15	15.0	100	100.0

effects as it interrupts people's natural sleep cycle. Another study was carried out by physicians (Janszky and Ljung, 2008) in Sweden and found that the loss of one hour sleep in the days immediately following the clock turn resulted a small increase (5%) in the risk of heart attack in the first three days of the new week after advancing clocks to follow daylight saving time.

One out of five (20%) private workers declared that they had been deprived of one hour of sleep due to the change in time in the study area. A lot of people from private sectors have a direct or indirect contact with public sector employees to earn their livelihood. The workers of canteen, restaurants, courier services, Photostat shops, rickshaw drivers, etc. are serving public sector employees, and therefore, they have to match their timings with the timings of the public sector employees. Besides private sector employees about forty percent of the students reported that they were severely affected by DST. The data revealed that 37 percent respondents were household heads. Table 2 shows that nearly half (49%) of family heads were suffering from reduced sleeping. In our culture, head of a family has to fulfill lot of responsibilities. He has to play a vital role in earning livelihood, making decisions, resolving disputes and managing family matters. Reduced sleep of the family head may cause psychological problems, resulting

in increased incidents of domestic violence. In addition, lack of sleep among the elderly family heads may increase the chances of blood pressure, diabetes, headache, laziness, and other disorders.

The segregated data revealed that little less than two-thirds (63%) of the respondents were not household heads. Out of them, 35 percent respondents claimed that they had lost one hour of sleep due to DST. On the other hand, nearly half (45%) of the respondents were of the opinion that DST made no major effect on their sleeping. Only about one-fifth (19%) of the respondents were unsure about the DST's impact on their sleeping hours.

The profession wise data tabulation (Table3) revealed that a majority (39%) of the respondents were of the opinion that the DST is totally useless exercise to save energy. Majority (72%) of them were unemployed, who expressed their dissatisfaction over DST. Terming the DST as an eyewash they suggested that putting an end to the corruption and kunda/hook system, is the best way to save electricity rather than advancing the clocks by one hour. A little more than one-third (36%) employees of public and private sectors were of the opinion that DST could not contribute much to electricity saving objective. Likewise, some 12 percent students did not favour the DST.

Table 2. DST effect on night time sleep on family head

Head of the family	Sleeping hour has reduced to 1 Hour						Total	
	Yes		No		Un- decided			
	N	%	N	%	N	%	N	%
Yes	18	49	16	43	3	8	37	100
No	22	35	29	46	12	19	63	100
Total	40	40	45	45	15	15	100	100

Table.3 Perceptions regarding effectiveness of DST by profession

Profession of respondent	New time policy is useful to save energy						Total	
	Yes		No		No Idea			
	N	%	N	%	N	%	N	%
Public	7	28.0	9	36.0	9	36.0	25	100.0
Private	11	44.0	9	36.0	5	20.0	25	100.0
Unemployed	2	8.0	18	72.0	5	20.0	25	100.0
Students	18	72.0	3	12.0	4	16.0	25	100.0
Total	38	38.0	39	39.0	23	23.0	100	100.0

Table 4: Following of new time by profession

Profession of respondent	Time in watch/mobile					
	Old		DST		Total	
	N	%	N	%	N	%
Private	16	64	9	36	25	100
Public	5	20	20	80	25	100
Unemployed	13	52	12	48	25	100
Student	0	0	25	100	25	100
Overall	34	34	66	66	100	100

The survey result presented in Table 4 shows that a little more than one third (34%) respondents are keeping pre-DST time in their watches or mobiles. The analyzed result discovered that 47 percent of such respondents were private sector employees followed by 38 percent unemployed. Some

five out of thirty-four (15%) respondents who did not adjust their watches to the new time were government servants. Every fifth (20%) employee from public departments followed pre-DST time rather than adopting DST.

Table 5: Impact of DST on sleeping by Marital Status

Marital Status	Sleeping hour has reduced to 1 Hour							
	Yes		No		Off and On		Total	
	N	%	N	%	N	%	N	%
Married	17	42.0	17	42.0	7	17.0	41	100.0
Un Married	23	39.0	28	48.0	8	14.0	59	100.0
Total	40	40.0	45	45.0	15	15.0	100	100.0

Table 5 shows that 42 percent married respondents complained about one hour of reduced sleeping because of DST. About the same percentage (42%) of married ones reported no change in their sleeping hours. Because, a majority of parents have young kids, they often experience disruption in sleep during the night time and then they have to wake up early in the morning to make preparation for sending their children to school. The reduced one hour of sleeping time can worsen their already tight schedule. The survey result also revealed that only one sixth (17%) married persons showed a mixed

The data in Table 6 shows the daily routine of the respondents by profession. In this regard, different questions regarding lunch, dinner, sleeping and awaking pattern in connection with DST. The analyzed data showed that nearly two-thirds (61%) respondents are following new time in getting up from bed as per DST. The stratified results clearly showed that majority follow the new time in getting up from bed belong to the student category (25 students constituting 41% of the 61 respondents). About 36 percent of those who follow new timings to wake up are from the public sector.

Table 6: Perceptions about routine matter of daily life of respondents during DST by profession

Question		Profession of Respondents				Overall
		Servicemen		Unemployed	Student	
		Private	Public			
Taking lunch according to new time	N	5	10	5	14	34
	%	20	40	20	56	
Taking dinner according to new time	N	6	11	4	10	31
	%	24	44	16	40	
Following new time to go bed	N	4	13	3	16	36
	%	16	52	12	64	
Get up with new time	N	9	22	5	25	61
	%	36	88	20	100	

response regarding their sleeping timings. On the other hand, nearly half (48%) unmarried persons reported that DST had no effect on their sleeping hours. The result of the survey reflects that the strength of adaptability is more among the unmarried as compared to the married ones. A lesser percentage (39%) of unmarried persons complained that clock shifts caused one hour reduction in their sleeping. At the same time, a minority group (14%) from unmarried persons showed a mix response regarding their sleeping hours as a result of implementation of DST.

Only nine out of sixty-one (15%) respondents are following DST to get up from bed are from the private sector. A paltry eight percent are the unemployed persons who prefer new time to wake up.

Nearly one-third (31%) respondents from sample population are following Daylight Saving Time in order to take dinner. The segregated data pointed out that eleven respondents of the public sector from a total of thirty-one (36%), changed their routine to take dinner according to new time. Only 10 respondents from student stratum composed 32 percent followed the previous

routine. Subsequently, one-fifth (19%) persons are taking dinner with new time. And only 13 percent respondents have changed their routine to take dinner are from unemployed category.

The segregated data revealed that more than one-third (36%) respondents of the sample population are following DST to go bed. On the other hand, the data revealed and discussed earlier that majority (61%) of respondents, willingly or unwillingly bound to get up with the new time. Hence, such routine clearly refers the significant reduction in sleeping hour of respondents. The stratified result showed that 64% student respondents were following new time to go to bed. About 16 percent and 12 percent respondents are from private sector and unemployed category respectively, who are following new time to go to bed.

Only one-third (34%) respondents are taking lunch one hour earlier. So, the result revealed that nearly same number (one-third) of respondents are taking lunch with the new time, while the same proportion of the respondents are taking dinner one hour earlier and nearly same number of respondents is following DST to go bed. But the twice mass (61%) is following DST only for awaking to continue their routine work.