



Efficient Regional Transport to Reduce Rural-Urban Migration in Multan Region, Pakistan

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Abstract— Situation of traffic in one of the largest cities of Pakistan is discussed regarding transport - Hukou system of China is also reviewed. Factors contributing the changes affecting relationship between rural and urban areas are analyzed. Implications regarding GIS and CCB are viewed before conclusion.

Keywords— Multan Region, Regional Transport, Rural-Urban Migration.

1. INTRODUCTION

The specific theme is the study of rural-urban migration in the Multan region in Pakistan with a view to reduce the same through an efficient regional transportation network. The topic has been chosen with a relevance to situation in Pakistan. An effort is made to explain the changing relationship between rural and urban areas over the past several decades and the factors contributing the changes are analyzed. The impacts in the context of bringing balanced development between rural and urban areas of the Multan region are studied. Sher Shah road and Bosan road experience the evidences of over-speeding more than rest of the city roads. New traffic authorities promise to make arrangements for the traffic awareness for the citizens in near future. Principal of Government College Multan also promised the students to make arrangements for training regarding traffic regulations in collaboration with the traffic police authorities. Traffic awareness and training should be made part of the syllabi at middle and secondary levels of school education [1].

Rural-urban migration is taking up the shape of another big problem for the developing nations; the following paragraph about China is quite useful to ponder:

Temporary migration due to lack of social security for migrants, rural land tenure insecurity due to frequent land reallocation and abusive land requisition due to lack of functioning and land markets are all major policy challenges that China is facing in its yet-to-be finished economic transition. Although there have been intensive studies and various policy recommendations on these issues, most discussions have so far neglected the close interrelationship between these issues and have failed to analyze them in an integrated framework [2].

Major findings of the research conducted in China regarding migration, from which the above paragraph is cited, were as follows:

- Up to now there has been very little literature that examines the policy process that would have to be put into place to ensure that China's urbanization proceeds in a healthy way.
- Rural migrant workers cannot have direct access to the same level of social security benefits, as people who are officially classified by the Hukou system as 'urban residents'.
- Though the urban Hukou-linked benefits have been declining as China's economic reforms have progressed, the Hukou system still limits these services to urban residents with Hukou, which constrains rural-urban permanent migration.
- China has reached a stage where the experimental approach of 'crossing the river by groping for stones' will not be sufficient although that is still useful.
- Further reforms need to be carried out in a holistic rather than a piecemeal manner in order to realize a full transition to market economy.

Hukou system is discussed here, that is similar to an internal passport system. Here a person's local 'citizenship' and residence is initially defined for a child as a birth right, traditionally by the mother's place of legal residence. Also useful to know that the legal residence in a city entitles one to local access to permanent jobs, regular housing, public schooling and public health care in that city. So, one needs to change this local 'citizenship' in order to permanently migrate and to be eligible for local benefits. This experience of China has great implications for rural-urban relations in developing countries as almost all the developing countries are confronting with the issues of intra-national and inter-regional migrations in different capacities, many of those are unjustified; those become a big challenge for the controlling and managing authorities to cope with.

Being China amongst the fast developing countries, their experiences benefit us to find out ways as to how other developing countries may make up their strategy for development keeping in view the rural-urban relations where reducing the rural-urban migration is an inevitable venture.

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2. AN OVERVIEW OF THE ISSUE IN OTHER CITIES OF PAKISTAN

In order to get a more accurate picture of the issue, let us study the transportation scenario in some other big cities of the country before Multan.

Karachi's transportation is entirely in the private sector and consists of about 18,000 buses. Lyari Express Way project has its main beneficiaries the contractors, builders and developers and large scale investors. Proposals for a light railway mass transit system for Karachi have already been in the offing since 1977. The 1977 plan consisted of revitalizing the Karachi Circular Railway (KCR) - built in 1962, and branching it out into the suburbs. The KCR circle was to be linked together by a part elevated, part underground transportation spine. This bi-secting link was to pass through the centre of Karachi joining Saddar and the surrounding residential and commercial areas to each other. The execution proposal would have solved all the present day issues like; inner city congestion caused by thousands of racing mini-buses causing pollution and accidents, the conflict of local and through traffic, long commuting distances and the time fuel spent commuting from the North to the South of the city. It provided a cheap pollution-free (noise and air) quick means of public transportation. However, this scheme was never implemented. Karachi Circular Railway is constantly in the print media. Announcements for its revival and execution are made regularly. However, work has not commenced on detailing the designs, preparing tendering drawings and related procedures. One of the major causes of delay is the bus operators' lobby which feels threatened by another means of public transport. They pressurize and bribe the government officials to keep delaying the works [3].

Anjum and Hameed [4] rightly consider use of different transportation modes a driving force to influence the city form, emphasizing further that the motorized transportation plays a rather crucial role in encouraging the tendency for dispersed and often low-density horizontal expansion in the industrialization era of today. Furthermore, they suggest high occupancy transportation systems such as bus and rail for a sustainable development in contrast to privately owned cars. They conclude that public transportation can play the role of a catalyst in generating house building activity in fringe areas of Lahore where previously even provision of infrastructure services could not speed up the process of housing and development with the pre-condition that certain measures be taken to the needs of the people belonging to stratified income brackets and for rights-of-way for both the bus- and rail-based options; these measures may include development of hierarchy of road network, integration of road linkages as well as provision of decent, comfortable and environment-friendly transportation. Qadeer [5] has given a detailed picture of the trends of population in Lahore. The residents of Lahore, as elsewhere in Pakistan, present a very awkward picture in different walks of life, excluding not the traffic and transportation [6].

3. REGIONAL TRANSPORT FOR REDUCING RURAL-URBAN MIGRATION IN MULTAN REGION

If the issue of rural-urban migration is not taken up seriously in case of Multan region, the problems may become many-fold. In order to address the issue, let us now study the scenario of Multan region in detail.

Back-flash

Multan is said to be called after an ancient tribe 'Mul'. Heat and dust of Multan are proverbial [7]. On one hand the city of Multan holds quite significant role in the broader perspective of the region due to certain reasons [8] and on the other hand the Multan region as a whole has got certain distinct preferences to the other regions of the country. Multan is the 5th largest city of Pakistan and considering it collectively with the rural hinterland around it the Multan region is especially important due to certain reasons, including the following:

- Agriculturally rich profile.
- Culturally millenniums-long fascinating history.
- Multi-cultural agglomeration.
- Present-day fast growth of the region as well as the regional center.

The Multanites have got wonderful potential for regional development as they have already made efforts those show what they possess. According to [8]:

- People made use of more than one method of financing as:
 - Only 33% of their respondents arranged finance at their own; of this the further sub-division was in the following forms:
 - 60% through rotary credit system
 - 26% through personal past savings
 - 14% through inheritance
 - The remaining over two-thirds went for loans; of which further sub-division was:
 - 50% borrowed from friends and relatives
 - 33% borrowed from House Building Finance Corporation
 - 10% borrowed from banks
 - 7% borrowed from their employers
- Formal sector was not welcomed by their respondents in most cases to seek loan from; 59% of the respondents not even applying for a loan from the formal sector is evidence. Inconvenient rates of interest and cumbersome procedure are the top-ranked factors among the reasons mentioned by their respondents in not applying to formal sector.
- Repayment of loans was done through the following modes:
 - Reduction in monthly expenditure
 - Working extra hours

- Selling assets
- Others (undisclosed by their respondents)
- 58.60% of respondent families had one earning member, 14.65% had 2 whereas the remaining 26.75% had more than 2 earning members.
- Slightly over one-third of their respondents had some of their family members overseas:
 - 22.93% had only 1 of their family members overseas
 - 6.37% had 2 family members working overseas, and
 - 6.37% had more than 2 members working overseas

The Multanites have shown up their potential in different walks of life. The need is now to channelizing their efforts to secure regional development reducing rural-urban migration.

Rural-urban migration is quite evident in the Multan region with population of over ten million by 1996 that was estimated by the United Nations to increase rapidly for the years to come [8]; population growth rate was recorded to be 3.4% per year [7]. A glimpse of rural-urban migration being the following:

There was housing stock of 238,000 housing units in the city of Multan yet the estimated demand was of over 305,000 by the year 2000. So the available housing was increasing at the rate of 3.11% annually to address the situation [9].

The rural-urban migration has seriously adverse effects on the society in many aspects ranging from individual and community life to the overall impression of the country and nation in the international scenario. Of all the residential areas in Dhaka, 64% are slums [9]; Bangkok has got 40% of its residents living in slums (Routray: 2008). 30-35% of the city population was living in 28 slums and katchi abadis of Multan [10].

4. WAY FORWARD

Non-tendency of vast public transportation use is on one hand multiplying the overall traffic problems in Multan city specifically and Multan region generally whereas on the other hand it hinders the way towards reducing rural-urban migration in Multan region – the region that has quite substantial potential otherwise as stated before. There used to be a time when Multan city was not as large as it is today and it is going to further enlarge in the future years. Those days people would commute on foot; or even a bicycle or a tonga (a local horse-driven cart) met the needs of the Multanites. But today people need a well-organized transportation system to commute their work places as well as to get their social activities done appropriately. Keeping in view the economic conditions of the people of Multan a public transportation system vast enough to meet the afore-mentioned needs of the target group seems to be need of the hour. As non-tendency of vast public transportation use is multiplying the overall traffic problems in Multan – making way for rural-urban migration to meet the needs of urbanizing

new society. Here comes the implementation issue for which the Geographical Information Systems (GIS) has got no match as it caters for the monitoring needs most appropriately at large and small scales both; enabling the decision-makers to get to the most appropriate alternatives. The Citizens' Community Boards (CCBs) seem also to be a very good tool to meet our goal as these are widely in use in many parts of the country and Multan especially. So we assume that the presence of a practicable mechanism of vast public transportation and efficient working of the same will result in achieving the desired degree of development in Multan region through reducing the rural-urban migration. This can be better achieved with Geographical Information System and Citizen's Community Boards.

5. IMPLICATIONS OF GEOGRAPHIC INFORMATION SYSTEMS ON TRANSPORT

Since the transportation aspects are very much geographic in nature, so some knowledge of geographic information seems to be quite useful to mention here. Geographical data can be considered as a form of spatial data [11] and Malczewski [12] believes that in a possibility of association to a place or location, a datum is regarded as geographical. Out of the data that is incorporated by the managers or decision makers almost 80% relates geographically. According to [12] *geographical or spatial decision problems* are such decision problems that involve geographical data. He further suggests that *geographical or georeferenced data* are the spatial data that are referred to a location on the Earth's surface. *Spatial data* and *geographical data* are the terms those are in use interchangeably [12]. Berry [13] and Wilson [14] clarify that *spatial structure data matrix* and *spatial interaction data matrix* are the two distinctive tabular forms the geographical data can be arranged in. *Geographical data matrix* and *spatial behavior data matrix* respectively are another form of the two afore-mentioned terms [12].

Knowing the importance of geographic information for the field of transportation, experts have come up with a specialty named Geographic Information Systems for Transportation (GIS-T). Fletcher (2000) defines GIS-T as follows:

Geographic Information Systems for Transportation (GIS-T) are interconnected hardware, software, data, people, organizations, and institutional arrangements for collecting, storing, analyzing, and communicating particular types of information about the Earth.

Since applications of GIS-T cover much of the broad scope of transportation, transportation analysts as well as decision-makers make use of GIS tools in infrastructure planning, design and management, public transit planning and operations, traffic analysis and control, transportation safety analysis, environmental impact assessment, hazards mitigation, configuring and managing complex logistics systems and so on [15].

According [16], data collection is the fore-most step as computers and GIS cannot directly be applied to the real world. Real world phenomena of interest need to be represented in symbolic form as the computers make use

of internally held numbers and characters as binary digits. Here come the 'symbolic models' that is actually an abstraction process of representing the geology, structure, geophysical or another property of Earth's surface in a computer-accessible form.

Yet another aspect of development now-a-days is the participation; GIS trend-setters have devised the fascinating concept and tool-box of Participatory Geographic Information Systems (PGIS). Jankowski and Nyerges [17] define the interesting Participatory Geographic Information Systems saying that Participatory Geographic Information Systems is the Geographic Information Systems designed and used by groups with multiple stakeholder perspectives. With additional capabilities for group decision support, PGIS is equipped with all the capabilities of GIS. Contributing to the understanding of PGIS use in society is the participatory geographic information science that is actually a sub-field of geographical information systems.

6. IMPLICATIONS OF CITIZENS' COMMUNITY BOARDS ON TRANSPORT

In Pakistan, like other countries community participation is an emerging concept in development sector. In this context, Devolution Plan 2001 of Pakistan provided a number of institutionalized opportunities for citizens to participate in council affairs. Citizen Community Board (CCB) is one of the special purpose institutions. The CCBs have been configured as community based project implementation and management bodies. They are responsible to enable the proactive element of the society to participate in the public work and development related activities of the local governments. In addition, it has been made mandatory that all kinds of small-scale development is to be carried out through CCBs. These bodies must have to generate 20% of the total costs of project whereas the rest 80% is to be contributed by the local government. For this purpose 25% of local annual development funds must be allocated to projects identified by CCBs and these may not be re-allocated to any other head of expenditures.

7. CONCLUSION

Concluding, the regional development of Multan region can get a drastic boost with effectively reducing rural-urban migration if an efficient regional transportation system is added to the region. According to Laws and Marcus [18], the problem of developing countries is two-fold as they are stuck up on one hand in being unable to find out proper reasons of their problems and on the other hand in finding the solutions. Here we have been successful on one hand in identifying the proper reasons of regional development problem in Multan region and on the other hand in finding the regional transportation as the real solution. As stated in the preceding part of this paper, there is lot of potential in the Multan region as well as the Multanites in terms of different resources and it has been exhibited also in the past. Tao and Xu [2] propose a policy package on China's migration and rural land policies to address the challenges in a holistic

manner by taking into account the impacts of China's characteristics that is a large developing country in transition according to them; we should also make use of their view. We may rightly expect a substantial regional development in Multan region now with an efficient regional transportation endeavor that will truly work as a catalytic agent in channelizing the efforts to make up best use of the potential reducing the rural-urban migration.

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