

The Effect of Developing the Health Centers at Small Towns on the Economy of the Country: A case Study of District Muzaffargarh

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ABSTRACT

This paper finds the effect of developing the health facilities at a small town on the economy of the country. The data was collected from small towns in the district Muzaffargarh. The research concludes that two to three attendants travel with one patient to big cities for consultation with doctors. Mostly people travel to the city of Multan that is almost 70 km away from the point of research. The expense on each visit is 4,500 rupees. It is also calculated that 175,000 liter additional Diesel is consumed for travel due to health issues. That also produces 469 M. Ton of CO₂ which is polluting the environment. The hospital of 100 beds is recommended for the area; that would save the annual foreign exchange of US\$ 206, 350 by reducing the fuel import.

KEYWORDS: Health, Hospital, Fuel, environment, energy

INTRODUCTION

In Pakistan, medical facilities are available are only in some big cities that are mainly in divisional headquarters or some districts have good hospitals. In this project our focus will be on health facilities available at small cities and towns. We will discuss the issues faced by the people living in these areas and how much they will have to travel to get medical treatment. At the end, we will also discuss the impacts of developing medical centers at these small cities on the national economy. Along with saving in foreign exchange, we will also discuss the impact of extra travelling and transportation on our environment.

In this project we will take the data from people of District Muzaffargarh that is rich of industries. Muzaffargarh is a district in the south of the Punjab province of Pakistan. It is spread over the area of 8,249 km². Muzaffargarh District lies in the strip between the rivers Chenab and Indus, which pass along the Eastern and Western boundaries respectively of the district. The district is bounded on the north by district Layyah, on the south by Bahawalpur and Rahimyar Khan Districts across the river Chenab. Districts Multan and Khanewal are on the eastern side of district Muzaffargarh, across the river Chenab. District Jhang touches it on the northeast. Dera Gahzi Khan and Rajanpur districts lie on the western side across the river Indus.

Muzaffargarh is one of the ancient districts of Punjab established in 1861 by the British. The district hints its name from its main town Muzaffargarh which in turn was named after its founder Nawab Muzaffar Khan. The word Muzaffargarh means the "The Fort of Muzaffar" due the fact that the old city is encompassed by the fort built by Nawab Muzaffar Khan in 1794.

The district has a total Metalled road-length of 1084 Kilometers. The district is linked with Multan, Rajanpur, D.G.Khan and Rahimyar Khan Districts through metaled roads; while it is linked with Multan and D.G.Khan districts through the railway network

The total Population of the district is about 4.0 Million out of which 51.8% are male and 48.2% are female.

The district can also be called as the Energy District of Pakistan. It has four power plants with installed power capacity of more than 3,600 MW, Pakistan's largest oil refinery, two major depot of PSO, three sugar mills and dozens of floor, cotton and oil mills.

Now we move to the narrower zone of this district and that is Qasba Gujrat. Qasba Gujrat is

20 Km from the city of Muzaffargarh and 30 Km from the sub division Kot Addu. In this Qasba, within the area of 5 km four major assets of Pakistan are installed. These are Pakistan's largest oil refinery, two IPPs of 727 MW and two depots of PSO that is supplying diesel to the whole country and Furnace oil for three major IPPs of 2,350 MW.

These areas are almost 70~75 km away from Multan, 60~65 km from Dera Ghazi Khan and 30 km from Muzaffargarh. The people from this generally travel to the nearby big cities for medical treatment.

Table 1 Category of Hospitals [9]

Hospital	Category	Bed Strength
DHQ Hospital	A	400 & above Beds
	B	251-400 Beds
	C	Up to 250 Beds
THQ Hospital	A	Above 60 Beds
	B	41-60 Beds
	C	Up to 40 Beds

Following is the detail of the hospitals available in three nearby big cities.

Muzaffargarh [9]

Being a District head-quarter and having so much industries and investment, the DHQ hospital in a district of 4.0 Million populations has only 240 beds. This lies in “category C” of the hospitals.

Dera Ghazi Khan [11]

Dera Ghazi Khan is a division comprising of District Muzffargarh, RajanPur, Layyah and Dera Ghazi Khan. The Dera Ghazi Khan has DHQ hospital with 250 beds only.

Multan [10]

Multan is also a division comprising of District Khanewal, Vehari, ShujaAbad and Multan. Multan has one Nishtar Hospital with almost 1,183 beds, one DHQ hospital with 61 beds; Multan institute of Cardiology with 200 beds the only Cardiology center of this region and a children complex of 150 beds.

Research Purpose

Purpose of the research is to identify the major health issues faced by people living in small and to find the effect of developing the health centers in small towns on the economy of Country.

LITERATURE REVIEW

The distance factor is an important issue in rural areas of specially third world countries where health facilities are not available. The people need to travel much distance to get their treatment. He further discusses the example of a village of Nigeria where health facilities are not adequate. The health facilities usage decreases due to distance band and costs much more. People are forced to take alternative medical treatment that may not be good for their health. (Robert 1983)

The planning should be done before increasing the health facilities at rural areas. The facilities should be first identified then proper analysis should be carried out to identify the weak areas and work should be done on this area to increase the health facilities at rural areas. Increasing the health facilities without any planning in rural areas is the complete wastage of resources and useless. (Parker & Srinivasan, 1976)

Access to health care facilities is distributed inversely to the use of the people in the developing countries. People do not have access to the health care facilities in developing countries due to poverty. Poor people are continually suffering the lack of medical facilities whereas they are having more diseases as compared to relatively rich people. (Peters et al, 2008)

The health sector reforms are the major issue in the developing economies. The reforms should be decided in order to following the latest standard of Plan, do, check, and act. The objectives of the reforms should be SMART. The policies should also cover the reforms even in the institutes that make these reforms. These reforms should be made with clear objective and targets. (Cassels 1995)

They discuss the weak link between the government spending and improvement in basic health facilities. The government spending on the health facilities is not properly managed and money wasted on the projects. (Filmer et al, 2000)

Health care have major role in the economic development. To take any country on the road to development, it's important to increase the productivity of their people by improving the health facilities. As the diseases increases, the productivity reduces which has an adverse effect on the economy of the country. So, it is important to give special importance to rural health to increase the productivity of the people. (Banarjee et al, 2004)

The Spatial Model of link between the environment and the transportation by road. The potential adverse impact of road transportation on the environment is the greenhouse gasses emission, depilation of ozone layer, degradation of water resources, noise pollution and detrition of air quality. All these things have negative impact on human health. (Demiral et al, 2008) We all support the above point of air pollution and also added that increase in road transportation also exposes us to road accidents.

RESEARCH METHODOLOGY

Secondary data was collected for the purposes developing of idea and preparing road map for the research. The secondary data was collected from different research papers for the history of research on this topic. Then the data and population of the selected area was taken from Punjab government resources.

After this a questionnaire was developed to take the primary data for the research. The data was collected from the residents of district Muzaffargarh. Due to lack of resources we focused on area near PARCO refinery, both PSO depot and Lal Pir Thermal Power plants. The respondents are mostly associated with these companies by some meaning.

Random sampling technique is used to get the samples.

DATA ANALYSIS

Sex:

Data were taken from 502 respondents, these were all male.

Table 2 Area of Residence

	Frequency	Percent
Qasba Gujrat / LalPir / Mehmood Kot	281	56.0
Sanawan	170	34.0
Chowk Qureshi	51	10.0
Total	502	100.0

Sample were collected from 502 people out of which 281 (56%) lives in Qasba Gujrat and surroundings, 34% in Sanawan and 10% lives in Chowk Qureshi

Table 3 Monthly Incomes

	Frequency	Percent
No	20	4.0
Less than Rs.10,000	29	6.0
Rs.10,000-25,000	161	32.0
Rs.26,000-75,000	232	46.0
Greater than Rs.75,000	60	12.0
Total	502	100.0

From the result of samples, 46 % respondents have income between Rs. 26,000 and 75,000, 32% have income between Rs. 10,000 and 25,000 while 12 % have income more than Rs.75,000.

Table 4 Profession

	Frequency	Percent
Jobless	51	10.0
Job Holder	361	72.0
Business	49	10.0
Others	41	8.0
Total	502	100.0

72 % respondents are job holders, 10% each are jobless and doing business while 8% are either having agricultural income are retired.

Table 5 Ages

	Frequency	Percent
Less than 30	101	20.0
Between 30 & 60	373	74.0
greater than 60	28	6.0
Total	502	100.0

74 % respondents are between 30 and 60 years of age, 20% are less than 30 years while 6% are more than 60 years of age.

Family Members

As per the research results, average number of family members in a house in 6.6.

The above information was about the respondent. The next part will cover the questions related to our research topic.

Table 6 Basic Health units

	Frequency	Percent
Yes	163	32.0
No	339	68.0
Total	502	100.0

68% respondents say that basic health unit is not available within 3 km of their residence and 32% have basic health units.

Table 7 Availability of Male Doctor at basic Health Center

	Frequency	Percent
Yes	153	94.0
No	10	6.0
Total	163	100.0

94 % people say that male doctors are available at basic health centers.

Table 8 Availability of Female Doctor at basic Health Center

	Frequency	Percent
Yes	41	25.0
No	122	75.0
Total	163	100.0

25 % people say that female doctors are available at basic health centers.

Table 9 Facilities of First Aid / Emergency handling at basic Health Center

	Frequency	Percent
Yes	92	56.0
No	71	44.0
Total	163	100.0

56 % people feel that facility of first aid and emergency handling is available at basic health centers.

Table 10 Preferred Cities to Visit

	Frequency	Percent
No answer	7	1.0
Multan	353	70.0
D.G.Khan	69	14.0
Muzaffargarh	73	15.0
Total	502	100.0

70 % respondents say that they go to Multan in case of emergency while 14% each go to D.G.Khan and Muzaffargarh

Visit to Big Cities per year:

As per the results of research, one family travel to big city 3.8 times in a year.

Table 11 Type of Hospital/Clinic visited in the big Cities:

	Frequency	Percent
No answer	7	1.0
Government	334	67.0
Private	129	26.0
N.G.O	32	6.0
Total	502	100.0

67 % families visit the government hospitals while 26% visit private hospitals and 6% were treated by N.G.O

Table 12 Reason of Traveling

	Frequency	Percent
No Answer	7	1.0
Surgery	98	20.0
Regular CheckUp	101	20.0
Emergency (Heart attack etc)	134	27.0
Maternity Complexity / Child Health	162	32.0
Total	502	100.0

32 % families visit to big cities due to maternity issues and illness of children. 27 % families visit the big cities in case of medical emergencies like heart attack or brain hemorrhage while 20 % each visit for surgery and regular checkup

Table 13 Mode of Traveling

	Frequency	Percent
no answer	7	1.0
Own Car	110	22.0
Taxi	124	25.0
Van	241	48.0
Bus	20	4.0
Total	502	100.0

48% families travel by van in case of emergency, 25 % travel by taxi and 22% travel on their own car. This result may vary if we increase the respondents as these respondents are mostly related to job.

Table 14 Sponsorship of Tour

	Frequency	Percent
No Answer	7	1.0
Self	351	70.0
Relative	107	21.0
Friend	9	2.0
Charity	28	6.0
Total	502	100.0

70 % families arrange their travel by their own, 21% sponsored by relatives and 6% are sponsored by N.G.O (These are mostly eye/other camps arrange by N.G.O with collaboration of local companies.

No. of attendants

As per the research results, 2.4 persons travel with 1 patient.

Expense

As per the research results, Rs. 4,500 is average expense of a tour to big city.

Table 15 Time of Tour

	Frequency	Percent
No Answer	7	1.0
4-8 Hours	10	2.0
9-12 Hours	29	6.0
13-24 Hours	197	39.0
Overnight Stay	259	52.0
Total	502	100.0

52 % people stay overnight if they go for the treatment, 39% returned on same day, 6 % returned within 12 hours

CONCLUSION

1. The data shows the medical treatment statistics of 3314 persons as the average number of family members per respondent is 6.6.
2. One family travel 3.8 times in a year to big cities and expense on each tour is Rs. 4,500.
3. If total family members are 6.6 and each family travel for 3.8 times in year, this shows that each person need to go to big city 0.57 times in a year (Once in 21 months).
4. The research also shows that 2.4 attendants travel with one patient. This shows that if one person travels 0.57 times in a year, the traveling of attendants would be 1.37 persons per year. This shows that for every one person of population, 2 persons travel to big cities in a year (as patient and attendant)
5. The population of the area from Chowk Qurashi to Sanawan is almost 100,000 people.
6. **Foreign Exchange Saving:**
As 70% people travel to Multan and most of them travel by van that also most economical as compared to own car and taxi. So, we calculate the annual fuel consumption for vans to take patients for medical treatment.

Table 16 Calculation of Fuel/Foreign Exchange Saving

{A}	Total Population (From record of TMA Kot Addu)	100,000
{B}	People Travel to Big Cities in a year (Population X no. of persons travel explained in point no.4 of conclusion)	200,000
{C}	Distance from Multan (km) (measured in car also verified by Google earth)	70
{D}	Fuel Economy of Van (km/liter) (Market data)	8
{E}	Passenger per van (Market Data)	20
{F}	Fuel Consumption for one trip of 140 km (liter) (2 X {B} / {D})	17.5
{G}	Diesel Consumption per passenger (liter) ({F} / {E})	0.88
{H}	Annual Fuel Consumption (liter)	175,000
{I}	Price of HSD (Rs/liter) [13]	116.75
{J}	Annual Fuel Cost (Rs)	20,431,250

Annual fuel cost is 20.43 Million that is equal to US \$ 206, 350 (1USD = Rs.99.01) [14].

7. Environment Factor:

Now we will discuss its effects on environment and energy saving, when a fuel burns it generates greenhouse gasses that are damaging our environment. The most commonly emitted greenhouse gas is Carbon Dioxide (CO₂). The each liter of petrol burns produces 2.34 Kg of CO₂ while that of Diesel produces 2.68 Kg of CO₂[12,8]. Annual CO₂ emission for 175,000 liter Diesel is 469,000 Kg that is badly polluting our environment.

RECOMMENDATION

Based on the above results, we recommend starting at least 100 bed hospitals in area of Lal Pir to cover the needs of almost 100,000 people. There is 6 beds available for population of 10,000 people in Pakistan[18] where as in India 9 beds are available for every 10,000 people. Based on this we recommended 10 beds for every 10,000 population and suggest a 100 bed hospital for the population of 100,000 people.

The construction cost of hospital of 100 beds in Pakistan would be around 150 million rupees (1.51 Million US\$) and the saving will be 206,350 dollars of foreign exchange in a year. By carrying out such kind of project, our foreign exchange expense can reduce significantly.

It is clearly concluded that productivity increases by saving the man hours, resources, fuel and foreign exchange. By adopting this strategy the government can surely increase the productivity of the people of Pakistan, save foreign exchange and environment.

ADVANTAGES:

Following Advantages for the Citizens of Small Cities:

- Man Hours Savings
- Cost Saving for traveling
- Cost savings for outside meals
- Increase the productivity by saving the man hours & resources

Following are the advantage for the citizens of Multan/D.G.Khan:

- Less rush on roads
- Less rush at clinics of the doctor in Multan
- Less sound pollution
- Less emission of toxic gasses from transport
- Environment Friendly initiative

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