SOCIAL IMPACT OF ENERGY CRISIS ON SMALL SCALE INDUSTRIAL WORKERS IN DISTRICT SWAT

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ABSTRACT

Electricity is considered as the backbone for the economy's prosperity, progress and plays a crucial role in the socio-economic development of a nation. With rapid development and technological innovations, the utilization of energy resources has also mounted due to which the demand for energy has increased instantaneously, while resources have been squeezed, consequently massive power outages have been observed in the country. As a result, it has severely affected the overall sector of the country, especially the industries and their laborers as well. This study investigates social impact of energy crisis on small scale industrial workers in District Swat. A pure qualitative approach has been adopted and the data was collected from 30 male respondents (two each of Marble, Plastic, Garments, Silks and Cosmetics industries). Interview guide was used as a tool of data collection where open ended question regarding the social impact of the respondents were asked and were thematically analyzed. Further, a descriptive discussion was made supported by secondary data. Results of the study show that agonizing power cut have decreased the working hours of the laborers, industrial productions have fallen to a great extent and as a result, the industrial workforce has been decreased up to maximum extent. Further, it was difficult for the workers to maintain their family expenditures and activities of daily lives consequently, their children socialization and education. The government shall be practical towards the development of power sector and the industrial sectors may be declared exempt of load shedding throughout the country.

Keywords: Social Impact, Energy Crisis, Small Scale Industries, Development

INTRODUCTION

Energy has been perhaps one of the most important sources for human being in their history that pushed them to an arena of substantial growth and development i.e. industrialization (Smill, 2004). Mehta (2005) is of the view that energy is the capability of a system to perform work; it produces momentum in matter, bring changes and does things for us. The studies of Khan, Begum & Sher (2012), indicate that due to mechanization, industrialization and higher growth of population, also with the advancement of human society and increasing dependency on electricity, a huge gap has situated between the supply and demands ratio of energy as a result, energy crises in the world. The situation is exactly alarming in Asian and developing countries, particularly in Pakistan. In Pakistan, the total production capacity is 15000 Megawatt per day while the actual need is up-to 20000 Megawatt (the Daily The Aajj, 2015).The break between the supply and demands has reached up to six thousand Mega Watt, subsequently 15 to 16 hour load shedding have been carried out on daily basis (Liaqat, 2013).As demand go beyond the supply ratio, the massive power cut negatively effects the overall sector of lives, industries and theirs labor multiply (Shah, Essrani, Shah & Rani., 2013). According to Javid, Javid and Awan.,(2013) power crisis not only creates economic but also social problems such as majority of industrial sectors remain closed, consequently, they downsizing their labor strength due to which workers lose their services leading thereby to other numerous problems such as poverty and unemployment in the country. Due to such agony power crisis the industrial workers are hard to manage their routines lives, deposit the utility bills, school fee, house rent and even, to earn the meals and operate their kitchens (Iqbal, 2012). The current study has been structured round to look and inspect closely the negative consequences of the current agonizing power outages on over-all sector of the country with special attention to industrial workers in District Swat of Malakand Division.

STATEMENT OF THE PROBLEM

Energy crisis is considered that the world's demands on the limited natural resources that are used to power industrial society are diminishing as the demand rises (Javid *et al.*, 2013). Also according to Dar, Azem and Ramzan, (2013) an energy crisis is any great bottleneck in the supply of energy resources to an economy. It often refers to when a country cannot have growing demands on limited resources without eventually running out of the

resources (Shah, 2010). Similarly Malik (2012) is of the opinion that what the perception of responsibility for the future is really at play in the discussion about how real the energy crisis is concerns. However, there are many causes to the crises of energy particularly electricity crises including overconsumption and over population which resulted of many different strains on the natural resources (Hussain, Khan, Malak and Faheem, 2012). Similarly, the issue of poor infrastructure in the form of aging infrastructure of power generating equipment is also reasons for energy shortage (Khan, Begum and Sher, 2012). Further, some other reasons do exist in the shape of non-construction additional power stations and generators, to maintain power or electricity production plants, increase coal supplies and plant performance improvement that would have led to a suspension of load shedding (Asif, 2011). Besides, another possible reason for the suspension of load shedding could be the Global Financial Crisis of 2008 which led to an economic downturn and as a result a decrease in the demand for electricity which assisted in the stability of the electricity grid (Pakistan Energy Year Book, 2009).

In Pakistan, studies indicate that along with other, delay in commissioning of power plant is another major cause of the power crises (Siddiqui, Jalil, Nasir and Khalid, 2011). Similarly to Qayum (2008), the country is facing severe energy crisis and economic growth during the past few years has been affected to maximum extent resulting a rise in demand for energy. The demand exceeds supply and hence "load-shedding" is a common phenomenon through frequent power shutdowns. The country needs about 14000-15000MW electricity per day, and the demand is likely to rise to approximately 20,000 MW per day (The Daily The Mashriq, 2013). This shortage is affecting industries, their workers, commerce and daily life of peoples (Haq, 2008).

As it is evident from the discussion that the crises of electricity exists in the country and had much negative impact on both the factories workers, owners as well as have significant influence on households. The impact is especially apparent in the stop-start rhythms of factory production and more broadly in the use of machines and newer technology. Furthermore, electricity shortage compounded the negative influence on labor and sales markets, of which the workers are a part. The industry struggled to compete with the work and thus led to unstable labor access in most of the factories. Further, due to load shedding, there are some negative consequences which slow down industrial production and

thus capital accumulation while the industries then look for downsizing their labor force which increase in unemployment as well as poverty of the workers. In this context, the study was organized to investigate the social impact of energy crisis, particularly load shedding on small-scale industrial workers in District Swat.

OBJECTIVES OF THE STUDY

Following are the major objectives of the study

1. To investigate the impacts of load shedding on house hold and social services of industrial workers
2. To inspect the consequences of power outages on children education and socialization of industrial workers

METHODS AND PROCEDURES

This research study is qualitative in nature, based upon both secondary and primary information attempting to describe the phenomenon in detail. For secondary information, the researcher has carried out a thorough review of literature in which focus has been given on selecting the papers, books, journals and particularly, internet sources. As the issues is very new and no such study has been conducted in Pakistan with reference to the negative impact of energy shortage on industrial workers, thus most of the data has been taken from news papers and internet sources. The universe for the current study has been chosen as Mingora city District Swat, Khyber Pakhtunkhwa. Further, for convenience and time constraints, the researcher selected 10 industries (two each) from Wood, Silks, Plastic, Stones and Garments factories. However, convenient sampling technique has been adopted because it is a non-probability sampling technique and thirty respondents from 10 selected industries (three from each industry) particularly those industries having no alternative sources of energy. Further, interview guide has been utilized as a tool of data collection and when the researcher visited the selected industries and after taking permission from the owners and managers of the industries, interviews were conducted with the respondents in a separate place to avoid an unpleasant situation. The interviews recorded in cell phone as well as in papers which were then translated to English through transcription. The field information were then analyzed and discussed with literary information of the study.

DATA ANALYSIS AND DISCUSSION

A qualitative research methodology has been utilized during the current study, whereas to present information in the form of thematic discussion derived from the field data and literature review. Further, the current study is based on the idea of discussing and analysis of various themes developed from the field as well as secondary information. Similarly, thematic analysis is due to its comprehensive nature and to gain an insight and understanding towards the multiple dimensions of the problems of industrial workers. Moreover, themes are presented with the support of relevant literature, original statements of the respondents and conclusive discussion of the researcher.

LOAD SHEDDING AND ITS IMPACT ON HOUSEHOLD ACTIVITIES AND SOCIAL SERVICES

The crises of energy or electricity have more obvious and adverse impact on the industrial workers and factories' management (The Nation, 2013). Heavy load shedding put severe impact on the ratio of available jobs and livelihoods of the people. The consequence are more observable in shape of excluded labor force from the jobs which has way maximized the inconvenience, interruption in business relation, working hours, income and even households alike (Chemma *et al*, 2015). The information with regard to closure of the industries, impact on working hours, household relations and services related were thoroughly investigated. In this context, majority of the respondents supported that due to heavy load shedding in the area, almost all the factories have been affected in their productivity, workers detachment, and even financial loses to support the workers. To support the analysis, one of the respondents told that:

> *…Since last three months i.e. from June to September, I have never seen any accomplishment with respect to the supply orders received. In my neighboring factory, at least more than half of the workers have quit their jobs and the same is observable in rest of the mills as well. I myself work more than 6 hours but the timing is not constant and we are compelled to wait until night sometimes…"*

Similarly, according to the information obtained from the field participants, small business and industries were constantly utilizing electricity and the non-provision of energy has negative consequences for the workers. The owners have been found to maintain the

production cost through considering a cutting down mechanism i.e. downsizing in workforce, wages of the workers and even to close the factory set-up and management. However, to treat the workers is the easiest thing for then as told my majority of the participants and this is a direct punishment of the workers, which not only affect the personal life but the family well-being as well. Accordingly, a respondent explained his views:

> *"…The mindset of the factory management is to save for themselves and they have no such caring attitude for us. Their behavior not only discourages me but also triple the poverty, unemployment and inequality of people like us I mean the working class and the poor. We have been hardest hit by load-shedding and our houses have no food, wood, and fire in the kitchen to cook for children…and are permanently in the dark…"*

Currently, the country in general and the area in particular has been suffering from energy shortage due to various reasons including the inappropriate decision making, incapability of government and deteriorated laws of the country(Khaliq, 2014). As a result, whole economy is suffering i.e. industry, commercial exports, domestic life and local businesses as well (Iqbal, 2012). According to the data received, the problem is becoming challenging for the management of mills, and government to fulfill the energy demand in near future (Javid, Javid & Awan ,2013).And thus workers were tormenting from electricity shortfall severely. A respondent also confirmed this idea during his interview as:

> *"…This is really a shameful situation for all the workers and even for me that we are unable to maintain a dignified life condition in our houses due to our earning from the mills. The management also has no solution for the issue as everyone blame the other..."(P-1-0- 9).*

Also, the life style and the standard of living of the factory workers have been badly affected by the wave of load shedding in the locality. Most of the people have no alternative source of income and sources of energy to use in their houses. The provision of social services was disturbed and the access of the people has been restrained by their income and work. According to an informant:

> *"…The use of enhanced energy sources helps people in humanizing the quality of life, saves time and environment------but I am away from it. He*

also explained that the usage of energy also humanized the delivery of social services, easy availability of quality material to improves the lives of females and children who used traditional way of life but as I have no income to provide them all so…*".*

Literary information reveals that In Pakistan, electricity is the one of the most important source of energy. Pakistan is the world largest user of gas as fuel in public and private transport with 2.5 million vehicles while electricity is produced largely from thermal power stations (Pakistan Energy Year Book, 2009). However, this has been observed that countless industries are being shut due to energy or electricity shortage and this shortage forced a number of industries and working units to close down due to delay in fulfillment of their export consignments (Qadir & Raza, 2015). Some studies showed that lack of integrated planning, non-utilization of local resources and imbalanced energy mix were major causes of energy crisis in Pakistan (Khaliq, 2014)). Analyzing the literary data, in current situation it has become a serious matter of daily routine life due to unannounced load shedding and low productive input in the system. Moreover, it has also been reported by majority of the field informants that in many small cities, the commodity continues to disappear for many hours before any prior information of this load shedding. Thus, the public and private arenas have negatively influenced and the domestic facilitation, children and health of the household have been affected in the area. In the context of the field data, one of the respondent replied:

"…The main problems as I know has been the outcome of the unannounced close down of the factories and thus have determined the effect of these energy crises on daily routine life of people at various levels including households. For my understanding, the domestics sphere include daily routine life, daily expenses to support food, health and education and even have created many critical psychological and social issues …".

Similarly, most of the respondents were of the opinion that small-scale manufacturer and their skilled workers have no resources to fulfill their everyday expenditures. Similarly, in such situation, the workers mostly have to face shortage of money

to pay house rent, utility bills as well as to manage food related expenses of family. In this regards, a respondent said:

> *"…It is normal for me to say that electricity blackout has negatively consequences i.e. we have no choice to during celebration of events, organization and management of social, cultural and religious festival such as Eid, marriages etc. Simply, I can say that the social aspects and the daily affairs have been drastically influenced…*".

The energy crises or load shedding has thus produces multiple negative consequences on the family, routine life as well as household activities of the workers. The workers have been suffering from energy shortage and were found in a devastating condition to fulfill their daily needs.

IMPACT ON CHILDREN EDUCATION AND SOCIALIZATION

Children are key resources for success of any country and family while the study of children remains the priority of family and nation (Kalill, 2005). Students are the pillar of a nation and they would be the researchers, teachers, scientists, politicians of tomorrow (Blanden, Greeg & Machin, 2002). Theoretical literature confirms that energy especially electricity load shedding decelerate the efficiency of the parents working in small scale industries and their children's' education who are students. Ahmad and Ali (2009) found that performance and results of learners are affected by energy (in particular power) shortage while to Sahibzada (2009) found that facing shortage and load shedding of power energy during examinations, the (slack) students are unable to study properly that leads to low final grades. In majority of the cases, the workers have admitted children in schools in the area while their studies have been severely affected as observed from the responses of the informants. However, as most of the parents were not well educated, hence they were unaware of the actual status of the impact. One of the parents stated that:

> *"…My son and a daughter are studying in class 5th and 6th respectively and they remain busy in home based activities till evening after their school. However, at night when they are free from work, they want to complete school work, but due to load shedding, again they could not*

complete their work and hence have problems in getting success in exams…"

Besides, in his study Riaz (2010) have confirmed the adverse effect of load shedding on students getting online education because due to electricity shortage, they have no access to internet sources to submit or take advice from the experts. While analyzing the component of load shedding and use of internet, almost all of the workers rejected the use of internet by the children. No one of the family has the facility of net connection and further, they were unable to afford such facilitation. In this regard, a field interview has been narrated:

"…I cannot afford to install telephone or internet in the house due to my low income and rented house. My children do not use the facility of net and even TV, because they have no access and knowledge …"

Load shedding has had worst impact on students and their study schedule has been disturbed. They cannot study properly because load shedding has frustrated them and particularly in summer season (Ahmad (2012). Because, without electricity students do not have proper sleep and they could not study which effect their study and progress in the examination (Cheveliar, Harmon, Sullivan and Walker, 2013). Further, power crisis threatens to leave a permanent impact on the country's educational progress, particularly on learners, schools and higher education institutions with resource challenges. In this context, majority of the respondents supported the severe impact of load shedding on the overall education of the children while one of the respondents replied:

"…The effect of load shedding on learning, and particularly the learning outcomes of my children are more as compare to the neighboring families having lighting facilities. My children could not sleep properly and have no such time table to work because of the interrupted supply of electricity. This is similar to our work in the mills and factories…"

Similarly, as identified from the literature and other sources, the social and economic inequities continue to pervade our education system, and the electricity crisis is adding another layer to the inequity (Ahmad, 2012). Not only are there still too many schools with little or no electricity infrastructure, but for those that do have electricity, the ability to manage load shedding without educational impact will again vary by socio-economic status

of the industrial workers. This continues both for higher education and at the school level as well (Zeshan, 2014). The informants claimed that modern education depends on power and electricity i.e. the provision of adequate lighting in lecture rooms, and even at homes to facilitate the kids towards improving knowledge. A worker while explaining this issue told that:

> *"…This is the responsibility of the government to provide power or electricity supply to every citizen as this the basic right of each one and further students need more privilege because they are very much prone to the negative consequences* of electricity shortage. *But this is dream in the country…*"

The literature further reveals that the modern instructional methods, particularly in the higher education sector – and through both distance and contact learning - assumes some access to a digital device and the internet, and this is already challenging for many Pakistanis (Kalill, 2005). Adding to this an unreliable power supply, and to have a significant constraint on the development of digitally enabled blended and distance learning (Ahmad, 2012). For instance, a reliable electricity supply is crucial where lectures are delivered online and access is required to the collaboration tools built in to learning management systems (Sullivan and Walker, 2013). However, as indicated by the field data, most of the respondents were unaware of the use of electricity in such a sophisticated way as in the modern system and they were unaware of its utility for such high purpose. While recording the responses, some of the respondents were of the opinion that:

> *"…We know that the power crisis impact the teaching and learning of the students and our children every day. Load shedding limits our children's' ability to fully engage them in the learning process but we do not have any knowledge to the digitally enabled educational development…"*

CONCLUSION

The electric power deficit had crossed the level of 5000 MW at many points since last decade and had surpassed 7000 MW. This widening demand supply gap has resulted in regular load shedding of eight to ten hours in urban areas and eighteen to twenty hours in rural areas. Consequently, it has adversely affected the industrial sector of the country.

Majority of industries remain closed, their production capacity have led to decline in growth and most of the time they remain functionless. Due to power cut and collapse of industries, the owners have been constantly downsizing their labor strength leading to social impacts on their house and social services as well as on their children education and socialization.

The analyzed data show that energy crisis and closeness of industries has multiple negative consequences on the family, routine life as well as household activities of the workers. The workers have been suffering from energy shortage and were found in a devastating condition to fulfill their daily needs. Besides, the worker's children suffer a lot and they have been marginalized in the educational achievements to a greater extent.

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