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Socio-Economic implications of Energy Crises on Rural based Factory Workers in Faisalabad Pakistan

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Abstract
The current shortfall of electricity is up to 6700 megawatt. In 2014 the demand of gas is 8 billion CFD and shortage is 6 billion CFD. The gap between demand and supply resulted in load shedding, overloaded infrastructure, power losses, and capacity shortfalls. So energy crisis create social and economical problems now a days. The study was conducted to find out the perception of rural people about current and future situation of energy shortfall and to evaluate the effects of energy on their lives and to have some suggestions from the public to overcome these shortfalls in Faisalabad. Iqbal town was selected by using simple random sampling technique from Faisalabad city. Two union councils were selected by using simple random sampling technique from Iqbal Town. Eight localities (two from each UC) were selected by using simple random sampling technique. A sample of 120 respondents was obtained by using simple random sampling technique. Questionnaire was designed according to the objectives of the study. The collected data was analyzed by using SPSS and statistical techniques (Chi Square and Gamma test. Majority of the (80.8) percent of the respondents agreed that energy crisis has effected on industrial sector. A major proportion of the (95.0) of the respondents agreed that energy crisis is the cause of inflation. Majority of the (61.7) of the respondents said that energy crisis affects student efficiency. That energy crisis can be overcome by upgrading the current sources and by developing the new and alternate sources of energy.

Keywords; Energy Crises, Rural Sociology, Socio-economic, Laborer, Chi Square and Gamma test.

INTRODUCTION

Government's meager allocation of Rs 36.136 billion for power development across the country is, in fact, a peanut and shows rulers seriousness in solving grave energy crisis while Government avoided to take serious steps in building mega power project despite slow down economic activities in the country and suicide attempts of millers and workers. These views were expressed by Lahore Chamber of Commerce and Industry (LCCI) Acting President Sheikh Arshad while talking exclusively to "The Nation" here at his LCCI office. He said that the government had allocated just Rs 36.136 billion for the Water and Power Division development in the total budget of Rs 730 billion of ADPs. He said that the business committee was expecting colossal allocations for power sector uplifting in ADPs. But, unfortunately, government had set aside only Rs36.136 for the completion of already in process projects, ignoring the urgent need of resolving energy crisis. He said that it was need of the hour that government should have taken strong steps in dragging the country out of the energy crisis but, unluckily, it seems that government is not handling the ever-

worsening issue seriously. He said that the government had shown no wisdom, ignoring initiation of new projects in the energy sector development. Out of total ADPs funds, he said, the government had allocated only Rs36 billion for power generation, transmission, distribution and conservation and out of which Rsl8 billion would be spent on the Diarner-Bhasha Dam and Rsl0.8 billion on the Neelum-Jhelum Hydro Project, Sheikh Arshad revealed. He further said that the energy sector development needed to be allocated extraordinary funds as it was directly related to the revival of country's fragile economy (Amir, 2008).

The country is in the grip of a serious energy crisis that is affecting all sectors of the economy and the various segments of the society. At present there is no immediate solution in sight to resolve the issue. Both short and long -term solutions are needed to redress crisis. Huge investment is also needed. Due to our neglect and failure in the past the energy crisis kept on increasing regularly (Sharif, 2008).

Present energy consumption trends in Pakistan are extremely inefficient, for the domestic, industrial, trade or commercial sectors. With small effort, about ten i.e. percent of national electricity can be saved i.e. with only the first level of energy conservation with the change in attitude • It is simple, instant and effective use energy when needed (Hassam, 2008).

In creation level, the portion of electronic shaped through the gas is 19% though in Pakistan 45%, nuclear drive's portion in domain total liveliness is 16% though in Pakistan retiring 2%, hydro-generated power's portion hooked on the creation's entire energy part is 16% nevertheless in Pakistan 3.3% besides after oil in ecosphere solitary 7% then in Pakistan remains 16%. Poland and Germany harvest the power extra than 80% from firewood. Similarly, South Africa 93%, China 72%, Germany 52%, India 78.3%, America 49%, Denmark 47.3%Australia 77%, and UK 32.9% food the dynamism from firewood. Pakistan products are individually 200 mega watt after coal which is 7% of total liveliness manufacture whereas the energy fashioned by coal must be up to 25% (Israr, 2013).

Objective

The main objective of present study is to find out the industrial worker`s perception about energy crisis, its impact on their families and respondents attitude towards energy crisis.

MATERIALS AND METHODS

Sample Size:

Sample can be defined as accurate envoy of the population, which has all the characteristics of preferred population. Present study was conducted at small Industries of District Faisalabad, where most of the workers belonged to rural area. Eight small industries were selected randomly. A list of rural workers was prepared. A sample size of 120 (15 from of each Industries) respondents were selected randomly from the list. Tehsil Faisalabad out of six Tehsils was selected purposively. Two union councils (UC.257 & UC.258) were selected randomly. Four villages two from each UC were selected randomly and then 120 respondents were selected randomly from eight factories**.**

Data collection:

Construction of data collection tool

Social science deals with human nature, Feelings, emotions and minds of human being. To study all these factors it was compulsory that data collection tool was

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very accurate and reliable. Interview schedule was prepared with open and close ended questions to collect the data from respondents. It was structured to get all the required information from the respondents.

Interviewing the respondents:

Interview was conducted from respondents to collect facts. The investigator himself interviewed each respondent to make sure unbiased response and then rechecked each questionnaire for accuracy and uniformity because it was very difficult to approach the same respondent at any subsequent stage.

Analyzing of data:

Collected data was analyzed using the Statistical Package for Social Sciences. Descriptive statistics, including frequencies, percentages, means and standard deviations, were used to summarize different variables. Data was interpreted with the help of a computer software i.e. statistical package for social sciences.

RESULTS AND DISCUSSION

Table 1
Distribution of the respondents according to their education

Education of the respondents	Frequency	Percentage
Up to Primary	43	35.8
Middle	35	29.2
Matric or above	42	35.0
Total	120	100.0

Table 1 shows that little more than one-third i.e. 35.8 percent of the respondents had up to primary level education, while 29.2 percent of them were middle passed and 35.0 percent of them had matric and above level education.

Table 2
Distribution of the respondents according to their monthly income

Monthly income (Rs.)	Frequency	Percentage
Up to 10000	40	33.3
10001-12000	30	25.0
Above 12000	50	41.7
Total	120	100.0

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Table 2 indicates that about one-third i.e. 33.3 percent of the respondents had up to Rs.10000 monthly income, while 25.0 percent of them had Rs. 10001-12000 and 41.7 percent of them had above Rs. 12000 monthly income.

Table 3

Distribution of the respondents according to the source of energy used in their factory

Source of energy used in your Factory	Yes		No		Total	
	F.	%	F.	%	F.	%
WAPDA Electricity	120	100.0	0	0.0	120	100.0
Natural gas	27	22.5	93	77.5	120	100.0
Kerosene	0	0.0	120	100.0	120	100.0
LPG	0	0.0	120	100.0	120	100.0
Coal	35	29.2	85	70.8	120	100.0
Firewood	16	13.3	104	86.7	120	100.0
Dunk cake	6	5.0	114	95.0	120	100.0
Straw/Rice Husk	5	4.2	115	95.8	120	100.0
Other Biomass fuel	0	0.0	120	100.0	120	100.0
Generator	117	97.5	3	2.5	120	100.0

Table 3 shows that all of the respondents reported that their factory used WAPDA electricity, while 22.5 percent of them also used Natural gas for energy power and 29.2 percent of them used coal for energy. About 13.3 percent of the respondents used forewood, 5.0 percent of them used dunk cake, 4.2 percent of them used straw/rick husk and a huge majority i.e. 97.5 percent of the respondents used generator for energy.

Table 4

Distribution of the respondents according to their opinion about causes of energy crisis in Pakistan

N = 120

Reasons	Disagree		Neutral		Agree	
	F.	%	F.	%	F.	%
Population growth	7	5.8	13	10.8	100	83.3
Increased use of electric item	40	33.3	20	16.7	60	50.0
Careless attitude of people towards energy saving	46	38.3	16	13.3	58	48.3
High price of oil	10	8.3	8	6.7	102	85.0
Lack of dams	5	4.2	5	4.2	110	91.7
Poor storage capacity	9	7.5	6	5.0	105	87.5
Waste of energy due to old equipment at station	20	16.7	9	7.5	91	75.8
Poor energy supply system	13	10.8	17	14.2	90	75.0
Poor monitoring system	25	20.8	18	15.0	77	64.2

Any other	84	70.0	12	10.0	24	20.0

Table 4 presents the respondents' opinion about the causes of energy crisis in Pakistan.
A large majority i.e. 83.3 percent of the respondents were agreed with the opinion that the population growth is a cause of energy crisis in Pakistan, while 10.8 percent of them were neutral and 5.8 percent of them were disagreed with this opinion.
About a half i.e. 50.0 percent of the respondents were agreed with the opinion that increased use of electric item is a cause of energy crisis in Pakistan, while 16.7 percent of them were neutral and 33.3 percent of them were disagreed with this opinion.
A major proportion i.e. 48.3 percent of the respondents were agreed with the opinion that careless attitude of people towards energy saving is a cause of energy crisis in Pakistan, while 13.3 percent of them were neutral and 38.3 percent of them were disagreed with this opinion.
A vast majority i.e. 85.0 percent of the respondents were agreed with the opinion that high price of oil is a cause of energy crisis in Pakistan, while 6.7 percent of them were neutral and 8.3 percent of them were disagreed with this opinion.
A huge majority i.e. 91.7 percent of the respondents were agreed with the opinion that lack of dams is a cause of energy crisis in Pakistan, while 4.2 percent of them were neutral and 8.3 percent of them were disagreed with this opinion.
A large majority i.e. 87.5 percent of the respondents were agreed with the opinion that poor storage capacity is a cause of energy crisis in Pakistan, while 5.0 percent of them were neutral and 7.5 percent of them were disagreed with this opinion.
A large majority i.e. 75.8 percent of the respondents were agreed with the opinion that waste of energy due to old equipments at station is a cause of energy crisis in Pakistan, while 7.5 percent of them were neutral and 16.7 percent of them were disagreed with this opinion.
A vast majority i.e. 75.0 percent of the respondents were agreed with the opinion that poor energy supply system is a cause of energy crisis in Pakistan, while 14.2 percent of them were neutral and 10.8 percent of them were disagreed with this opinion.
A major proportion i.e. 64.2 percent of the respondents were agreed with the opinion that poor monitoring system is a cause of energy crisis in Pakistan, while 15.0 percent of them were neutral and 20.8 percent of them were disagreed with this opinion.
About 20.0 percent of the respondents were agreed with the opinion that any other causes of energy crisis in Pakistan, while 10.0 percent of them were neutral and 70.0 percent of them were disagreed with this opinion.

Table 5

Distribution of the respondents according to their opinion about how we can overcome on energy crisis

N = 120

Strategies	Not at all		To some extent		To a great extent	
	F.	%	F.	%	F.	%
By saving energy	9	7.5	32	26.7	79	65.8
Creating awareness among	9	7.5	69	57.5	42	35.0

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people regarding energy conservation						
Government should encourage and promoting to produce energy at low price e.g. like Sitara Textile and Kohinoor Unit	0	0.0	72	60.0	48	40.0
Monitoring system	6	5.0	68	56.7	46	38.3
Grass root level awareness to save energy	19	15.8	74	61.7	27	22.5

Table 5 presents the respondents' perception about how we can over come energy crisis? A majority i.e. 65.8 percent of the respondents had thinking 'to a great extent' and 26.7 percent of them had thinking 'to some extent' that they overcome energy crisis by saving energy, while 7.5 percent of them were never agreed with this opinion.

About one-third i.e. 35.0 percent of the respondents had thinking 'to a great extent' and 57.5 percent of them had thinking 'to some extent' that they overcome energy crisis by creating awareness among people regarding energy conservation, while 7.5 percent of them were never agreed with this opinion.

About 40.0 percent of the respondents had thinking 'to a great extent' and 60.0 percent of them had thinking 'to some extent' that they overcome energy crisis if the Government should encourage and promoting to produce energy at low price e.g. like Sitara Textile and Kohinoor Unit.

More than one-third i.e. 38.3 percent of the respondents had thinking 'to a great extent' and 56.7 percent of them had thinking 'to some extent' that they overcome energy crisis through a good monitoring system, while 5.0 percent of them were never agreed with this opinion.

About 22.5 percent of the respondents had thinking 'to a great extent' and 61.7 percent of them had thinking 'to some extent' that they overcome energy crisis through grass root level awareness, while 15.8 percent of them were never agreed with this opinion

Conclusions

In the light of research finding follow recommendations were suggested to resolve energy crisis in Pakistan. It is suggested that we can solve this problem through the construction of new dams specially Kala Bag Dame. Government should increase the quality of dams. It is suggested that we can solve this problem through better planning and monitoring. Textile owner should produce energy by their own sourced like Sitara Textile and Kohinoor unit in Faisalabad. Textile owner should not deduct the employees and salary due to load shedding. Govt. should developed the energy sector like oil, gas electricity etc. Government should encourage and promoting to produce energy at low price e.g. Like Sitara Textile and Kohinoor unit in Faisalabad. Government should encourage making private power plants to overcome shortage of electricity. Developing and installing biogas, solar, wind and micro and hydro based projects in villages. Providing

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incentives for up gradation and training to the engineers for new technology. We should solve energy crisis problem through creating awareness among people regarding energy conservation. Government should proper utilize of their natural resources e.g., coal and oil resources in Baluchistan and wind resources in Sindh.

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