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Komal Niazi

Guoqiang He

Shakir Ullah

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Lifestyle Change of Female Farmers through CPEC's Coal Power Plant Project Initiative

By Komal Niazi¹, Guoqiang He² and Shakir Ullah³

Abstract

This paper focuses on the impact to women engaged in agriculture in relation to the construction of Sahiwal Coal Power Plant project in Qadirabad, Punjab, Pakistan. The power plant was developed as part of the China-Pakistan Economic Corridor (CPEC) initiative. This plant was built on private [agricultural] lands. This study relies on data collected via a field survey, judgmental sampling, and case study methods. Observations and data collected surface the changing occupational roles of women, who, prior to the development of the coal plant had been employed primarily as agricultural workers. A noted adjustment of female labor to domestic service and tailoring surface not only the occupational impact of the development of the coal powered plant, but also the relationship between the plant's construction and occupational opportunity, lifestyle, status, and social power dynamics as it relates to women.

Keywords: China-Pakistan Economic Corridor (CPEC), Coal power plant, Women's farming life, Developmental actions, Agricultural lands, Pakistan; Qadirabad, Sahiwal

Introduction

This article begins with the history of China-Pakistan relations starting in 1950. Pakistan was among the first country to seek a relationship with the People's Republic of China; however, it took nearly a decade for a diplomatic relationship to emerge (Bhutto & Karim, 2007; Hussain, 2017). In the initial six decades, the connection between Pakistan and China was, for the most part, limited to the political domain. There was a trading relationship between the two countries and trading authorities routinely visited and addressed one another (Hali, Shukui, & Iqbal, 2015). The two nations upheld each other on residential, local, and worldwide issues. The Foreign Offices of

¹ Komal Niazi is completing her PhD at Sun Yat-Sen University, China. She has two Master's degrees, one in Anthropology from Quaid-i-Azam University, Islamabad, Pakistan. Her recent research interests focus on the China-Pakistan Economic Corridor. She can be reached at nazi.komal_Leo@yahoo.com.

² Guoqiang He, professor of anthropology at Sun Yat-sen University and member of the American Anthropology Association, received his doctorate in ethnology from the Department of Anthropology of Sun Yat-sen University in June 1998 and stayed in the school to teach. He was a professor in May 2003 and a doctoral tutor in the same year. The research direction is political anthropology, social and cultural theory and regional culture. He has been engaged in field work for a long time and has visited the United States twice for academic exchanges (17 months in total). In the past 15 years, he has been supported by academic and publishing funds for many times. He has edited two series of books (Ethnic Groups in Southeast Gantiana and Ethnic Diversity Research on the Eastern Margin of Qinghai-Tibet Plateau) with a total of 20 books (5.5 million words). He has also published 6 monographs and 9 translations, with a total of more than 60 investigation reports, papers and translations. Email id frank_ghq@hotmail.com.

³ Shakir Ullah, a PhD scholar in the department of Anthropology Sun Yat-sen university. His area of interest is Political Anthropology. He is currently doing is doctoral research on the living conditions of Gwadar fishermen through the perspective of political ecology.

the two nations were coordinated, which brought about a total concordance on worldwide undertakings. There were established reciprocities, and numerous memoranda of understanding (MoUs) were marked between the two nations (Anwar, Khan, & Sarwar, 2017). With the launch of the ‘One Belt One Road’ (OBOR) initiative and the signing of the China-Pakistan Economic Corridor (CPEC), Pakistan and China entered a new era in their relationship. The Sahiwal Coal Power Plant is 1320-megawatt (MW) coal plant located in Qadirabad, Sahiwal, Pakistan and its construction is a result of CPEC.

The Punjab government and China Western Power Company marked an update of comprehension (MoU) to set up two 660 MW coal plants in Sahiwal in November 2013 (A. U. Khan, 2014). At the time, it was declared that the Sahiwal Coal Power Plant would be among the projects included in the China-Pakistan Economic Corridor (Haider, 2015). The coal powered plant’s construction started in June 2015. Unit 1 of the coal powered plant became operable in May 2017 and Unit 2 was finished in June 2017.

Photo 1: Sahiwal Coal Power Plant



Source: Captured by researchers in 2017 during fieldwork⁴

Energy and Growth

Energy is a significant driver of economic progress. As an integral input of the production process, the ability of a country to produce energy is significantly tied to observable Gross Domestic Product (GDP). Given the global acceptance of GDP and its intertemporal growth as an indicator of economic progress, economic development programs typically include development of energy infrastructure. This forms the basis and rationale for CPEC energy projects (Ali,

⁴ See in Appendix, Notes a

Rasheed, Muhammad, & Yousaf, 2018). This paper assesses the impact of the CPEC energy projects from a holistic perspective. The discussion assumes as understood, the anticipated gains from the energy projects (Asif, 2012; Harijan, Uqaili, & Memon) and focuses on the costs in terms of occupation and quality of life, specifically as these aspects impact the rural women living and employed in the vicinity of the power plant (M. A. Khan & Ahmad, 2008). These costs were not evaluated in the decision-making process of project development and deployment, and arguably, the costs to society may be sufficiently high enough to prompt a reassessment of the cost to benefit of initiatives targeted to economic progress.

Background

Prior to CPEC, women in the workforce in Qadirabad, Sahiwal, Pakistan were primarily employed in the agricultural sector. Following the development of the plant, they faced many issues including occupational displacement and marginalization of familial cohesion. Schoeffel *et al* (2018) observed that provincial women in Liberia have the burden of both paid and unpaid labor. Specific to the latter, women have the obligation of securing sustenance, water, and fuel for their family (Schoeffel, Boodoosingh, & Percival, 2018). Women directly face issues that relate to the ability to secure employment and provide the basic elements of the home. Changes in sectoral employment and environmental conditions, which include: economic resources, cultural and social losses, natural resource depletion, loss of intimate sociality, and internal social disorganization, can therefore affect their familial responsibilities and the outcomes observed by their families. The findings of the research of the present study conclude that the development of the Qadirabad, Sahiwal, Pakistan coal powered plant, though initiated with community meetings and scientific reports failed to consider community needs and challenges including existing high levels of poverty, impact on plant development on agricultural livelihood, depletion of resources by previous projects, and potential for social disorganization. In other words, the impact of employment and familial disruption was not factored into the costs of the development of the plant, only the market-based contributions to GDP were given a value in cost-benefit assessment.

Research Question

The discussion that follows is based on an ethnographic study specific to the Qadirabad district Sahiwal, Punjab, Pakistan. At the micro level, the area was selected due to its proximity to the Sahiwal Coal Power Plant under the CPEC Project. This plant has been in operation since May 2017. The subjects of the study were women who had been employed in agriculture prior to the development of the plant.

The cohesiveness of the community in the region is owed to the occasional confrontations that its women have initiated concerning retention of rights to values and norms. As shown in this study, the issues surfaced orbit around several elements.

- the non-consideration of citizenship rights of women and inclusion of women in regulatory discussion; and
- the impact to farming sites by development projects, and restricting farmers and women's access to these lands.

These elements have had a direct and adverse financial impact on residents and have created significant concerns within the local community resulting from a perceived loss of identity, lack of inclusion in the development projects, persistent loss of physical space, unfulfilled promises by the government, and the minute compensation for their losses (including sociocultural losses). Because of the project, the local community appears to be constantly contesting the government for resource availability to ensure a sustainable livelihood.

Methodology

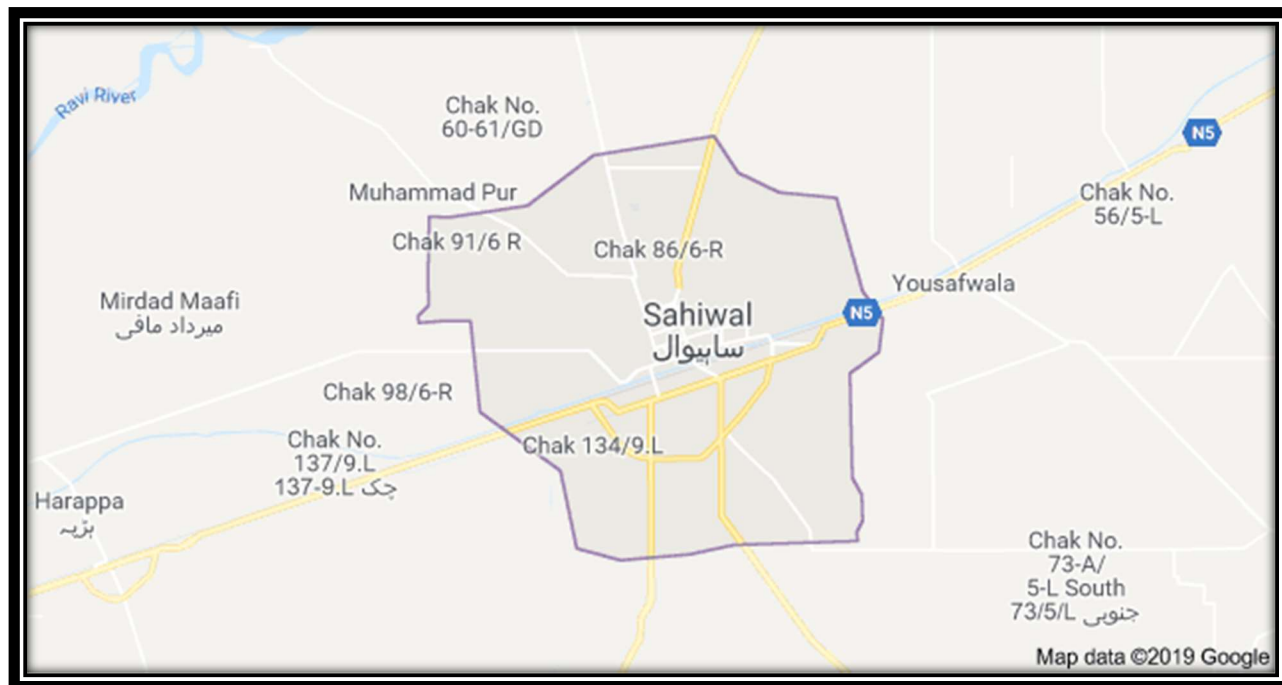
Qualitative and quantitative methods were used to analyze the data, which was collected in 2017. The study was conducted in Qadirabad community, the district Sahiwal of Punjab Province of Pakistan. Two small *chaks* (small community) were selected for this purpose. Sample respondents of 60 women were selected from the two *chaks* located in close proximity to Sahiwal Coal Power Plant. The data was gathered using questionnaires and an interview method was used to get the actual narrations and data from the women. The study also included in-depth interviews, focus group discussion and case studies methods. Included in the in-depth interviews were questions on changes in women's socio-economic role and change in women's socio-economic status. Focus group discussions were carried out to ascertain the changes in status and role of women after the construction of Sahiwal Coal Power Plant. Case studies are provided to determine long-term strategies to increase the families' income, increase job opportunities in the area and enhance sense of community.

Table 1: A Total of 60 Respondents Were Sampled to Study According to Age to Describe Women' Farmers Lives

<i>Age group</i>	<i>Respondents</i>	<i>Percentage%</i>
20-30	16	26.6%
31-40	14	23.3%
41-50	20	33.3%
51-60	10	16.6%
<i>Total</i>	60	100%

Source: Author's field data 2017

Figure 1: Sahiwal Google Map⁵



Farming in Pakistan

Farming is the foundation of the rural economy in Pakistan. Women have been involved in agriculture for a significant time and have work with male counterparts and family members for income (Sarma, Baruah, & Bordoloi, 2014). However, it is the social, economic and cultural state of an area that determines the level of female participation and the proportion of time devoted to agricultural labor and tending to the home (Berry, 2015). Additionally, and related, agricultural work does provide both employment opportunities and monetary returns, which in turn can impact social status (Akram-Lodhi, 2008; Alam, 2012; Kabeer, 2016)

Boserup noted that role of women in productive agricultural activities was important relative to the betterment of their economic state. She stated women are important for economic developmental activities, but unfortunately developmental projects tend to neglect the value of female labor force participation. Observational proof demonstrates that women in Guatemala, Kenya and other African nations have benefitted from agricultural sector participation (Boserup, Tan, & Toulmin, 2013). Mohamed notes that women provide fundamental elements to rural and rustic economies; however, their participation is changing quickly in numerous parts of the world, where monetary and social powers are marginalizing agricultural opportunities (Mohamed, 2016). Women in rural areas are a significant component of society (Artazcoz, Borrell, Benach, Cortes, & Rohlfs, 2004). They are responsible for managing households and supplementing household income with outside employment. Women are especially significant in agricultural aspects of the labor force and in the preparation food, gathering fuel and water, as well as, looking after family members and keeping up their homes (Anríquez, 2010). Given the multiple roles women play,

⁵<https://www.google.com/search?q=sahiwal+google+map&oq=sahiwal+google+map&aqs=chrome.69i57j0l5.6907j0j8&sourceid=chrome&ie=UTF-8>

there is a relationship between female participation rates in agriculture and crop yield (Dixon, Gibbon, & Gulliver, 2001).

Lifestyle Change of Women Farmers

Families are very important with respect to both social and economic conditions. In family relationships, women are considered to have a significant role in maintaining familial stability and health. Additionally, women affect the economic and social status of their families through working to create monetized products outside the home (Davidoff & Hall, 2013). However, the status of women is relative to the man with whom they are associated and the land rights that are then attributed to him (Goody, 1976). For women, agricultural labor is one of a few work opportunities and the benefits of work are not only in the form of creation of marketable and home use products, which assist the male of their affiliation, but also social status (Beneria & Sen, 1986).

Female workers are totally contented with their role in raising livestock⁶ and from interviews it is noted that farming also provides a peace of mind.

Amina, one of the women surveyed in the current study, noted,

“It is beautiful to see women get empowered through working together with other women. I truly love raising livestock and it makes me happy seeing women being a part of it. This is such an inspiration and a new positive way of thinking that our mothers are doing. As a proud young Pakistani, I know that I can still go back home and do something useful with the rich and fertile land that the Lord has blessed me and my father and my fore fathers. If I can’t succeed in school or earning a career, then I got nothing to lose I’ve still got my land waiting for me to go and invest. I do not think that foreign investment project gives any development opportunity to improve our earning in the field of livestock, but we hope if it was possible we must take benefit of the recent developments for our earnings.”⁷

Another respondent, Nasira shared,

“If I am provided with facilities I would raise thousands of the animals to encourage the women of my society beside a bulk of earning. If I was supported by the government I would be able to bring a revolution in the field of livestock because I have a lot of experience in raising livestock for milking purpose, I have limited earnings due to limited resources. I do not know what the CPEC is and what support it can provide us, however we are hopeful about the new developments which may provide us chances to improve our products better,”

As is clear from the comments, the women expressed optimism with respect to the benefits they expected to derive from development.^{8,9}

⁶ See in Appendix, Question 1

⁷ See in Appendix, Question 2

⁸ See in Appendix, Question 3

⁹ See in Appendix, Question 4

Occupational Change

It is important to note that context plays a significant role with respect to a woman's rewards from her labor. In Asian countries, there are some traditional views about women's roles and status in society (Beneria & Sen, 1986; Eisen, 1978; Hi, 1977). Rural areas are dominated by traditional values and social norms (Garcia-Ellin, 2012). Though economic status depends upon how much is earned, social status may not, and it therefore is not necessarily affiliated with economic status. The status of rural women is tied to how much respect and power they have in their household decisions, and this is directly related to the ownership of the land being used for agriculture. If the land being cultivated is familial and the woman of the household is a decision-maker, her status in society increases positively with her power over household decision-making (Rosaldo, 1974; Sanday, 1974). Yet, it is important to note that overall, the role of rural women is constrained by their household duties. While they work and may have decision-making authority in the home, it is the male of affiliation that goes to market, sells products, and makes outside purchases.

During the last 5 years, social and economic development in the village of Qadirabad has been negatively impacted by the development of the Sahiwal Coal Power Plant. With the development of the project, agricultural lands were lessened, and agricultural production of this area declined. The project did not have jobs allocated to women and no women were employed, causing unemployment in the area to increase and household income to decrease. As a result of the power plant project, women have had to work as domestic servants and in other low wage capacities such as tailoring.¹⁰ This is consistent with other studies that have noted that the "trickle down" theory of development through modernization (Rogers, 1980) has had a negative impact on the status of women (Loutfi, 2001; Mengesha, 1990; Nelson, 2013). The shift in women's occupational opportunities has created a change in social dynamics. Women are no longer able to have security with respect to maintaining nutritional sustainability and basic livelihoods.

Table 2: Occupational Change¹¹

<i>Occupational change</i>	<i>Before the construction of plant</i>		<i>After the construction of Plant</i>	
	Respondents	Percentage	Respondents	Percentage
<i>Dairy cattle breeding</i>	40	66.6%	10	16.6%
<i>Maids</i>	0	0%	25	41.6
<i>Tailoring</i>	6	10%	22	36.6
<i>Farming</i>	14	23.3%	3	5%
<i>Total</i>	60	100%	60	100%

Source: Author's field data 2017

Table 2 provides an occupational break-down of female employment. Before the construction of Sahiwal power plant, 66.6% women were involved in dairy cattle breeding. This area was famous for the Zebu cattle breed. They kept their cattle on the agricultural lands and fed them through lands. After the construction of the plant female participation in agriculture decreased to 16.6%. The change is attributable to the sales of land; there was no space to feed and place animals.

¹⁰ See in Appendix, Question 5,6,7,9,10

¹¹ See in Appendix, Question 8

Before the construction of the plant, women were not working as maids in the homes, located in a city nearby their villages. Their income resource was dairy cattle and farming. After the construction women were working as maids. The plant's construction directly influenced their social status and integrity. Before the construction of plant 10% women were involved in tailoring. These women stitched suits for the women, but most of their family members. But after the construction of plant their dairy cattle income reduced, so they stitched suits for others to earn money. This ratio was 36.6%. 23.3% women were working with their male partners in planting and harvesting rice, wheat, and maize. When they sold their lands to government, it reached only 5% women who helped t males, who has some land.

Table 3: Level of Satisfaction

<i>Satisfaction level</i>	<i>After the construction of plant</i>	
	Respondents	Percentage
<i>Satisfied</i>	10	16.6%
<i>Dis-satisfied</i>	35	58.3%
<i>Normal</i>	15	25%
<i>Total</i>	60	100%

Source: Authors field data 2017

Table 3 provides sentiment data. Only 16.6% women were satisfied with new development of plant. And these results were likely due to the benefits derived in their partner's improvement in employment. 58.3% women were not satisfied because their income patterns decreased, and this development affect their social and economic life. Only 25% women said, their condition remained unchanged.

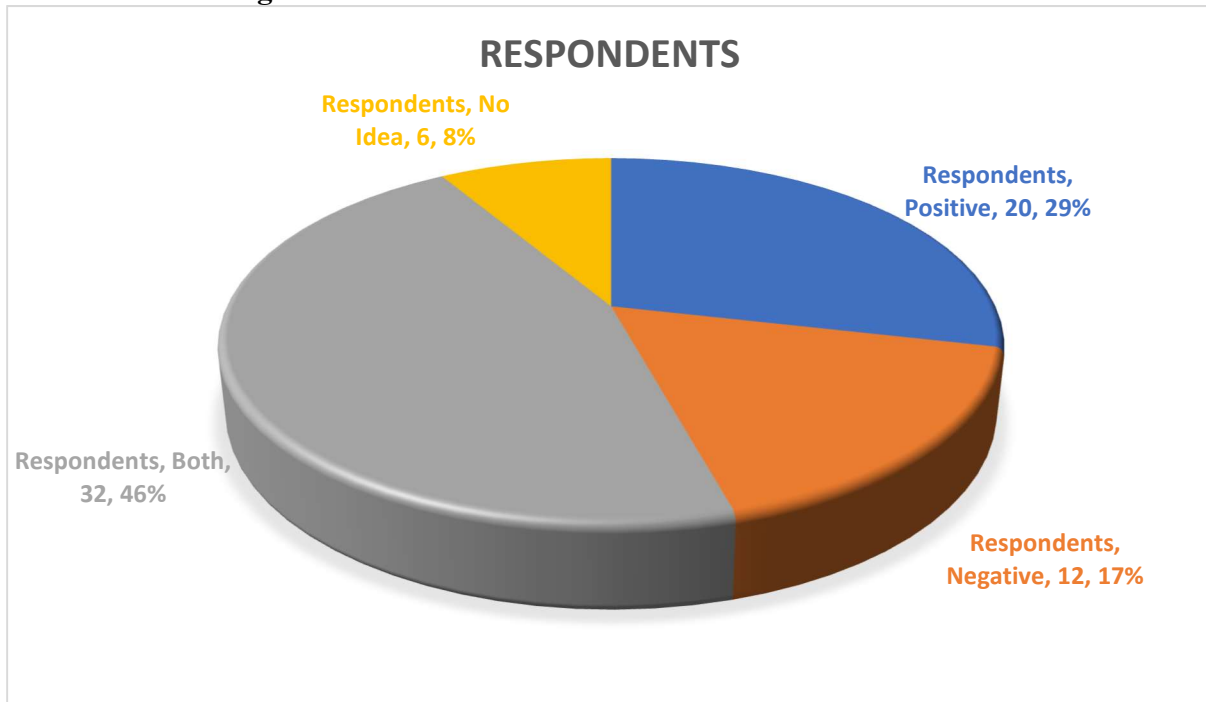
Table 4: Women's Earnings

<i>Period</i>	<i>Positive</i>		<i>Negative</i>		<i>Same</i>	
	Respondents	Percentage	Respondents	Percentage	Respondents	Percentage
<i>Before the construction of plant</i>	52	86.6%	8	13.3%		
<i>After the construction of plant</i>	7	7.6%	47	47.6%	6	40%

Source: Author's field data 2017

Table 4 provides qualitative data related to earnings impact post plant construction. Before the construction of plant 86.6% women noted a positive perspective toward their income, only 13.3% women claimed their income level was not appropriate. After the construction of plant, the female's negative perception decreased to 7.6%. 47.6% women noted feeling their status had declined, and 40 % women noted no change same income.

Figure 1: Women's Attitudes towards the Power Plant¹²



Source: Author's field data 2017

¹² See in Appendix, Notes b

Photo 2: Researchers photographed during field work in 2017¹³



Conclusion

In developing countries such as Pakistan, agriculture plays very important role. The participation of female farmers who are working in agricultural lands is very high. As this study notes, the social and economic status of women is tied to the land. The social status of women is very important as it represents household status in the family and in rural social circle. Industrialization always affects the status and role of women in villages and it brings overall changes in the structure of society as whole. In this case, the Sahiwal Coal Power Plant was built on agriculture land without an assessment of the impact to the people inhabiting the area. The outcome of the power plant's construction has been increased energy but also entire displacement of the population of people that originally lived in its present vicinity. The net result has been the outmigration of this population, break-up of the family structure as men have migrated to urban areas in search of work and women have found residential domestic work or tailoring work in the same urban environments.

The modernization of one aspect of society has been at the cost of an elimination of a community. This paper discusses only one social dissolution; however, there are many more. The question that then surfaces is whether the true costs of modernization are being evaluated in the decision-making process or if projects such as the Sahiwal Coal Power Plant are short-sighted or only focused on macroeconomic outcomes. This discussion surfaces the need to evaluate the role of progress, its intent and the social, and environmental justice implications that need to be both recognized and assessed as part of the cost and benefit of the attainment of economic growth.

¹³ See in Appendix, Notes c

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Compliance with Ethical Standards

Conflict of interest

The authors declare that they have no conflict of interest.

Informed Consent

Informed consent was obtained from all individual participants included in the study.

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Appendix

Questions

- 1- What is the importance of livestock in the female's live?
- 2- How livestock is important for women social and economic life?
- 3- How does development impact on their livestock?
- 4- Which type of facilities they want increase their livestock business?
- 5- Define socio-economic impact of Sahiwal coal power plant on community?
- 6- Which causes brought un-employment in area?
- 7- Why they lost their agricultural lands?
- 8- Describe occupations, that have changed after construction of coal power plant?
- 9- How women maintain their livelihoods after the development project?
- 10- This project brought sustainable development for the women?

Notes

- a- This is picture of Sahiwal coal power plant, which was built on the agricultural land.
- b- This information was taken during data collection at my locale. This provides the respondents' response toward the development in statistical form.
- c- This picture was taken in field work as women were milking their cows. They were happy to be milking and shared many stories about her business, before the construction of plant.