

**RESEARCH PAPER****Ecological Exploitation in the Thar Desert: A Theoretical Analysis of the Thar Coal Project****Asad Raza Talpur**

Lecturer, Pakistan Studies, Department of Mathematics & Social Sciences, Sukkur, IBA University, Sukkur, Sindh Pakistan

***Corresponding Author**

asad.talpur@iba-suk.edu.pk

ABSTRACT

The objectives of this study, is examined what are the ecological implications of this project through the theoretical study to find out view of Marxism, and its impact on land, water, atmosphere, and the local people. The environmental degradation caused by the coal excavation and the combustion process, emphasizing the connection between environmental destruction and capitalist accumulation, arguing that resource extraction prioritizes profit over ecological sustainability and social well-being. Employing a mixed-method approach, this study combines qualitative interviews with residents and quantitative data analysis of environmental impact assessments. Thematic analysis of interview data sheds light on community perceptions and experiences, while environmental data provides insights into the project's ecological footprint. The analysis suggests the project exacerbates existing inequalities and environmental vulnerabilities in Tharparkar. This aligns with Marx's notion of primitive accumulation, where capitalist development often relies on the exploitation of resources and labor in peripheral regions. Through a Marxist lens, the Thar Coal Project emerges as a stark illustration of the ecological contradictions inherent in capitalist development. While promising economic growth, it risks perpetuating environmental inequalities and social injustices, further marginalizing vulnerable communities. This study calls for a critical reevaluation of the project's true costs and a shift towards sustainable and equitable development models that prioritize ecological well-being and social justice.

Keywords: Ecology, Economy, Injustice, Thar Coal**Introduction**

Thar is a desert area located south-east of Sindh bordering with Indian Gujarat Province, it has been ignored by the state in terms of material and human development since the formation of Pakistan. However, various government and non-government studies have estimated that 175 billion tons of coal have been found in Thar that can sustain the energy needs of for Pakistan more or less than 400 years to come, only the hurdle was about mining it (Lieven, 2012). It has become an important player in the energy sector now as the Chinese and Pakistani private corporations are collaborating to execute the project.

Most of the population in Tharparkar district is of the rural sector where there are more than 200 villages. The headquarters of the district Tharparkar is Mithi. The language spoken is Thari Datki which is a regional language of Rajasthan which is porously divided between India and Pakistan; also Sindhi and Urdu are spoken. Hindus and Muslims both lived in religious harmony in Tharparkar since the independence of Pakistan which was based on religious lines under the two-nation theory of 1940. Thar has hitherto shown a model of amicable ambiance that both religions can coexist in one land.

Unfortunately due to the negligence of the state and its irresponsible response towards Thar was remained underdeveloped and unprivileged, the news from this desert region for the last many years has been all about drought, deaths due to malnutrition, rare bird peacocks deaths, starvation livestock deaths, etc (Malik, 2015). These are grave news

that mostly came from the resource-rich area which has now become a pivotal player in energy mitigation of the country. The Desert mostly depends on rain, which turns it into lush green pasture lands and unrecognizable beauty. The erratic tendency of rain is increasing due to climate change which will further worsen the situation in the coming days exposing the local population in the desert (Samoon, 2017) .

People of Thar are a very diverse population albeit having an abject poverty crime rate and radical dogmas are absent. Living in the desert for centuries with facing all these above-mentioned calamities shows their tolerance and resilience. Water is a precious resource for the people mostly living a substance life. Migrating from their land during ruthless natural famines is not an option for the people to urban centers where all amenities of life are available but at least basic facilities like health and water.

The love of the land is embedded within the Thari people and is ingrained and given in inheritance while cemented by the folklores of Marvi who rejected the lavish life over its land and people. The land issues are being erected and challenged due to the presence of cheaper fossil fuel in the form of coal which needs excavation but before that is the question of land where people have been living for centuries. The economic necessities of locals are mostly carried out by rain-fed agriculture, livestock, and creative handicrafts. Needs are mostly taken care of within the local villages by barter or kind, recently monetization is being done there also due to many reasons. The new coal project is going to create a new labor market that will change the earlier economic structure of the people of Thar.

The energy crisis in Pakistan has caused many problems in recent years, especially from 2008 to 2018, new dams have not been built, the major supply is from costly imported fossil fuels (oil & gas) and there has been no sign of an alternative to such type of energy consumption. The country has the potential for wind and solar energy; some options are availed but not much focus is being paid.

Past governments couldn't increase the capacity of the energy sector in the country; also, Musharraf's military regime which had no political hurdles also couldn't do anything for the energy sector. The shortfall in the country is too much resulting in an effect of economic decline and unrest in the country. In 2012 there were massive riots mostly in Punjab where much of the industry small and medium scale is located. (Zaidi, 2017). To meet the energy demand coal is being excavated for the new power plants under the Thar coal project. Some experts believe that Pakistan has one of the largest, barely untouched, single coal reserves on the planet that is of extremely high water-content, low-energy coal, although it is considered to be uneconomical to exploit (Zaidi, 2017).

China-Pakistan Economic Corridor (CPEC) is considered a game changer for Pakistan as some say it's a cure for all ills. Initially, it was \$46 billion but has gradually increased to \$62 billion that are being pumped into many diverse sectors but mostly focusing on physical and energy infrastructure. One of the many projects within the ambit of CPEC is the excavation of coal in Thar. This project is being carried out with a cost of \$2 billion, funded and executed by private corporations and the government of Pakistan.

The developed world is moving from coal-fired energy plants to more environmentally friendly energy use, this has sparked a debate within the developing countries that once the developed countries reached a stage by burning coal or cheap energy fuel and now it's politics that is being played to stop developing countries to use cheap energy forms to develop at a faster pace. China is one of the biggest consumers of coal also an emitter of dangerous gasses and is currently involved in a coal mining project not only in Pakistan but also in African countries (Jacques, 2009).

Now that Pakistan needs to compete within the region and achieve maximum economic growth it must get to the cheapest form of available commodities and Thar coal is

one of the many tools to get it. Economic growth is necessary for poverty alleviation and development, economics once covert has now become an overt necessity of nations as a national element of power.

Development in the Neoliberal era has proved as a source of creating a very rich class that is very limited in quantity and more people deprived of their basic rights, states have fallen into massive debts and structural adjustment programs have been imposed on them. Repayments of these state-acquired debts are being paid to the people who have not benefited from the loans in any way. The *Confessions of an Economic Hit Man* by John Perkins published in 2016, is the story of how the debt has shaped the world increased the wealth of very few people, and enhanced the power of financial institutions with the backing of some states mainly the USA.

People want and desire development, but it must be seen in terms of the cost of the development is being done. Today because of globalization there are no alternatives to the development of one sort. One sort here means the capitalist sort of development and there is no alternative mantra. The nature of doing business is to achieve maximum profit, which can be achieved by any means and tools but most of the time as history shows it has been the form of exploitation and oppression.

Thar coal project is being done with the cooperation of Chinese capital under the CPEC philosophy. The energy sector will have a low-cost supply after the smooth functioning of mining to the burning of coal. But there are important questions that need to be answered for clarity about the vision that Pakistan has for its population and the future of the country.

While the world is moving to renewable forms of energy, Pakistan is opting for the worst form of fossil fuel just to decrease production costs that will eventually raise the environmental cost for many years to come.

Coal mining pits are generally believed to create immense air pollution and destroy trees nearby in the land. The question of land is also being invoked as who is going to get what under the laws of the Land Acquisition Act in Pakistan. Many people will be dispossessed of their land where they have lived for centuries while not being updated on the government's land database. The common land for pasture purposes (Gowchar) or collective property of the community is being taken away by the collaboration of private corporations and state authorities.

Considered as a desert where future growth perspective seemed to be bleak people had less motivation for registrations but now that is becoming a problem. A speculative real estate market and land acquisition for the coal project with its waste disposal is making people relocate (Hasan, 2017) It can be seen in picture I, II, III & IV show the Geo-Political Map of Pakistan in Picture II we can see the Location of Thar desert in Sindh and Picture III shows the Coal mines in Thar.



Figure 1 Geopolitical map of Pakistan



Figure 2 Location of Tharparkar in Sindh Province

On the other hand, one can see the location of coal blocks in Picture III

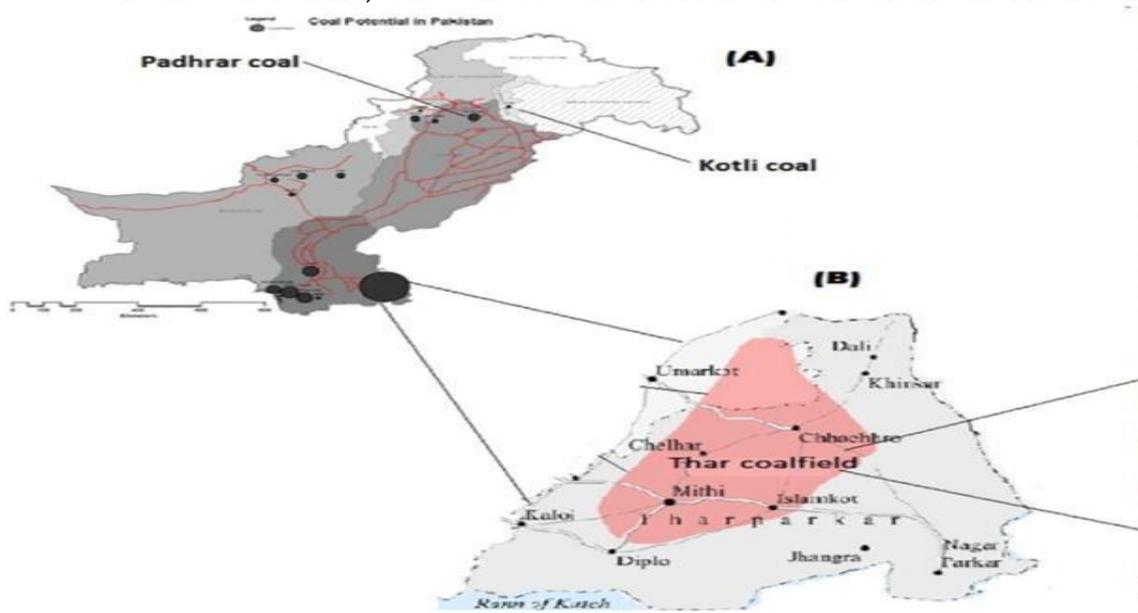


Figure 3 Map and location fo coal mines in Tharparkar

Literature Review

Pakistan is witnessing an energy crisis and there is a greater shortfall of electricity **and** growing fuel prices. This a hope of fulfilling the energy crisis in the name of the Thar Coal project (Syed et al., 2014), where tons of coal for many years can fulfill the energy needs of the country and economic stability. Apart from economic growth and energy, there is also a question raised that is serious nature either the people of Thar will be economically benefited and what about the environment (Aslam et al., 2018). In this review of existing literature, researchers delve into research on the project with a focus on its environmental consequences, from a Marxist perspective. The study shed light on concerns related to exploitation and the commodification of resources.

Environmental Degradation and Resource Extraction

Several studies have documented the project's potential for environmental degradation, warning of increased desertification, water scarcity, and air pollution due to mining activities and coal-fired power plants (Abas et al., 2017). They argue these impacts disproportionately affect vulnerable communities residing near the project, echoing Marx's critique of how resource extraction prioritizes profit over ecological well-being and social justice (Ajl, 2023).

Fossil Fuel Dependence and Capitalist Accumulation

Fossil fuels are the cheapest source of energy in any country of the world. The number of projects that rely on and are connected with Marx's analysis of "primitive accumulation" (Graham, 2020) Arrighi & Piselli argue that such projects often involve the exploitation of resources and labor in peripheral regions, benefiting the capitalist class at the expense of local communities (Arrighi & Piselli, 1987). This perspective resonates with concerns surrounding the project's potential to dispossess local communities of their land and livelihoods, furthering existing inequalities.

Social Inequities and Environmental Justice

Several scholars are of the view that there will be social, political, environmental, and economic injustice among the people of Thar especially where the project exists even if it will affect the demography of locals and there will be a low literacy rate of women are less or not educated how they are affected and no any point of view of indigenous women is added (Makki et al., 2014). This aligns with Marxist feminist critiques of how capitalism exacerbates gender inequalities and exploits marginalized communities, particularly in resource-extraction contexts (Simons & Handl, 2019).

Alternative Development Models and Sustainable Futures

The number of projects on renewable energy is there and Due to concerns, now the focus is to think of alternative models to propose a "just transition" framework that prioritizes ecological sustainability, community engagement, and equal distribution among them (Sen & Ganguly, 2017). This aligns with Marx's call for a more equitable society where resource extraction is not driven by profit maximization but serves the needs of the wider community (Budd & Bhave, 2008). The available literature has complexity on TCP with potential benefits alongside there are significant environmental and social risks in the project. Marxism highlights concerns about resource commodification, primitive accumulation, and social inequities (Gonçalves & Costa, 2020). While acknowledging the potential for economic growth, the review underscores the need for alternative development models that prioritize ecological sustainability, social justice, and community well-being. As the project progresses, further research is crucial to ensure its environmental and social impacts are minimized and benefits are distributed equitably.

Material and Methods

Mixed Method Approach

In this study, the researcher applied a mixed method approach to find out the facts from the grassroots level and accurate issues of the people of Thar (Abro et al., 2021) and the people who are directly affected by the project on hand government is of view that the project will be a milestone for Pakistan and locals, to find out the economic and Social implications of the project this method is applied.

Qualitative Data Collection

- **Community Interviews:** Conducted the interviews with locals and the people who were directly affected by the project, including the marginalized communities and the groups to understand the real on-ground situation.
- **Participant Observation:** Engaging in field observation at mining sites, power plants, and affected communities to gain firsthand insights into the project's social and environmental impacts.
- **Document Analysis:** Analyzing government reports, environmental impact assessments, and project documents to assess official claims and identify potential discrepancies between rhetoric and reality.

Quantitative Data Analysis

- **Environmental Data Analysis:** Utilizing existing data on air and water quality, land use changes, and desertification patterns to quantify the project's environmental footprint and assess its compliance with environmental regulations.
- **Socio-economic Data Analysis:** Review data on population displacement, livelihood changes, and income distribution to assess the project's social impacts and identify potential inequalities in benefit distribution.

Theoretical Framework

- **Marxist Analysis:** The first motive is to gain economic profit from the project. In the long term there will be a violation of basic human rights in terms of resource benefits for natives and ecological disorder in the region and severe health issues may occur. Social injustices with marginalized communities(Wasim et al., 2008).
- **Environmental Justice Framework:** Utilizing environmental justice principles to assess the project's disadvantages or the impact on people, especially the marginalized groups, and advocate for their benefits and burdens.

Data Integration and Interpretation

- **Triangulation:** Cross-referencing findings from different data sources, both quantitative and qualitative, to enhance the validity and reliability of the analysis.
- **Thematic Analysis:** To identify, recurring themes and patterns within the data to find out and understand the impact of the project according to Marx and its environmental justice Perspectives
- **Critical Discourse Analysis:** The official reports the public analysis and social media reports
- **This mixed-method approach:** This will ensure a comprehensive and nuanced understanding of the complex relationship between the Project and its ecological and social implications, and the underlying economic and power structures exposed by Marx school.

Results and Discussion

The present study on the TCP(Thar Coal Project) under the Marx School of thought is a complex Picture the project promises economic prosperity in the Region and Sindh, on

the other side project seems social injustice and environmental exploitation in that regard here are some key points

Environmental Degradation:

- Air and water quality: Researchers found that due to coal mining are number of health issues increased in terms of air pollution and respiratory diseases and the water discharge also affected the ecosystem (Shah et al., 2016).
- Land use and desertification: Extensive land acquisition for mining and infrastructure development has resulted in habitat loss and disrupted traditional land-use practices. Field observations confirmed concerns about desertification, with the project potentially exacerbating existing arid conditions.
- Biodiversity loss: The project's footprint threatens the fragile ecosystem of the Thar Desert, impacting diverse plant and animal species. Interviews with communities highlighted concerns about declining wildlife populations and disruptions to traditional ecological relationships.

Social and Economic Impacts

The deserted area had no economic resources and only limited agro-based income is the only source due to land acquisition larger number of people were displaced and their migration created economic hardships for the people in the region little compensation was made by the government which was not enough to fill the needs of life. This also affected their cultural values. Social inequalities: Our analysis highlighted how the project exacerbates existing social inequalities. Women and marginalized groups, including indigenous populations, are disproportionately affected by environmental degradation, displacement, and limited access to benefits.

- Power dynamics and community engagement: Interviews and document analysis revealed that there was no transparency and meaningful community engagement in the project planning and decision-making processes. (Anderson, 2013). This lack of inclusivity fuels tensions and mistrust between communities and project developers, hindering the possibility of equitable development.

Alignment with Marxist Theory

- Resource commodification: The project treats land, water, and air as commodities to be extracted for profit, disregarding their ecological and cultural values for local communities.
- Primitive accumulation: The project enriches corporations and the urban elite at the expense of local communities and the environment, mimicking Marx's notion of primitive accumulation (De Angelis, 2001).
- Social inequalities: The project exacerbates existing inequalities, disproportionately impacting marginalized groups and contributing to a widening gap between the wealthy and the poor.

Conclusion

After an in-depth study of a given topic and the social political economic and environmental analysis, the Thar coal project brings dynamic change for the people of Tharparkar on the other hand if any mishandling is done the basis of neglecting the local people and market then Thar Coal Project pledges to bring about progress and development,

its execution poses a substantial risk of perpetuating environmental exploitation and social injustices. This is exactly what Marx meant by the negative side effects of capitalist development, in which profit from resource extraction can take priority over broader human well-being and exacerbate existing inequity. To go forward we must look for new roads ahead, which focus on sustainable development and encourage local participation, while still fairly dividing the spoils. Only by accepting the hidden costs of such a project and taking actions towards justice and sustainability, can we aim at having an environment where Thar Desert continues to support energy needs not forgetting the welfare of its inhabitants alongside environmental conservation. The mirage of progress, through the Thar Coal Project, glimmers over the barrenness promising energy independence but veiling a stark truth: an ecologically degraded and socially unfair landscape. Under a Marxist lens, this project is not rightly regarded as an island of development, but rather the most representative example ever of resource commodification and primitive accumulation. The desert's breath is choked by coal dust; its spirit poisoned by emissions causes it to echo painfully for dispossessed communities everywhere. Environmental devastation crushes livelihoods, shatters cultures, and burdens the weak. Originally a story of a progress run wild, it turns out to be the bitter revelation that when capital trumps well-being, lands are denuded and societies devastated. From this ruined underworld, however, Resource Website Another China comes tiny shoots of hope. Sustainable, just development and community participation provide a route to another future. But a future where the Thar Desert will bloom not with such empty promises of fossil fuels, but with fruits from a just and fair society. It is the question of choice whether to carry on in a plunderous path, or break new ground and adopt one that makes the great desert's mute not a cry from within torment but like painting space. A better world can be created there for everyone to enjoy together. The time to act is now, while the mirage of progress has yet to swallow up all flesh and bone with its jaws.

Recommendations

This article is about the Thar Coal Project. It talks about how the project promises to bring development but in the end, it causes social injustices and ecological damage. Nonetheless, within the desert, there are still some hopeful signs. For a larger society that is just and sustainable in the future:

Prioritize Ecological Sustainability

- Shift away from fossil fuels: Invest in renewable energy sources like solar and wind to reduce dependence on coal and minimize environmental damage.
- Implement strict environmental regulations: Enforce rigorous pollution control measures and land reclamation practices to mitigate the project's ecological footprint.
- Promote ecological restoration: Invest in reforestation programs and sustainable land-use practices to combat desertification and protect biodiversity.

Uphold Social Justice

- Ensure meaningful community engagement: Prioritize transparent and inclusive decision-making processes that empower communities to shape the project's development.
- Address displacement and livelihoods: Provide adequate compensation and support for communities displaced by the project, facilitating alternative livelihoods and fostering economic diversification.

- Empower marginalized groups: Advocate for the rights and concerns of women, indigenous populations, and other marginalized communities, ensuring equitable distribution of benefits and burdens.

Transparency and Accountability

In every matter, there should be proper accountability for basic indigenous rights to the environment and birds and animals as the area is already neglected.

Hold project developers accountable

Environment protection agencies and world agencies may regulate through mechanisms to monitor compliance with environmental regulations and social justice principles, ensuring accountability for negative impacts.

Share knowledge and best practices

Foster collaboration and knowledge sharing among communities, NGOs, and policymakers to develop sustainable and equitable development models for arid regions. By prioritizing ecological sustainability, upholding social justice, and promoting transparency, we can navigate beyond the mirage of the Thar Coal Project and pave the way for a future where the desert thrives not just for energy extraction, but for the well-being of its people and the environment.

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