

Earning Livelihood and Living Conditions Impact of Daily Wages Coal Mine Workers as Temporary Migrants: A Case Study of Erst while FATA Region Pre and Post Covid-19 Era

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Abstract

This study aimed to investigate the earning and living conditions impact of daily wages coal mine workers working as temporary migrants in erstwhile FATA region Pre and Post Covid-19 era. The major objective was to find out the socio-economic and financial condition of these temporary migrants in erstwhile FATA region and their accessibility to health and safety facilities. The study was carried out by adopting qualitative research approach with a Case Study strategy. The data was collected from 200 participants (coal mine workers) through in-depth interviews. Qualitative data was then analyzed through thematic analysis technique by following Six-Steps Technique outlined by Braun and Clarke (2006). The findings of the data revealed that multiple elements of earning and living conditions impacts of daily wages coal mine workers and migrants such as: housing, sanitation, working environment and health and safety facilities in the coal fields of erstwhile FATA region. The results further revealed that these dimensions of coal mine workers were not satisfactory. In addition, the availability of clean drinking water and enough water for other cleaning purposes, unsatisfactory housing, toilet facilities, low quality and lack of proper food and diseases caused by an unhygienic environment. Coal workers complained of unfair attitudes of managerial staff who dealt with them in a harsh and humiliating manner. Moreover, it was also revealed that there were poor health and safety facilities for coal mine workers. The lack of a first aid kit and provision of necessary tools for digging were not available in the majority of mines. Miners have to bring their own face mask and safety boots. They have no equipment to cope with emergencies or hazardous situation. Many coal workers had no knowledge about their rights and yet unable to access free legal assistance from the government. This study recommended that government Mining Department(s) should implement Khyber Pakhtunkhwa Mining Act in true spirit and should also put forward policies to impart basic safety training and awareness of coal mine workers. The study further recommends that health and safety facilities should be ensured in

each coal mine that must also be monitored, inspected, and reported frequently to concerned government department(s).

Keywords: Living conditions, daily wages, coal mines workers, and migrants, Pre and Post Covid-19.

Introduction

Natural resources play a vital role in development and prosperity of a place in terms of social, economic, infrastructural and livelihood. They provide jobs opportunities to various stakeholders. Hence, people may utilize public commodities/natural resources such as oil, coal, combustible gas, steel, and metals (Van-Dolah, 2014). The exploration of any mineral in an area attracts a large number of stakeholders from every segment of the society, such as labors, contractors, transporters, businessmen and other beneficiaries. The mining industry has a long history, dating back to ancient times (Directorate 2014, 2015; Sajid, Shahani, and Ali 2019). It is widely recognized as a hazardous occupation, characterized by dangerous working conditions (Donoghue 2004; Sari et al. 2009; Shahani et al. 2018). Accidents possess the capacity to cause harm or injury and serve as a source of potential danger (Liu et al., 2016). The establishment of safe production practices in the coal mining sector is predicated on adherence to "Coal-mine safety regulations" as outlined by Liu, Li, and Meng (2019). Safety is a significant focal point in the context of underground coal mining, particularly in Pakistan, India, and China, since these countries reflect higher cases of coal mines accidents and casualties in comparison to more industrialized nations (Lin 2006; Liu 2007; S.Sharad 2017, Jiskani et al. 2019).

Financial , Socio-Economic, and Environmental Impacts

The extensive and intricate consequences of coal mining provide challenges in assessing the relative merits of mining vis-à-vis its drawbacks. The purpose of conducting environmental impact assessments (EIA) is to comprehensively evaluate many consequences, including those related to the environment, economy, society, and other relevant factors (Hundloe et al., 1990). In many cases, cost-benefit analysis (CBA) is incorporated into these analyses as a component (Gillespie and Kragt, 2010). Cost-benefit analysis (CBA) offers a structured approach for evaluating the advantages and disadvantages associated with a particular alteration, such as the creation of a mining operation. This technique allows for the assessment of whether the overall benefits outweigh the expenses involved (Hanley et al., 2009). However, although certain effects of coal mining can be easily measured using census data or market transactions, such as the number of employees, incomes, and land costs, there are various other impacts, such as the erosion of social or institutional capital and the consequences of environmental degradation, that are challenging to quantify in monetary terms for the purpose of conducting a cost-benefit analysis (Ivanova et al., 2007; Gillespie and Kragt, 2010).

Incorporating all consequences within a cost-benefit framework presents inherent challenges, perhaps rendering it unfeasible. This constraint imposes practical constraints on the scope of impacts that can be taken into account. Therefore, the majority of Environmental

Impact Assessments (EIAs) tend to prioritize the examination of biophysical and financial consequences (Larson et al., 2014), resulting in a fairly limited evaluation of the effects that mining activities have on the communities in which they operate. A large body of prior research studies on the effects of coal mining has employed market-based methodologies to evaluate outcomes that are directly linked to the market (Hendryx and Ahern, 2009; Epstein et al., 2011). However, it should be noted that these methodologies solely offer a minimum estimate of community values (Morrison, 2009). When evaluating impacts that are not directly or indirectly related to the market, alternative valuation approaches need to be employed.

The adverse effects of mining operations on the health and productivity of workers and residents in close proximity have been extensively documented (Colagiuri et al., 2012). Furthermore, the abundance of resources may lead to a decrease in both private and public motivations to invest in education, resulting in detrimental effects on the development of human capital (Gylfason, 2001). This phenomenon can be attributed to two main factors. Firstly, communities can attain wealth without significant improvements in education levels and working skills due to the presence of high levels of non-wage income, such as dividends, social spending, and low taxes. Secondly, individuals may find themselves "trapped" in low-skill occupations, thereby hindering their ability to enhance their own or their children's education and earning potential. It has been reported that mining activities have also resulted in significant socio-cultural consequences. These may include relocation and unemployment, underage labor, accidents, and theft. For example, the establishment of the coal mine has led to significant increases in the number of individuals migrating to the area in pursuit of employment opportunities. Consequently, these circumstances have often led to the emergence of prostitution, heightened occurrences of banditry, alterations in indigenous way of life, and intensified competition among local inhabitants for access to natural resources (Gylfason, 2001). Prior to the discovery of coal in 1995, the social structure of the community in erstwhile FATA region exhibited notable dissimilarities compared to its present state.

The network of social relationships exhibited a vast expanse. In the past, individuals engaged in the practice of openly sharing their perspectives on personal affairs such as employment, entrepreneurship, and strategic decision-making. The Mosque and Hujra served as the focal point of the rural community. In the past, individuals engaged in social gatherings exclusively inside their own circles. In general, there was a lack of common disputes. Following the implementation of coal extraction, there has been a notable decline in attendance at both the Mosque and Hujra. In contemporary society, individuals have become increasingly hesitant to vocalize their perspectives on the personal lives of others, instead opting to prioritize their own affairs. The network of social relationships has also experienced a decline. The customary revelry seen in the village is a narrative of historical significance (Zaman, 2011).

Livelihood and Living Conditions of Coal Mine Workers Before and After Covid-19 and Post covid-19 era

The quality of life for miners is equally dismal beyond the confines of the mining environment. The quality of life they experience in the impoverished urban areas can scarcely be characterized as a satisfactory standard of earning for living a resourceful life. . The deplorable living and working conditions that he endures have permeated every aspect of their existence. Once again, Balochistan emerges as the region with the highest incidence of hardships faced by miners. The residences inhabited by the miners, commonly referred to as their dwellings, consist of mud houses and huts that exhibit conditions surpassing even the most unsanitary slums. Separated by vast distances from the familiar comforts, sights, and sounds of his familial environment, they finds themselves confined within a formidable expanse of harsh, desolate, and imposing mountainous terrain. they are often confronted by numerous societal issues, such as drug abuse, homosexuality, and health problems. For example, in the onyx mines of Chaghi, the workers had experienced severe burn injuries in a highly distressing manner. Furthermore, there is a lack of suitable shelter options available for individuals seeking refuge from the severe winter conditions. Yet, , summers do not offer much comfort. Similarly, the circumstances at the marble mines of Noshki are comparable. Within the regions of Sore Range and Dagari, it is noteworthy that the mining area is served by a sole primary educational institution (Salim, 2001).Unfortunately, access to this facility is not universally extended to all workers, resulting in a significant proportion of individuals being compelled to reside in makeshift dwellings. Miners in the Punjab region, namely in Dandot and KalaBagh, are provided with sleeping cots and temporary shelter in the form of tents. A mudroom typically accommodates a workforce consisting of five to six individuals. The provision of family accommodation for workers is not feasible, and their social lives are severely limited. Therefore, it can be inferred that the aforementioned significant sector of the national economy continues to suffer from the enduring oppressive influence of capitalism.

The fragmented nature of mine labor, which is geographically separated from the broader labor force inside the country, renders it susceptible to exploitation by opportunistic actors. The safeguarding of employees' rights and their preparedness for forthcoming significant challenges necessitate the collective and cohesive efforts of the workforce. The challenges encountered by miners are intricately interconnected with the challenges confronted by the democratic entities inside the nation. The prospect of achieving success lies alone in the pursuit of a comprehensive and concerted endeavor (Salim, 2001).The promotion of safe mineral extraction is intricately connected to the enhancement of a nation's economic resources sector and the facilitation of community development (Wu, 2007; Wang, 2008).

Coal resources in Pakistan are widely distributed and can be found in all provinces, as well as in Gilgit-Baltistan and Azad Kashmir. Coal found in various regions of Pakistan often exhibits a wide spectrum of characteristics, spanning from lignite to high volatile bituminous. The coal deposits in Pakistan are stratigraphically situated within the Latest Cretaceous and Tertiary geological layers. The coal deposits in Khyber Pakhtunkhwa are primarily found within the Hangu Formation, spanning from the Cretaceous-Tertiary/K-T border to the Early Paleocene.

However, there is an exception in the Shirani area, where the Toi coal is dated to the Early Eocene period. Pakistan possesses a substantial reserve of coal, estimated to be approximately 186.28241 billion tons, as reported by Malkani in 2012. A total of 122.99 million tons (mt) of the mentioned resource are located in the regions of Hangu, Orakzai, Erstwhile FATA region, Cherat, Gulakhel/Kurd-Sho, and Shirani within the provinces of NMD Khyber Pakhtunkhwa and FATA.

Numerous instances of deadly incidents have been documented as a consequence of inadequate implementation of safety protocols by safety management throughout the 20th century. In March 2011, a tragic incident occurred in the Sor-Range area of Balochistan province, resulting in the loss of life for 52 miners due to a mine collapse. The operation of the mine was carried out by the Pakistan Mineral Development Corporation (PMDC). The group most significantly impacted by fatalities in the mining industry consisted of individuals between the ages of 18 and 25. Another incident of a similar sort was documented in the Khyber Pakhtunkhwa province, namely in the 9th and 13th coal mines, in February 2015. This unfortunate event resulted in the loss of 19 miners' lives due to a collapse in the mine. According to Panhwar et al. (2017), the utilization of outdated mining technologies presents an increased number of safety hazards. Therefore, it is essential to implement efficient technology, allocate resources to infrastructure development, reform rules pertaining to mine safety, and provide training to the workers in order to address the hazardous conditions prevalent in coal mines in Pakistan.

Statement of the Problem

Mining is one of the difficult jobs around the world with many people losing their earning livelihood and living conditions while working in the mines. Besides other mining work, coal mining is also one of the most difficult jobs with and without technology across the world. Many young workers lose their lives due to lack of standard operating procedures for the work as well as lack of health and safety facilities. These problems endanger the lives of workers and on many occasions → results in fatal and non-fatal accidents. In addition to this, the workers also poor earning and living conditions impacts further exacerbate their already precarious lifestyle. the plights of coal mine workers remained under studied in Pakistan and especially within the tribal belt (e.g Darra Adam Khel) which hosts thousands of temporary migrants as coal mine workers for extracting the coal. Therefore, this study tries to fill that gap by identifying the core problems of coal mine workers including workplace health and safety, housing, sanitation, social and economic impediments, and impact on their living conditions before and after Covid-19.

Research Questions

- What are the financial, social, earning livelihood and living conditions of coal mine workers in Erstwhile FATA region in Pre and Post Covid-19 period?
- What are the health and safety facilities available for migrant coal mine workers.
- do these workers have access to health and safety facilities prior to and post covid-19 pandemic?

Objectives of the Study

This study aims to investigate the exploitation of temporary migrants, their access to health and safety in coal mines of erstwhile FATA region, Pakistan.

- To know about the social, Earning and living conditions impact of daily wages coal mine workers in Erstwhile FATA region in Pre and Post Covid-19 era.
- To determine labor access to available health and safety facilities at their workplace in erstwhile FATA region Pre and Post Covid-19 era.

Significance of the Study

No study has been conducted on the topic until this study in the context of Pre and Post Covid-19 era that has carried out by the authors in the study area. Mining workers play an important role in a country economy, though they are facing many emergencies. They are working in a vulnerable situation that can have serious psychological, social, health and physical problems. To understand such vulnerabilities and provide them a smooth and healthy working environment, their plight needs to be addresses through academic research especially through sociological research. Keeping in view the existing facts and figures, this study investigated the socio-economic, health and safety, housing and sanitation problems of temporary migrants as coal worker in Erstwhile FATA region, Pakistan Pre and Post Covid-19 era. Additionally, this research has contributed in how to decrease the occupational injuries and fatal accidents that affect coal miners and are brought on by hazardous and inadequate health and safety conditions. Coal mining regions where the government has little involvement and addresses the issues of coal mines jobs and local communities. The management of coal mines in general and the government should establish policies and design strategies for maintaining the protection facilities of the labor force through the exploration of the literature review factors and the collection of data from the area. The researcher will aspires to strengthen the policy established by miners and the Department of Labor and the local community through the results of the study. The finding has likewise notified government decision makers such as Khyber Pakhtunkhwa mineral department and law enforcement agencies, who will execute the findings of this research study at coal mine workers at Erstwhile FATA region, Pakistan Pre and Post Covid-19 era.

Theoretical Frame Work

Michael Burawoy in his work *Manufacturing Consent* (1979) and his interest in why workers in a capitalist system work so hard. He rejects Marx's explanation that such hard work is a result of coercion. Here Burawoy wanted to criticize Marx for his coercion concept of worker exploitation in past, he believed that in modern economies the bourgeoisie class does not coerce the working class. To Burawoy, workers, at least in part, consent to work hard in the capitalist system, and at least part of that consent is produced in the workplace. He believes that exploitation still exists but in its various forms as Michael Mann argued that worker

compensates certain things to minimize the deprivation, they experience. Hazard control theory: According to contemporary safety science theory, the primary contributors to accidents and hazards are considered to be the sources that pose a significant level of danger. Professor Tian Shui-cheng proposed the Theory of Three Types of Hazards, which involves the categorization of hazardous sources into three distinct types. The first type pertains to the accidental release of energy and dangerous substances within a system. The second type encompasses unsafe elements arising from the malfunctioning of safety equipment or individual unsafe behaviors, which are directly linked to the first type of hazardous sources. The third type comprises enterprise safety decisions, organizational errors (such as procedural, cultural, regulatory, and rule-related mistakes), as well as unsafe actions and errors committed by organizers, among others. (Shui-cheng et al., 2007).

The notion of alienation, often linked to Karl Marx, may be used to examine the experiences and conditions of coal mine workers in the coal mining sector. This theory elucidates the circumstances in which employees experience a sense of alienation or detachment from their labor, the goods they produce, their colleagues, and the overall work process as a result of the capitalist mode of production (Marx, 1844). Coal mine workers may have a sense of detachment from the outcomes of their work, since they have less direct involvement in the use or personal advantages derived from the coal they collect. However, the majority of the money is mostly allocated to mine owners and stockholders. Marx contends that establishing a direct and immediate connection between employees and the items they produce is essential for them to have a heightened sense of satisfaction (Rinehart, 1991). These above theories have supported the research study of the exploitation of temporary migrants, it is because migrants nowadays are conscious about their rights unlike in past, but still they compensate for and accept different sorts of exploitation or the unavailability of health and safety facilities in coal mine fields in Erstwhile FATA region Pre and Post Covid-19 era.

Research Methodology

The study has adopted qualitative approach to inquire the research questions and achieve objectives of the study. Likewise, qualitative sampling techniques, tools of data collection, and analysis has been employed keeping in view the dynamics of the participants and study area. Furthermore, In order to address the research inquiries, it is unlikely that the researcher would be able to gather data from all instances. Consequently, it becomes necessary to employ a sampling technique. The complete collection of instances from which the research sample is derived is referred to as the population (Yin, 2003). A purposive sampling technique was used in the research study as recommended by (Plays, 2008; Oppong, 2013) because the required data for the research study was only from a specific group of people who temporarily migrated (coal workers) to Darra Adam Khel. The Researcher interviewed all the participants from the research site where workers are doing their mining work. All the participants of the research study was in age range of 20-45 as suggested by Creswell (2014), and the data was collected from those

male workers who have been working in coal mine field for more than 3 years. All the participants of the study were workers only, managers and other administrative level staff was not included for the interview of the study. Furthermore, all the participants were male members because there were no female coal mine worker in the research site.

Data Collection

Data collection is a method employed by researchers to gather data from relevant sources in order to elicit responses or answers to the unresolved issue being researched, provide insights into the research questions, and evaluate the outcomes (Sapsford & Jupp, 2006). Ackroyd (1992) and Neuman (2013) have explicated that the methodologies employed for collecting information are contingent upon the specific research issue under investigation, the study design, and the particular variable being studied. The primary method employed for data collecting is conducting individual, comprehensive in-depth interviews that were conducted in Darra Adam Khel. The individual interview was used so that migrant worker can openly express their views, which could not be possible in FGDs. The researcher interviewed 200 temporary migrant workers as participants in the research study with open-ended questions regarding exploitation, their Earning and living Conditions impact of daily wages , and their access to health, and mining safety. The duration of each individual interviews were last for half an hour and in some cases it reached to one hour depending on the in-depth information the participant shared to the researcher. Furthermore the researcher took notes of each interview and also recorded the interviews on the participant consent.

Data Analysis

Typically, qualitative data manifests in textual form, derived from sources such as records, observational notes, transcripts of open-ended interviews, physical artifacts, audio or video recordings, as well as photos or photographs. Merely collecting the information is inadequate; it is important to do an analysis of the data. In qualitative research methodologies, the process of analysis commences concurrently with the collection of data. However, it is important to note that this analysis is typically preliminary and may have limitations in its comprehensiveness (Neuman, 2011). The method of analysis is considerably more complex. The process encompasses several key steps, namely the organization of information, a preliminary examination of the database, the establishment and categorization of themes, the representation of data, and the formulation of an interpretation based on these findings. The aforementioned processes exhibit interconnectivity and encompass a series of exercises that are intricately linked to the analysis and depiction of the data. At this juncture, the study proceed to present a visual representation, namely a data analysis spiral, which was found beneficial for comprehending the various stages involved in the qualitative research → data analysis process (Creswell, 2014)..

Hence, the primary data was analyzed through thematic analysis. Thematic analysis focuses on studying the collected data, identifying patterns, and categories from the data. In order to explore the fact associated to the study questions, these patterns or themes in the data are important to identified and discussed with the support of previous studies. . Thematic analysis is based on six phases, which are as follows: such as familiarization with your data, creation of initial codes, searching for themes, the theme review process, the Themes definition and naming and the report's creation (Braun & Clarke, 2006). In this study, the same technique as formulated by (Braun & Clark, 2006) was followed in order to ensure reliability and validity of the data.

Results and Discussions

4.1. Demographic Information

4.1.1. Age of the Participants

Table no. 1

Age of the Participants	Frequency	Percentage
Less than 25 years	2	08%
25 ➔30 years	6	24%
30 ➔35 years	11	44%
35 ➔40 years	3	12%
40 ➔45 years	2	08%
More than 45 years	1	04%
Total	25	100 %

Description:

Table No. 1 indicates that the age of participants spans from under 25 to over 45 years. The largest proportion of migrant workers, that is 44 percent, was within the age range of 30 to 35 years, while 24 percent were between the ages of 25 and 30. Likewise, 12 percent of the participants were between the age ranges of 35➔40 years, 8 percent were younger than 25 years, and a mere 4 percent were older than 45 years.

4.1.2 Educational status of participants

Table no.2

Educational status of participants	Frequency	Percentage
Illiterate	15	60%
Primary	06	24%
Up to Matric	03	12%
Above Matric	01	04%
Master	00	00%
Total	25	100%

Description

Education is a basic institutions which plays a key role in the skill development of a person. Table No. 2 shows the educational level of participants, as a majority of them (i.e. 60 percent) were illiterate. Furthermore, 24 percent of coal mine worker were having primary education. Similarly 12 percent of migrant workers educational level was up to Matric, followed by 04 percent of participants were having above matric or secondary level education, while none of them had 16 years of education or having Master's degree.

4.1.3 Locality / District

Table no. 3

District	Frequency	Percentage
Mohmand Agency	03	12%
F.R.Kohat	13	52%
Bajaur agency	02	08%
South Waziristan Agency	02	08%
North Waziristan Agency	02	08%
F.R.Peshawar	01	04%
F.R.Tank	02	08%
Total	25	100%

Description

Table No. 3 shows the locality of the coal mine workers and where they belong. The majority of the participants, i.e., 52%, belonged to one of the famous districts for coal mine workers "F.R.Kohat". Similarly, 12% of the participants were from district Mohmand agency, followed by Bajaur Agency, South and North Waziristan Agencies with 8% of the participants. Followed by F.R. Peshawar had the lowest percentage, with only 4% of the participants.

4.1.4 Monthly income

Table no. 4

Monthly income of participants	Frequency	Percentage
Less than 40 thousand	06	24%
40 →60 thousand	09	36%
60 →80 thousand	08	32%
More than 80 thousand	02	08%
Total	25	100%

Description

Table No. 4 shows the monthly income of coal mine workers, ranging from less than 40 thousand to more than 80 thousand. The monthly income of the majority of the participants, i.e., 36, was between Rs 40 and Rs 60 thousand. 32% of the participants, whose salaries ranged from Rs 60 to Rs 80 thousand per month, followed it. Among them, 24% were those whose salaries were less than Rs 40,000. A few of the participants claim that their salaries are more than 80 thousand rupees.

Thematic Analysis

Thematic analysis is a research methodology that encompasses the process of identifying, analyzing, and interpreting patterns of significance, commonly known as "themes," within qualitative data. This implies that Thematic Analysis lacks theoretical foundations and needs to consistently align with realism or essentialism, unlike what is often believed. Boyatzis (1998) and Guest (2012; MacQueen and Namey) highlight this approach's potential use across different theoretical and research frameworks. Following themes are analyze during thematic analysis such as :

Earning Livelihood, Working Conditions of Daily wages Coal Mine workers

The working conditions in mines are characterized by a high level of precariousness, to the extent that fatalities are increasingly becoming a regular occurrence rather than remote occurrences. The working situations have a detrimental impact on the miners, leading to a state of physical and mental exhaustion like that of zombies within a period of four to five years. In the event that a worker manages to survive a mining catastrophe, the unfortunate consequence is the loss of their limbs, afterwards leading to a reliance on charitable assistance for sustenance. If the individual is fortunate enough to avoid accidents, the inhalation of dust laden with harmful substances has detrimental effects on his health (Ashraf and Cawood, 2017). After dedicating a significant portion of his life, approximately five to six years, the individual in question develops respiratory ailments such as asthma, tuberculosis (TB), or similar disorders. The individual experiences a recurring headache, which subsequently results in a loss of visual acuity. In the event that an individual successfully navigates through these various perils, which are statistically improbable, they would inevitably encounter the persistent challenges of securing sustenance, housing, and clothes, so subjecting their existence to considerable distress. The harsh working conditions in which he is employed do not include the entirety of the narrative. Living hundreds of miles away from his place of origin and lacking the amenities associated with a married lifestyle, he is compelled to endure a destitute existence that is sometimes marked by disgrace.

Coal mine worker were asked several questions about the job satisfaction and their working conditions. Almost every individual have the same view that the working conditions is very devastating, we work in a continuous threat of collapsing a mine, accumulation of harmful gases, decrease in oxygen level etc. Despite all this the mining inspector and safety officer are supposed to visit mine on regular basis, but contrary to that they visit twice a week, which not enough and standardized. One of the participant Aslam Khan shared his views regarding this because the contractor always try to escape and held mine worker responsible for the accidents.

Coal mining work is one of the toughest job among all in the world, we know that there are multiple risk associated with that but we have families out there to feed, we are compelled by our economic conditions to do so.

And the unavailability of the officer for risk assessment and the pressure of contractors to produce more and more. In this scenario we do not care about the risk and go inside for work to earn money for our families ↓

Another participant Salim Khan have also expressed the same view but he claimed that

“All the safety and mine officer are bribed by the contractors, so that they do not complaint against him in mining department, they have nothing to do with the lives of poor worker, they just need to exploit the resources as much as they can”.

In order to evade its obligations, the administration outsources the mining operations. This phenomenon caters to the need for excessive gains at the expense of inadequate compensation, hence subjecting the workers to the contractor's discretion. The working conditions in the marble mines located near Noshki are highly unfavorable. In addition to receiving inadequate wages, the workers in this context are also subjected to instances of coerced labor. The labor force in the Sore Range and Degari regions is predominantly sourced from the Swat area. The mine owners, in conjunction with the "Jorisar" and government officials, resolve any pertinent issues (Salim, 2001). They were asked that why you people do not quit your job. Majority of them were agreed that they want to quit the job but because of the inflation and the unavailability of other jobs, they are compelled to do the same job.

A participant Ahmad Gul added his view that

“The daily wage of coal mine worker is 3 times more than the ordinary labor. He further stated that it is a hard job but mine worker can easily make up to 50 thousands a month, which is not achievable for ordinary worker in Pakistan”.

The employer attitude was not good to them, they were asked if they were valued by the employer, majority of them give their statements in negative, they told the researcher that

“The employers have only focus on their production not the betterment of the worker, you have seen our lifestyle, and nothing is hide from you and anyone. A worker who told not to show his identity claimed that most of the employer in Darra Adam Khel treat the worker worse than stray dogs, he further told that our employer has built a small zoo in front of his coal field, he spent money on that animals, but when we ask him for our rightful wage, he always try to delay it or cutoff our salaries and he always try to humiliate us in front of his friends. We do not say anything in reaction otherwise he will kick out us from his coal field”.

A participant name Aziz Ahmad believed that

“The working condition is not satisfactory in the entire coal fields of Erstwhile FATA region in F.R. Kohat workers use to work in an unhygienic and unsafe working conditions, we have to take care of our hygiene and safety, and otherwise the company has nothing to do with the lives of worker”.

These quotes from different participants show the unsatisfactory attitude of mine owners and dealers towards the earning livelihood ,living and working conditions of coal mines. They told the researcher that mine inspection officer are bribed by the companies, they do not report most of the accidents to higher authorities

Living conditions of Mine Workers

Living conditions includes basic elements such as food, shelter, clothes, water, space, sleeping area etc. Majority of the participants were reported that their living condition was horrible. They were asked several questions about their living condition in coal mine. They were asked about the availability of necessary facilities i.e. shelter, water, food, equipment and safety tools etc. They were all on the same page and told researcher that they have been provided shelter homes made of tin sheets, which boiling hot in summer season and freezing cold in winter.

One of the participant explored that

“Our shelters are made of tin sheets or mud near to the coal field, our toilet and washrooms have no doors, we must cover it with a piece of cloth. I can simply say that in conditions we miner are living I bet no one will survive ↓

Unfortunately, not all workers have access to shelter facilities, resulting in a significant portion of them residing in makeshift dwellings. In the region of Punjab, specifically in Dandot and KalaBagh, the miners are provided with sleeping cots and temporary shelter in the form of tents. A mudroom typically accommodates a workforce consisting of five to six individuals. The provision of family accommodation for workers is not feasible, and they lack any semblance of a social life (Ahmad, 2016). When they were asked about the availability of water they told that we are not provided with enough water to clean ourselves from coal dirt and filth.

One of the participant Ubaid Ullah told that; *“I am working in underground mine, when I come out for a break. My whole body is covered with filth and coal dirt that → need to be clean immediately but when I go to the washroom, (you have seen our bathrooms) I merely found enough water to clean my hands and wash my face and then wait for water to clean myself”.*

All the above quotes clearly show the unsatisfactory responses from the mining workers, they are not provided with basic necessities of life i.e. food, enough water, safety equipment etc. they have to bring their own safety and digging equipment. Majority of the participants claimed that they are not provided food by the companies or contractors. Food are on their own. They have to cook it for themselves. They are only provided shelters either made of mud or of tin sheets.

One of the participant Gul Nawaz told that

“We cook our own food or hire a chef who can cooks for multiple groups of miner and we pay him on monthly basis. He is responsible for bringing groceries and vegetable and to cook it and then he has also the responsible to supply it to the opening of coal mine. Our chef has also a tough job”.

When they were asked about the provision of tools that is needed in digging and loading in mines. They all claimed that companies do not provide us the tools for digging. They have to bring their own mining and safety tools

One of the participants told that

“If you are working as a miner you need to bring your own tools i.e. spades, shovels, mattock etc. honestly I can say that the company is not responsible for that, it → the contractor who exploits the worker and not providing the necessary tools”.

Another participant Salim khan confirmed the above statement saying that

Once I asked the contractor why you are not providing us the necessary equipment, he blatantly replied that we have provided you but you are stealing it. What should we do? But when I asked him again, he got furious and told me I you want to work here you have to bring your own otherwise no need to come. After that I kept silent and till now I am working with personal equipment ↓

They were also asked several questions regarding accessibility to the facilities provided by the companies and contractors.

A participant name Ubaid Ullah told the researcher that

What accessibility you are talking about? It → even not available but if it is somehow available that is not adequate. It → either of low quality or not accessible. A miner is responsible here for everything, he has to manage tools for digging and safety

They denied the claims of contractors about the provision of tools and equipment. To summarize their views about the living conditions of coal mine, we can simply say that the living conditions of coal mine worker is not good, they are provided inadequate basic necessities of life like shelter, water, food and even they have to bring their own tools for work. The mining industry in Pakistan is widely recognized as being fraught with hazards and characterized by inequitable social security practices. The mine workers express dissatisfaction with the lack of essential provisions, including adequate working conditions, suitable on-site housing, and access to potable water. Consequently, there is a higher prevalence of diseases and disorders. The mining industry is well-known for its prevalence of exploitative salaries and lack of employment security (Azad, Khan and Ghaznavi, 2013). The quality of living for miners remains equally wretched beyond the confines of the mining operation. The quality of life he experiences in impoverished urban areas can scarcely be regarded as a respectable standard of living. The residences inhabited by the miners, commonly referred to as their dwellings, consist of mud houses and huts that exhibit conditions even more unfavorable than the most unsanitary slums (Salim, 2001).

4.2.4 Availability and Accessibility to Health and Safety Services:

Coal mine worker were asked several questions about the occupational health and safety services and their accessibility to it. The majority of the participant were the view that we are only provided with helmets and a torch on it but the quality of the helmet is too poor. They were asked to list down the important health and safety facilities. They were all agree upon the provision of certain things that they believe is necessary for working in underground mine. They mainly focus on the safety equipment → and medical services i.e. provision of first aid kit in mine, quality and standard helmets and boots, provision of standard face mask that filter air in mine. They also told that the main thing to avoid health and safety risk is to set proper ventilation system.

One of the participant Kaleem Ullah shared his experience of working in different mine fields in Erstwhile FATA region,

“Since 2009, I am working in different mine fields in Darra Adam khel, I have seen that majority of the mines have no standard ventilation system, most of mines even lack ventilation system which is very dangerous for miner, because of the low level of oxygen and high level of carbon dioxide and other harmful gases”.

One of the participants Sami Ullah also expressed that

“We have to bring our own boots, gloves, face mask whether it is of safety standards or not, the helmet they provide us is of poor quality. It can even break or crack with a small stone, I can say that it is just for the formality so that they can show it to mine and safety inspector that they are given safety facilities, but in reality everything is much worse than it seems”.

Another participant while talking about the provision of medical services,

“I am not denying that medical services are not provided, it is, but not in the reach of mine worker, because an ordinary clinic is built with limited equipment and medicines and that is all the way down to the mountain, suppose we encounter an injury, we have no first aid kit in mine to counter it, we have to bring the injured person out of the mine and then all the way down to the clinic and surprisingly the available practitioner has not enough experience to treat it and then he refer us to the hospital”.

Zameer Khan who narrated his own story, once he has encountered injury in mine

“I have been working for long in mining industry and have seen different scenarios in my life, once when I was new to the job I accidentally cut my foot with a shovel, I asked my fellow to help me, they rushed towards me, I told them to wrap some bandage over my wounds, the senior one smiled at me and tear a piece of cloth from his clothes and wrapped it over my wounds. I was shocked at first because the piece of cloth was filled with coal dust and filth, nowadays we are used to it and do the same whenever we encounter injuries. I know this is unhygienic, but what should we do”.

The majority of mines lack fundamental health and medical facilities necessary to adequately treat wounded miners, hence posing challenges in managing emergency circumstances. Due to the predominantly isolated locations of mines, there exists a significant challenge in promptly transporting wounded workers to hospitals. This delay in medical attention has the potential to escalate the number of fatalities and result in a diminished workforce available for mine operations. As a result of these circumstances, there is a rise in the incidence of accidents, which can ultimately contribute to casualties and injuries among mine workers (Jadoon and Edwards, 2005). When they were asked about their satisfaction to the available health and safety facilities. The majority of them were not satisfied with the facilities provided to them. They have concerns like it is not easily accessible and are limited.

One participant Ali Khan expressing his views regarding the provision of face mask

“None of the contractor in Erstwhile FATA region provides face mask and other safety equipment. I have worked with different companies, they claim that it is not their responsibility and labor should ask to the

contractors, on the other hand the contractor also denied it because they consider that the cost of these things are not included in the contact and it is a total loss for contractors”.

Another participant told that

“We either use a simple surgical mask or covered our nose and mouth with a piece of cloth and sometimes we use handkerchief for covering face, I know it → dangerous but we have no choice but to inhale coal dust and other harmful particles”.

Workers, regardless of whether they are employed in public or state-owned mines, are confronted with substandard working conditions and are subjected to alarmingly inadequate occupational safety regulations. The adherence of mine personnel to antiquated protocols poses a significant risk of life-threatening incidents. Contrary to established safety regulations, a significant proportion of workers were observed to be operating without the requisite personal protection equipment, including safety helmets, gloves, safety boots, face masks, and appropriate uniforms (Jadoon & Edwards, 1999).

Health and Safety Risks

The present state of mining safety in Pakistan is comparatively more precarious than historical conditions observed in other nations such as China, India, and Turkey. These countries have implemented several strategies to enhance their mining sector, which encompass the acceptance of technological advancements, the enhancement of research and development efforts, and the timely revision of mining regulations. The utilization of obsolete mining practices that fail to adhere to established norms has resulted in mine safety concerns in Pakistan. Hence, it is imperative to establish an institutional, budgetary, and regulatory framework that facilitates the optimal utilization and development of natural resources (Ashraf and Cawood, 2017). They were asked a number of questions regarding the health and safety risks associated with their occupation. The majority of respondents identified several risks that occur frequently. These were a mine collapse, a fire, an explosion, the accumulation of gases, the falling of stones, the derailment of a track, the snapping of a rope, injuries from tools and an oxygen deficiency.

One of the participants Aqal Badshah stated that

“Me and my brother was working in two different shifts in the same mine, I was working in the night shift with four other workers, as we finished our shift and came out of the mine and my brother → team entered and started working, after half an hour, I heard a loud noise of mine collapsing. After 3 days of continuous rescue operation we finally got their dead bodies from the collapsed mine, it nothing new for worker like us. The contractor give us some money for compensation, but you know money can → bring my brother back”.

Another participant also share his experience about snapping of rope of the chair left while come down back from the mine

“He added that around 5 year ago, when I finished my work and coming back to shelter home for cleaning myself, I set down in the chairlift with two of my friends, in the middle of air the rope of chairlift broke and we were falling freely towards the ground, when we hit the ground, I did not remember what happened next. When after three days

when I open my eyes in hospital bed, I realized that both my feet were broke and somehow survived but two of my friends were dead on the spot”.

Another participant added that

“It is the fate of every coal miner to perish in this manner because the risks associated with this occupation are greater than those of any other occupation. There are numerous to hazards for mining workers, but to counter these risks, the resources are either limited or in most of the case unavailable”.

Numerous instances of deadly incidents have been documented as a consequence of inadequate implementation of safety protocols by safety management. In March 2011, a tragic incident occurred in the Sor-Range area of Balochistan province, resulting in the loss of 52 miners' lives due to a mine collapse. The mine was under the management of the Pakistan Mineral Development Corporation (PMDC). The occurrence of gas accumulation, gas explosions, mine blasts, mine collapses, and falling stones. The data obtained from previous research studies reveals that mine collapse is responsible for the majority of severe accidents and fatalities. The occurrence of mine collapse incidents accounts for 36% of all accidents and 51% of the overall number of fatalities, with a total of 53 accidents and 312 fatalities recorded. The results of Shah et al.'s (2020) study, which identified "roof collapse and mine gas" as the primary cause of mining accidents in the Cherat Coalfield, Pakistan. The remaining incidents can be ascribed to the accumulation of gases, accounting for 11% of accidents and 6% of fatalities, falling stones, which contribute to 10% of accidents and 3% of fatalities, and various other factors, responsible for 10% of accidents and 7% of fatalities. When they were asked by the researcher that how they handle the hazardous situation in the coal mine. The Majority of the participants told the researcher that there is no equipment to cope with hazardous situation, if we ever encounter emergency situation we wait for the rescue teams to come and help us.

A participant name Sami Ullah told the researcher that

“Last month a group of four workers were trapped in coal mine due to the collapse of mine roof, that mine does not have emergency exit or ventilation system. We could not help them immediately and waited for the rescue team to come. We conduct joint rescue operation with rescue team and evacuated the dead bodies of the team after three days of continuous work. If we had resources that time, we could have save their lives”.

Conclusion

The diverse problems to evaluate Earning livelihood and living Conditions impact of daily wages of coal workers as an temporary migrants and their impacts on the different aspects were analyzed altogether with the assistance of qualitative research methods. Qualitative data was obtained from coal workers, which were analyzed through thematic analysis. Based on an extensive analysis of the Earning livelihood and living Conditions impact of daily wages of coal workers, it is evident that their overall Earning livelihood and living Conditions impact of daily wages fell below the accepted standard. The participants expressed their dissatisfaction with the insufficient facilities that were provided. They resided in small, makeshift homes made of tin

sheets or mud, leaving them vulnerable to extreme weather conditions throughout the year. Furthermore, the sanitation conditions in the area were inadequate, and the workers were not provided with enough water to clean themselves after their shifts in the mine. They cooked their own meals as it was not part of their agreement. In addition, most of the participants were contributing a monthly amount of 5000 PKR for their meals. Moreover, it has been found that the coal miners are not provided with adequate safety equipment, leaving them vulnerable to frequent injuries. Unfortunately, when they experience an injury, accessing medical care becomes incredibly challenging. Transporting the injured person to the clinic or referring them to the nearest hospitals can be quite challenging. Many coal companies failed to provide adequate first aid resources, leaving miners with no choice but to use their own clothing as makeshift bandages for their injuries. Research has demonstrated that injuries are frequently sustained by individuals working in underground mining operations. These injuries can occur due to various factors, such as the lack of safety equipment, explosions caused by gases, mine collapses, collapsing roofs, track derailments during blasting, rope breakages, injuries caused by tools, and oxygen deficiencies. They have limited resources to handle emergency situations and depend on the rescue department for assistance. Based on the employer and management's actions, it appears that they lack impartiality and are not adequately supporting the coal mine workers. The individuals in question experienced treatment that was both harsh and biased. The coal miners displayed a surprising lack of knowledge about the international labor organization, as well as a limited understanding of their basic legal rights as employees.

Recommendations:

A number of recommendations were prepared on the foundation of this research study for government of Khyber Pakhtunkhwa, International Labour Organization, NGO's, coal mine workers.

- The contribution of coal mine workers is of significant importance in bolstering the local economy through the provision of remittances. It is imperative to provide assistance to individuals through labor unions and advocate for the protection of their rights within the host community.
- The coal mine workers also contribute significantly to the economic development of the host community. Therefore, it is imperative for the host community to ensure a conducive working environment for these workers. Additionally, the implementation of rules that effectively safeguard the rights of coal mine workers would be highly beneficial.
- Organizations advocating for the rights of coal miners should prioritize raising awareness among these workers, as they frequently have limited knowledge about their fundamental rights. It is recommended that individuals actively participate in a range of lectures and awareness courses. The International Labor Organization (ILO) could play a crucial role in advocating for a reassessment of the host country's policies concerning coal workers. In addition, it is crucial for the ILO to actively promote ethical treatment and equal opportunities for employees working in

coal mines. It is equally important to ensure that these individuals receive fair and timely compensation for their work.

- It is imperative for coal employees to promptly report any instances of unlawful conduct to the appropriate authorities, who should duly assess and address these reports in a thorough and comprehensive manner.
- It is imperative that health and safety gear and equipment are made available to all coal workers, with the mining department conducting frequent inspections to ensure compliance.
- All mines new or old should be design according to the standards of international labor organization.
- It is vital to ensure the provision of first aid kit and other medical resources within every mining facility, accompanied by the appointment of adequately educated healthcare professionals to administer treatment to coal employees.
- It is imperious for every mining operation to employ a safety officer who possesses extensive expertise in managing dangerous situations.
- It is essential for the mining department to conduct frequent inspections of all mines and take appropriate action against those that fail to comply with established health and safety regulations.

Based on the findings of this research study, it is advisable for coal mine employees to promptly report any instances of offensive behavior to the appropriate labor organization or labor court. People should acquire knowledge and understanding of their rights and responsibilities. It is important for people to maintain consistent communication with the labor union and promptly report any cases of discrimination in Earning livelihood and living Conditions impact of daily wages of coal workers observed in the coal mining industry.

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