

# Just Transition Research Fellowship – IIT Kanpur and Climate Trends

## Effects of coal mine closure on residents of Bijuri and Kotma municipalities of Anuppur district of Madhya Pradesh

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Place- Bijuri, Anuppur.



Local women returning home after collecting coal from an abandoned mine in Kotma, Anuppur.  
Photo by Shuchita Jha.

### Abstract

The investigation aims to highlight the negative effects of coal mine closure in Bijuri and Kotma municipalities of Anuppur district in Madhya Pradesh in the absence of other alternative means of livelihood.

As the world continues to transition towards a more sustainable future, it is imperative that we not only address the urgent need to mitigate the effects of climate change, but also ensure that this transition is just and equitable for all. The concept of a "just transition" emphasizes the need to prioritize the livelihoods and well-being of workers and communities that are currently dependent on industries that may become obsolete in the shift towards a low-carbon economy. By creating alternate sources of livelihood and ensuring that no one is left behind, we can ensure a smooth and successful transition towards a more sustainable future.

In the last decade around 10 mines in these two municipalities that employed hundreds of locals have closed down, rendering them unemployed.

One mine employs around 500 to 1,000 people in these areas, depending upon the size of the mine. In the last 10 years, 10 mines have shut down in the area, rendering around 5,000 to 10,000 people directly dependent on mines, unemployed and without alternate sources of livelihood. Locals who are indirectly dependent on the mines, like guards, office boys, tea-sellers and vendors who run their businesses close to these mines can range from 500 to 1,000. These people also lose their income when the mine workers stop coming to the mines. An estimated additional 5,000 people hence become unemployed while other 5,000-10,000 who were indirectly dependent on mines had also lost their means of livelihood.

This in turn takes a toll on the whole family when earning members lose their source of income. From running the household to children's education, everything suffers as income gets limited due to the lack of opportunities in the area.

In the on-ground study, it was found that most girls under 18 have stopped studying after class 5 or 8 as their parents cannot afford to send them to schools due to a lack of money. Since Kol and Gond tribes have a culture of early marriages, many of the young girls who quit school also did so because they got married or their parents started looking for grooms. Women as young as 30 have become grandmothers with their teenage children becoming parents.

## **Introduction**

Anuppur District of Madhya Pradesh, 550 km from the state capital Bhopal. As per the 2011 census, it has a population of about 750,000 with 300,000 belonging to the Scheduled tribes with large populations of Gonds, Baiga, Kol and Korku (Particularly Vulnerable Tribal Groups) communities.

The area several coal mines, both underground and open cast, under Coal India's subsidiary South Eastern Coalfields Limited (SECL). Minor minerals like granite and bauxite are also found here.

The purpose of the study is to assess the impact of coal mine closure in Bijuri and Jamuna-Kotma villages of Anuppur District and the subsequent unemployment. As per the 2011 census Bijuri Municipality has a population of 32,682 while Kotma Municipality has a population of 29,704. According to Municipality officers, because of the mine closure, many retired people have gone back to their hometowns and the population of the area has decreased but since there has been no census it is not possible to prove the same.

In the last 10 years, a total of 10 mines have become non-operational in these two municipalities. In Kotma, Harad Open Cast Mine, Daikhali OCM, Kotma colliery Underground 11-12 SECL and 1 & 2 Jamuna Kotma UG have closed down while in Bijuri Old Jhimar mine, Rajnagar OCM, Malga Ink Line in Ramnagar region, 14-14 South Jhimar and Somna colliery have shut down in the last decade.

One mine approximately employs 500 to 1,000 people. So, over around 5,000 to 10,000 are directly dependent on mining, as contractual labourers have been rendered unemployed. There are many people who are indirectly dependent on the mines too. Their businesses and employment opportunities have also declined. There has been no effort by the government to establish alternate sources of livelihood or provide the people dependent on mines with new skills to make them employable in other sectors.

A large number of people employed in the mining sector on high ranks on rolls have also moved back to their hometowns after retirement and no new recruitments have taken place. This has led to the decline in the population of creamy layer in the area who were providing odd jobs like that of maid, cleaners, cook and gardeners to the local people.

Since the majority of the population here is uneducated or has not passed high school, their job prospects become even lower and their employability decreases. Because of this, they are facing several problems due to rampant poverty. The study is based on answers in a Google survey from interviewing girls, women and men in the area. The survey was based on a random sampling of 60 individuals directly or indirectly dependent on employment in coal mines in Bijuri and Kotma.



**B. Vinod, manager of the Jhiria Coal Mine in Bijuri, Anuppur, shows the map of underground coal reserves and SECL mines in the area. Photo by Shuchita Jha.**

The survey enlists the problems faced by people of the two villages of the district and problems like lack of basic facilities like proper drinking water, food, education and access to healthcare in the region. Most families have only one earning member with dependents like aged parents, wives and children. If the income of the earning member takes a hit, the other family members dependent on the earning member also suffer the brunt.

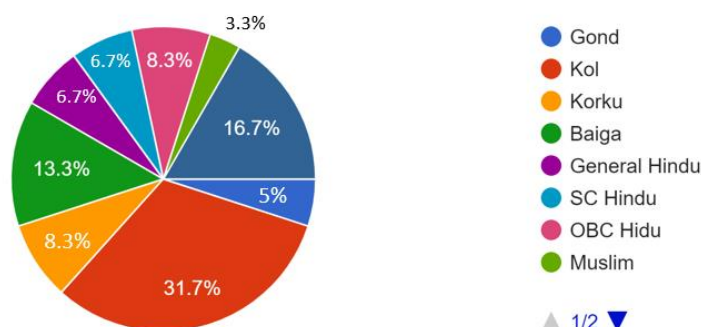
Another problem in the area is decreasing employment and business opportunities as the retired population has vacated the villages, resettling in their hometowns in different states. As most officers and permanent workers vacate the housing provided by South Eastern Coalfields Limited (SECL) and move back to their hometowns, the employment opportunities of local businessmen like tea-stall owners, grocery sellers, local shops, cable guys also suffer as the number of customers goes down. The high-earning officials, who employed locals as house-help, gardeners and hired them for odd jobs, have left town leaving all these people unemployed scavenging for limited opportunities.

## **Sampling**

The findings are based on a random sampling of 60 individuals in two municipalities - Bijuri and Kotma of Anuppur district. Individuals belong to Gond, Kol, Sarthi and Baiga scheduled tribes of the state as well as those of General and OBC categories. The individuals were primarily from tribal communities or followed the Hindu religion.

## Community/ Caste/ Religion

60 responses



## Results

### Impact of mine closure on residents

#### a) Unemployment and low income

Unemployment has become a major problem in the area in the last decade with thousands of contractual coal mine labourers being left without any means of livelihood as 10 mines, 5 in Bijuri and 5 in Kotma closed down.

The locals now seek work as daily wage labourers of farm labourers elsewhere, barely making Rs 250 per day. Since there is no guarantee of regular employment, they can earn up to Rs 1500 per week. With costs of necessities like oil prices, milk and vegetables rising, this is barely enough to make ends meet, leave alone for supporting children's education, even in government schools.

Among the sampled individuals, 32.8% barely made INR 500 per week while 25.9% made between INR 500 to 1000 per week, making their annual income between INR 24,000 to INR 48,000. With this limited income, they had to support their families and take care of their children's education. Because of this limited income, the level of education was very low, affecting any opportunities of skill development or bare minimum qualification (class 10) for many jobs.

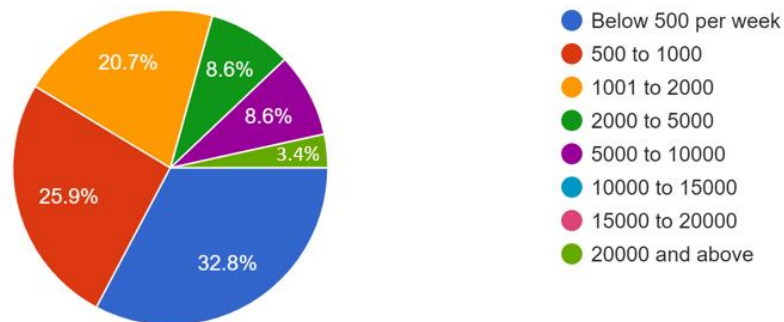
Around 20.7% of the sample population earned between INR 1,000 to 2,000 per week making their annual income less than or equal to INR 96,000.

Of the 59 respondents, fathers of 20.33% had government jobs in the colliery while 3.4% had other government jobs. 50.8% were daily wage labourers and 8.5% worked as contractual labourers in coal mines. 10.2% were farmers while 6.8% engaged in other professions like running small shops or stalls.



### Estimated Income per week (in INR)

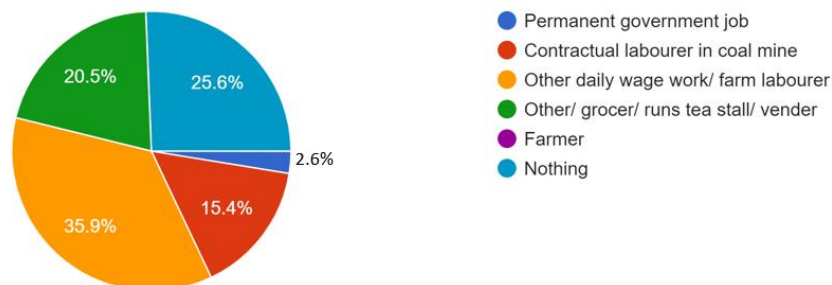
58 responses



Of the 39 married women, 51.28% said that their husbands were daily wage labourers, with 15.4% being contractual labourers in coal mines. Many women said that their husbands used to work in coal mines before but had to look for some other kind of work as the mines closed down in the area. 25.6% of women said that their husbands did nothing as the mines closed down and their husbands had lost their only source of income. They had since then been struggling to find work but most of the time ended up finding no work in the area while 20% ran tea stalls or were farm labourers or did some other low-paying work to support their families.

### What does your husband do?

39 responses



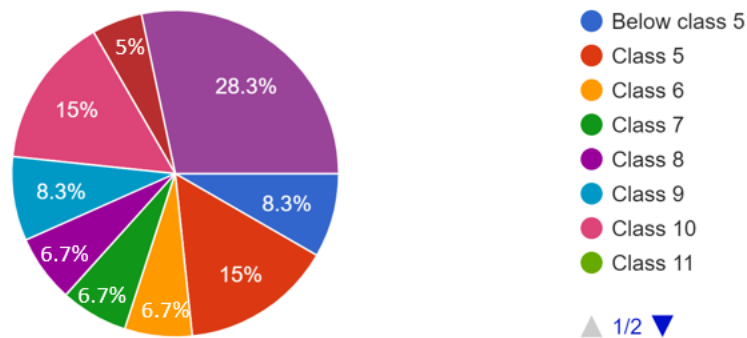
Contractual labourers added that while they were paid INR 300 for an 8-hour shift back in 2014, in 2022 they were only getting INR 400 for the same despite the inflation which was barely enough to make ends meet.

### b) Early marriage and its impact on the education of girls

Among the 60 individuals sampled – 52 women and 8 men, 17 are girls under 18 years of age. Around 28.3% of the sample population was uneducated while 36% only went to school till 8<sup>th</sup> standard and 8.3% had quit right after class 5.

## Educational qualification

60 responses



Of the 17 girls under the age of 18, 52.9% had quit school while 29% had already been married before turning 18. 5.88% said that their parents had not even enrolled them in schools.

Most of the girls cited lack of money to afford notebooks, stationery and bags as reasons to quit school. While the government of India offers free and compulsory education up till class 8 and provides school books and uniforms, the children have to buy notebooks and stationery on their own. The extent of poverty in the area is such that these young girls' parents could not even buy these necessary things for their daughters' education. Some said that the village middle school was too far and they had to cross around 2 km of forest area to reach there which was risky as there is a threat of bears in the area. Since they had no means to go to school even if they wanted to study further, they had to give up as their parents could not afford to get them bicycles.



**A woman digs for coal in her backyard in Dola ward of Bijuri, Anuppur. Photo by Shuchita Jha.**

Some who were in their teens said that their parents are looking for grooms but as they have no money to pay dowery, they were unable to get their daughters married.

There were 14 women in the 18 to 30 age group with 100% of them having to quit school due to lack of resources. Around 57.14 % were married and cited early marriage as the reason for quitting school. OF the married, 67% were married before turning 18 and 33% when they turned 18.

Of the 14 only 14.28 % had crossed class 12 and 35.7 class 10. The other 64% had to give up their studies before class 10 either because they got married or because their parents did not have the resources to send them to school further as the coal mines closed down.

According to the National Family Health Survey (NFHS)-5 (2021), only 28.6 % of women had 10 or more years of schooling while the state average is 29.3% and national is 41%.

When asked the reason for quitting school, they hesitated in saying that their parents could not afford to buy their school uniforms and/or books and simply said that they did not feel like studying further or said that they had fallen ill. Those who were married said that it was because they had to look after the house and kids or had to help their in-laws financially by working as daily wage labourers.

Of the total married women in the 18 to 30 age group, 43% were married for less than 10 years, showing a clear connection between mine closure, loss of employment in the families and their subsequent marriages to supposedly lighten the family burden by getting their daughter/s married.

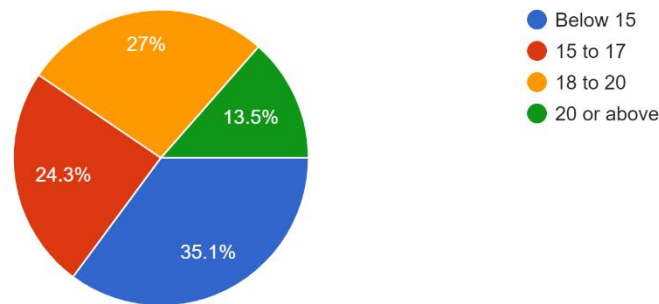
These 43% of women also confessed that their parents did not have money to send them to school as their income got reduced due to the shutting down of operations in the mines in Bijuri while the rest said that it was the norm to get married early.

Of the 41 individuals of all age groups 56.1% said that they had gotten married before the age of 15 while 24 % got married between the age of 15-17 years.

Of the 37 who had kids, 35.1% of women had kids before the age of 15 and 24.3% had children between the age of 15 to 17.

Age at which you had your first child

37 responses



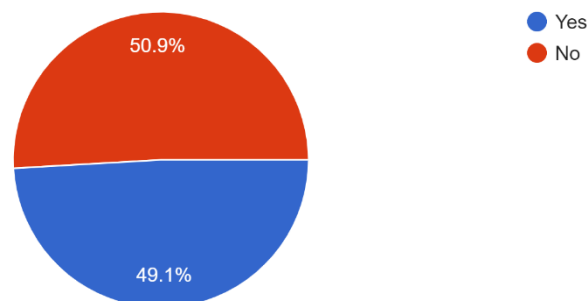
### c) Health

Of the 55 respondents, 49.1% said that they suffered from fatigue and weakness. Of them, many were young mothers who had children before turning 18. Some who had gone to the district health office said that the doctor had detected low haemoglobin levels in them after detecting their symptoms and blood tests. Most women did not go to the doctors and thought of it as a general thing which happens to women after having children as most of the women around them complained of the same thing.

According to NFHS-5 (2021), 43.6% of women between 15-19 years of age were anaemic while 52.6% of all women between 15 to 49 years of were anaemic. The state average for the same age groups was 54.7% and 58.1%. The national average for the same age groups is 57.0% and 59.1%.

Do you suffer from health problems like fatigue and weakness (for women)

55 responses



Madhu Singh, community health officer in Bijuri said during the meeting said that she works in close collaboration with Asha and Aanganwadi workers to help women understand the importance of having proper nutrition, especially during pregnancy.



Early marriages among the tribal population are very common and this leads to a lot of mental stress and sometimes disorders as the young girls are unable to adjust to the new family and are not mature enough or ready to have sexual intercourse and babies.

This stress and unplanned yearly pregnancies in the lack of proper food and nutrition, as the income is low, their periods also become irregular. Lack of iron-rich food and supplements also makes them anaemic.

When girls under 18 get pregnant and have babies, their health deteriorates further. We work in close collaboration with Anganwadi workers to provide lactating mothers fortified milk powder to help them recuperate and provide supplementary nutrition. Many times children born to these women are also weak and undernourished. Women from low-income families are the ones who have children before the age of 18 as there is low education.

She said that women who generally come to her have low haemoglobin levels. There are many underlying problems that cause this. Contaminated water and polluted air being primary followed by low levels of nutrition due to low income and large families.

Since the income of the family is low, with generally only one earning member and others dependent on the small wage, nutrition deficiency cannot be overcome.

The water supplied here has high levels of calcium that cause health problems like gastritis and kidney stones in both men and women.

Men who work in coal mines are exposed to dust every day causing problems like asthma, pneumoconiosis, and severe cough. This is present in almost 80-85% of men who have been continuously working as coal mine labourers in the area. Skin rashes and allergies are also very common among them. Some of them also develop lung and throat cancer and die in a short period.

Women on the other hand use coal for cooking and get exposed to the toxic smoke of coal and suffer from frequent headaches, asthma and cough and hypothyroidism. All these cause haemoglobin levels to dip as the body's capacity to absorb nutrients decreases and lung function also reduces. As per NFHS-5 (2021), only 21.% households used clean fuel for cooking in the district while it was 23% in rural areas in MP and 84% in urban areas of the state. 43.2 % of rural and 89.7% of urban households use clean fuel nationwide.



**A local resident from Bijuri examines the coal left in an abandoned mine. Nearby residents who have been rendered jobless now earn their living by collecting and selling coal left in the abandoned mines. Photo by Shuchita Jha.**

There is great stigma and fear of contraception despite the Asha workers' regular intervention among women to spread awareness regarding pills and condoms. Some women in the region, who got an IUD contraceptive and had some physical discomfort, discouraged other women to not get them. Men also are wary of getting a vasectomy. Some who wish to get operated are referred to the district hospital.

As the mines have closed down, the hospital run by SECL, especially for coal mine workers in Bijuri has also shut down and the doctors who were posted in the district have been transferred to other places. This has created a big access gap for communities and health services which were available to them for free or at a nominal rate.

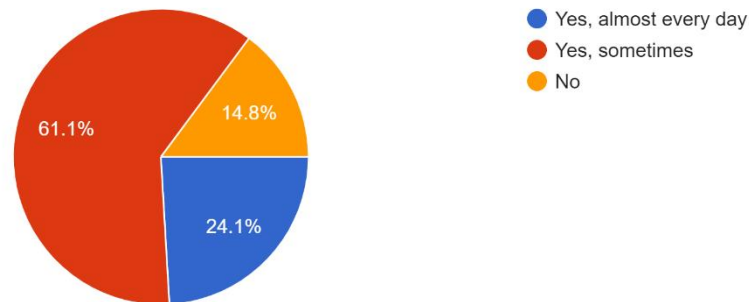
The maximum population is unable to seek healthcare as the district hospital is located 61 km away in Anuppur for which they would have to take a day off of work and miss providing for their families if the income dips further.

#### **d) Recreational drugs and alcohol abuse**

Abuse of recreational drugs like weed and hash has become quite prevalent in the area along with alcohol abuse. While consumption of alcohol during many ceremonies and festivals is customary among tribals like Bhil, Baiga, Gond and Korcu, women in general, even from non-tribal communities said that the men in their families, fathers, brothers, husbands and sons drank or smoked weed almost every day.

Do men in your family drink/smoke/ use recreational drugs of any kind (weed/ hash)

54 responses



61% of the women said that the men consumed alcohol or smoked beedi every day while 24% said that they did not drink or smoke every day but it was pretty frequent. Local leaders like Parshads of municipal wards added that the younger generation is getting addicted to weed and many of them had begun stealing from their families to buy it.

Head of Dumarkachar Municipal Council Sunil Chaurasiya said that while among people above 35-40 years of age consumption of alcohol is a big problem, children as young as 13-14 were engaging in smoking weed to get high.

He said that mine closure and lack of employment and awareness about education were three main reasons for this trend.

“When youngsters in the area see that there are no prospects for them and then they see their parents struggling to provide for even the most basic needs like food and education, it creates frustration among them and they need an escape for which they rely on these recreational drugs. Then they get addicted and cannot get out of the vicious cycle,” Chaurasiya said during my visit.

36.2% of men of 15 years and above consumed alcohol and 53.8% consumed tobacco in different forms as per NFHS-5 (2021), much higher than the state and national averages (NFHS- 5 State Fact Sheet Madhya Pradesh, 2021; Compendium of Fact Sheets, 2021). There was no data in NFHS regarding the consumption of weed or hash or other recreational drugs. The state average of men consuming tobacco is 46.5% and alcohol is 17.1. The national average of tobacco consumption among men is 38% and alcohol is 18.8%.

## Discussion

During the ground study and survey, it was found that the closure of 10 mines in the last decade had badly hit the communities residing in the Bijuri and Kotma municipalities of the Anuppur district. Their financial condition had gone down as most men, the sole earning members in many families had been put out of work. This in turn took a toll on other aspects of their and their families' lives, including but not limited to education, health and nutrition and access to healthcare along with early marriages.

Due to no alternative means of livelihood except mining, most youth (18 to 35 years of age) are left without employment. The town is on the verge of becoming a ghost town as the youth are struggling

to find work and are preferring to migrate to neighbouring districts and other states in search of work. Many families said that their sons had moved out to other districts of Madhya Pradesh, Chhattisgarh, Gujarat and Maharashtra in search of some kind of employment as they had tried to find work, set up shops and stalls and other kinds of income-generating work but everything faltered after a while.

According to local municipal bodies, because of the closure of the 10 mines and subsequent consequences, the population of the district has gone down as the retired employees working in the SECL mines have left town and the youth are migrating and settling down in other places. But in the absence of a census since 2011 this is hard to prove.

But the impact of the creamy layer leaving can be seen on the underprivileged families who used to find employment opportunities with them as cleaning ladies, cooks, electricians, cable operators, gardeners, drivers etc.

Naveen Mesi, a 53-year-old cable operator and internet service provider, said that back in 2013 he provided 3200 cable connections in Bijuri and by 2023 the number of connections had reduced to 300. This was almost a 91% dip in business for him because of the permanent employees of SECL moving out and no new recruitments taking place. Because of permanent employees working in SECL moving out, people indirectly dependent on coal mines are suffering as much as those directly working in mines on a contractual basis.

The case study of Bijuri shows that while the previous generation being permanently employed in SECL (even in exchange for their private land) still get a pension of Rs 30,000 to Rs 50,000 while their children (most 35-50) year olds are barely making Rs 8,000 per month or moving out in search of work.

Some farmers who had to give up their land to SECL many decades ago are still waiting to get back possession after mining stopped. Some of their plots have been submerged in water and they are waiting for SECL to follow the existing mine-closure protocol and hand them over their plots by reinstating them in their former state.

The case study of Bijuri and Kotma provides insights into the lives of the communities whose livelihood is, directly and indirectly, dependent on mines. Once mines in such areas start closing down it creates rampant unemployment in these areas which has a ripple effect on all aspects of the lives of the residents.

## **Conclusion and Way Forward**

The research investigates the negative impact of coal mine closure in the Bijuri and Kotma municipalities of Anuppur district in Madhya Pradesh through the lens of Just Transition. The closure of around 10 mines in the last decade has left thousands of people without alternative means of livelihood, rendering them unemployed and affecting their access to basic facilities like healthcare and education.





**A jobless local person collects coal from an abandoned mine in Bijuri. Photo by Shuchita Jha.**

The study highlights the need for a Just Transition that takes into account the social and economic consequences of the transition to a low-carbon economy and ensures that the affected communities are not left behind. It emphasizes the importance of establishing alternate sources of livelihood and providing the necessary skills and training to make the affected people employable in other sectors, while also ensuring access to basic facilities and addressing the socio-economic inequalities in the region.

The findings of the study underscore the need for a Just Transition policy framework that prioritizes the needs of the affected communities and ensures a fair and equitable transition to a sustainable future.

Achieving a Just Transition requires a comprehensive and collaborative approach involving multiple stakeholders, including governments, businesses, workers, and communities. Here are some steps that can be taken to ensure that people's livelihoods are restored by creating alternate sources of livelihood:

- **Engage with workers and communities:** It is important to involve workers and communities in the decision-making process to understand their needs and concerns. This will help in identifying the skills, experience, and preferences of the workers, which can be used to design training programs and create job opportunities in new industries.
- **Develop a comprehensive plan:** A comprehensive plan should be developed that outlines the steps needed to create new job opportunities and support the transition. This plan should take into account the economic, social, and environmental impacts of the transition and identify the sectors that have the potential to create new jobs along with a bottom-up approach to identify the affected communities to train them for other sectors.
- **Training programs and skill development:** Training programs should be developed to provide workers with the necessary skills and knowledge to work in new industries. These programs

should be designed in collaboration with the industry and should be tailored to the specific needs of the workers.

- **Provide financial support:** Financial support should be provided to workers during the transition period to help them manage the financial impact of job loss. This support can take the form of severance pay, unemployment benefits, or other financial assistance.
- **New job opportunities:** New job opportunities should be created in the sectors that have the potential to absorb the displaced workers. This can be achieved through government incentives or other support mechanisms along with research and skill development.
- **Promote local businesses:** Keeping in mind local businesses and their potential, entrepreneurship can be promoted by providing training, mentoring, and financial support to individuals who want to start their own businesses. This will help in creating new job opportunities for the locals and reduce the migration of youth.
- **Environmental sustainability:** The transition should be designed in a way that ensures environmental sustainability by promoting the adoption of renewable energy sources, sustainable agricultural practices and other energy-efficient technologies.

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