#### DEUCHA PACHAMI AND COAL MINING - PRELIMINARY FACTSHEET: A Documentation

## **CAUSE OF ACTION**

• Implementation of the project to mine coals and basalts from Deucha-Pachami-Dewanganj-Harinsingha (DPDH) coal block, in the south western part of Birbhum coalfields. There is support for the Project, while there is resistance as well, among the local inhabitants.

## ESSENTIALS ABOUT THE MINE

- Deucha Pachami coal block, spread over an area of 9.7 sq. km, is to be developed by 'Bengal Birbhum Coal Company Limited'.
- Reserves of coal is estimated at 2,100 million tonnes with an investment potential of Rs. 20,000 crores.
- Another adjacent coal reserve is at Dewanganj Harinsingha block with an estimated area of 2.6 sq. km.
- Deucha-Pachami-Dewanganj-Harinsingha (DPDH) coal block is considered to be the largest coal block in Asia and the second largest in the world.
- It is projected to be an open-cast coal mine
- Opencast or open-pit, is a surface mining technique, that extracts minerals from an open pit in the ground. This technique is used when coal deposits are found relatively close to the surface.
- The block has a thick coal seam trapped between equally thick layers of rocks, mostly basalt. It does have a great economic value. The existence of these thick basalt layers, however, makes mining of coal difficult; foreign investment and technology will hence be needed for mining.

## LOCATION OF DPDH COAL BLOCK

- Deucha Pachami is in Mohammad Bazar Block of Birbhum district in West Bengal, India, about 200 km from Kolkata.
- Latitude: 24o 01'45" 24o 05'30" N (approx.); Longitude: 87o 34'15" 87o 37'39" E (approx.)
- The nearest important railway station from this coal mine is Sainthia Junction, in between Bolpur (Santiniketan) and Rampurhat stations.
- The Panagarh–Morgram Highway runs through this coal mine or block.

## BENGAL BIRBHUM COALFIELDS LIMITED

- Bengal Birbhum Coalfields Limited is an unlisted public company incorporated on 29 September, 2015. It is classified as a 'State government company' and is located in West Bengal. Its authorized share capital is INR 10.00 crore and the total paid-up capital is INR 10.00 lac.
- The current status of Bengal Birbhum Coalfields Limited is 'Active'.
- The last reported AGM (Annual General Meeting) of Bengal Birbhum Coalfields Limited, per our records, was held on 29 December, 2020. Also, as per our records, its last balance sheet was prepared for the period ending on 31 March, 2020.
- Bengal Birbhum Coalfields Limited has three directors Rana Som, Amalesh Kumar and others.
- The Corporate Identification Number (CIN) of Bengal Birbhum Coalfields Limited is U10300WB2015SGC207911. The registered office of Bengal Birbhum Coalfields Limited is at 'Bidyut Unnayan Bhaban', 7th Floor, 3/C, Block-LA Sector-III, Bidhannagar Kolkata, 24 Parganas North, West Bengal.

[Source:https://www.tofler.in/bengal-birbhum-coalfields-limited/company/U10300WB2015SGC207911]

## THE DEUCHA-PACHAMI-DEWANGANJ-HARINSINGHA COAL BLOCK

"The Deucha Pachami Dewanganj Harinsigha coal block recently allocated to WBPDCL by Ministry of Coal, Government of India is considered to be the largest coal block in India. At present the coal requirements of WBPDCL is around 24 million tons per annum which is expected to reach 40 million tons per annum with the capacity addition in progress. Coal supply from Deucha Pachami Dewanganj Harinsingha coal block will make WBPDCL self-reliant in the field of fuel supply liberating it from its dependence on external agencies. This will be a paradigm shift and usher in a new era of WBPDCL. Once the mine will be operationalised it will not only provide WBPDCL the required quantity of coal for its Power Plants but also provide varied viable economic activities among the rural population."

[Source: The West Bengal Power Development Corporation Limited Website:

https://wbpdcl.co.in/irj/go/km/docs/documents/PDCL/FINAL/Pages/deocha pachami.html

## LAND AND INHABITANTS

- The proposed mine would occupy over 11,222 acres. Of that, over 9,100 acres (81%) belong to tribals
- The coal block is spread over 13.7 square kilometres.
- As many as 4,134 houses, located on the coal block, belong to Adivasi (Scheduled Tribe), Scheduled Caste, minorities and other communities.
- More lands in the adjacent blocks will be needed for waste disposal, according to the Geological Survey of India Report.
- Many tribals here are against the coal mine. They have refused to accept compensation or rehabilitation in exchange. They fear eviction and loss of houses, agricultural land and also water bodies and forest, in eleven Mouzas of five Gram Panchayats in Mohammad Bazar Block, affecting 53 villages.

## GOVERNMENT OF INDIA AND DEUCHA PACHAMI

According to Lok Sabha Unstarred Question No: 2078, Answered On: 09 March 2011, regarding Coal Mining in Deucha Pachami, Union Minister of State for Coal, Pratik Prakashbapu Patil, said:

- DPDH has been regionally explored by Geological Survey of India.
- Four coal seam zones have been identified in the block.
- However, the coal seams are concealed by a thick cover of Trap formation.
- An indicated category coal resources of 2025 Mt. has been reported in Deucha-Pachami and adjoining eastern sector in Grade-C to G and up to 850 m depth.
- A request has been received from the Government of West Bengal for allocation of Deucha Pachami coal block to a Special Purpose Vehicle to be formed by Coal India Limited, National Mineral Development Corporation and West Bengal Mineral Development and Trading Corporation Ltd.
- Normal coal exploration techniques required for detailed exploration of trap covered deep seated coal reserves will be applied in Deucha-Pachami Block. This includes use of different type of bits with high-capacity drills.

#### CIL AND DEUCHA PACHAMI

- CIL had access to the block but decided not to invest in it because of geological challenges.
- DPDH is known to have a thick layer of overburden, that is, a thick outer surface covering the coal seams.
- Opencast mining at DPDH would "require huge investments and perhaps also technology from outside India".

## GSI REPORT ON COAL RESERVE AT DEUCHA PACHAMI

According to available GSI reports, underground coal reserves at Deucha Pachami is impressive.

As per old nomenclature, both A&B and C-G grade coals are available in Deucha Pachami.

A&B were best steel grade coal while C-G was deemed suitable for power plants.

However grading nomenclature has changed in 2012 and now it is said that Deucha Pachami has Grade C to G.

Much of the coal seams in Birbhum is within 300 m depth, though some goes to 600 m.

Coal overburden ('overburden' is a thick outer surface covering the coal seams) ratio is between 1:3 & 1:5, which is considered to be suitable.

Though the hard trap rock (is any dark-coloured, fine-grained, non-granitic intrusive or extrusive igneous rock) is a problem but probably not unsurmountable.

In short, 'viability' of coal extraction and usability of this 'huge' resource, cannot be questioned.

Central Government announced that 58 coal blocks in 7 states will be auctioned by the Coal
Ministry. Of these, Deucha Pachami in Birbhum, West Bengal, had the largest coal reserve.
A special purpose vehicle – Bengal Birbhum Coalfields Ltd. – was created by the West
Bengal Government, to develop the mine at Deucha-Pachami.
In September 2018, the Central Government and the State Government-owned West Bengal
Power Development Corporation Limited (WBPDCL) signed an agreement and allocated
the land to the Corporation.
The West Bengal Government had not started work.
Chief Secretary Rajiv Sinha visited the area and said that the state government would start
the "exploration work" at Deucha-Pachami coal mine immediately after Durga Puja in
October '21. The locals say there was no consultation between the locals and the state.
They also claim that no one from the villages attended the meeting last July.

2021 December: West Bengal Chief Minister Mamata Banerjee announced that Deucha-Pachami coal mine

would solve the state's coal and power demand for the next 100 years and will create one

lakh jobs.

Recently: WBPDCL, the nodal agency in charge of the coal mine, have started conducting a 'social

impact survey' on households living on about 3,500 acres of land.

## **DISPLACEMENT**

• Some estimate, that 21,000 people will be displaced, out of which 9,034 (43%) will be Adivasis from Santhal community. Others say overall, 70,000 could be affected.

- Adivasis constitute only 8.6 % of the total population in India, and yet, 55 per cent of all displaced after Independence were Adivasis.
- In this area, many have been displaced and dispossessed in the past due to the construction of large dams and the setting up of mining-related industries or stone quarries.

## **COMPENSATION**

- The State Government claims to have given villagers hard copies of the compensation and relocation package in Bengali and Santhali languages to villagers.
- The proposed project area covers around 3,400 acres, with an estimated yield of 2,102 million tonnes of coal.
- A package of Rs 10,000-crore for compensation and rehabilitation has been announced on November 9, 2021.
- Rs 10-13 lakh per bigha will be provided it is claimed to each household for their land.
- A 600 square feet home to each dislocated household in a rehabilitation colony.
- An additional 1.2 lakh for relocation-related expenses.
- A police job for each family that loses land
- Workers in stone crushers to get one-time payment of Rs 50,000 and Rs 10,000 per month for a year.
- Agricultural workers will get Rs 50,000 in a one-time payment and 500 days' work under NREGS

# A DISCUSSION – MINING INDUCED DISPLACEMENT AND RESETTLEMENT (MIDR)

- Mining-induced displacement and resettlement poses significant major risks to sustainability of society.
- Mining displaced 2.55 million people in India between 1950 and 1990.
- Rich mineral deposits are generally found in areas with relatively low land acquisition costs.
- Areas in which politically weak and powerless populations, especially indigenous peoples traditionally stay.
- MIDR is accompanied by what displacement specialists call the resettlement effect.
- Over and above the loss of land, the loss of physical and non-physical assets, including homes, communities, productive land, income-earning assets and sources, subsistence, resources, cultural sites, social structures, networks and ties, cultural identity and mutual help mechanisms can cause havoc.
- Other potential risks that deeply threaten sustainability include joblessness, homelessness, marginalization, food insecurity, loss of common lands and resources, increased health risks, social disarticulation, the disruption of formal educational activities, and the loss of civil and human rights.
- Failure to mitigate or avoid these risks may generate "new poverty," as opposed to the "old poverty" that peoples suffered before displacement.
- Nonetheless, attempts to restore the displaced to their former economic and social conditions have mostly proved ineffective.
- Effective relocation and rehabilitation where people are better off than they were before resettlement, has seldom been achieved.
- Fault lies in the wrong-headed notion that compensation for losses is sufficient to rehabilitate a displaced economy.
- Compensation by itself cannot adequately restore and improve the income levels and livelihood standards of people forced into displacement.
- Generally, compensation becomes the goal rather than a means to help ensure a sustainable outcome.
- Some liabilities are widely acknowledged. Other liabilities (possible liabilities) are not currently accepted although scientific research has found them valid. A broad band of probable liabilities falls between the possible and the acknowledged. Pressures must be built from all directions to regularize liabilities that until now were considered probable and possible liabilities.
- But the key question remains: Who pays for countering the resettlement effect in mining induced displacements and resettlements at present? ... The displaced are more often than not bearing that cost!!!

### SOME POINTS TO PONDER OVER AND SOME QUESTIONS TO ANSWER

- Many countries are attempting to reduce their dependence on coal-based energy.
- The impact of climate change is hurting not only the poor but also the rich countries.
- There is now an emerging consensus that action against climate change has to be taken now, and quickly.

In the United States, coal consumption in the last 12 years has declined from 1,045,140 million short tons in 2007 to 539,420 million short tons in 2019, a decrease of almost 50%. During that period the number of electric power coal generators has declined from 1,470 to 738 accounting for 21% of capacity. An even more dramatic decrease in coal use has occurred in Western Europe. However, in China, India, Russia and in several other Asian countries some projections indicate an increase in coal production and use.

In 2016, the world recorded the slowest increase in greenhouse gas (GHG) emissions since the early 1990s, except for global recession years. This is mainly due to two factors: lower coal consumption and increased generation of renewable power. In fact, global carbon emissions registered "almost no growth" from burning fossil fuels for the third consecutive year despite global economic growth exceeding 3 per cent a year. The 7th Sustainable Development Goal of the UN aims to – "Ensure universal access to affordable, reliable and modern energy services by 2030."

- As a matter of fact, at the mining level, the government enjoys dividend payments from Coal India Limited, and the railways, receives an existential level of cross-subsidy from coal.
- One should also take note of the large revenues from taxes, royalties, and mining fees, which are amongst the highest in the world.
- Availability of domestic coal has fuelled availability of energy which fuelled economic growth.

The government, with the target to connect 40 million households to the grid by December 2018 and curb rising electricity prices, is investing heavily in coal mines. It wants CIL, the state monopoly, to produce 1 billion tonnes of coal a year by 2019-20; up from 554 million tonnes in 2016-17. It is looking to open new mines in the untapped 5,100 sq km coal bearing lands. New gas pipelines are being laid to make LPG available to all. In addition, an ambitious scheme—Ujwal Discom Assurance Yojana (UDAY)—is being implemented to revive discoms operating in the red.

- One cannot ignore India while discussing climate change and coal is an integral part of India's future as is, probably, Deucha Pachami.
- Coal is domestically available and hence relatively cheap. A new coalmine is, as if, an inevitability!
- Going forward, India's focus will be on the combination of a controlled transition, increasing domestic supply, growing renewable energy, and cleaning up coal emissions.
- The situation may only get worse as India plans to massively increase coal production over the next five years. For instance, the coal production of Coal India Limited (CIL), which produces the majority of India's coal and is considered the largest coal producer in the world, is projected to further increase from 630 million tons (Mt) to 1000 Mt in the next four years.
- In India, for the first time, a power plant—Badarpur Thermal Power Station in Delhi—was closed to make air breathable during the winters.

## MINING RELATED POINTS AT DPDH OPENCAST COAL MINE

- The grade of coal varies from C to G.
- Coal about 200-800 metres below the surface.
- On the surface there is a thick mantle of igneous rock.
- Foreign technology and experts might be needed to move the thick cover in order to mine coal.
- GSI has explored 21 boreholes at Deucha-Pachami and 15 at Dewanganj-Harinsingha to provisionally assess the coal deposit below the thick volcanic deposits on the surface.
- Detailed exploration of deep-seated coal reserves below the thick outer surface covering the coal seams, still needs to be done before thousands of crores are invested for actual mining.
- Methane might be released because of mining activities including use of explosives to be used to break through the surface rocks.
- Such mining activities are capable of various kinds of adverse environmental impacts on air, water and soil.

#### PHYSICAL LOAD OF MINING

#### Waste

- Open-pit mines create a significant amount of waste from drilling, blasting, loading, and hauling.
- Leftover waste from processing the ore is called tailings, and is generally in the form of a slurry.
- This is pumped to a tailings dam or settling pond, where the water is reused or evaporated.
- Tailings dams can be toxic and this toxicity can harm the surrounding environment.

#### **Pollutants**

- Open-pit mining involves disrupting the ground, which leads to the creation of air pollutants.
- Air pollutants comes from the transportation of minerals and also drilling, blasting, and loading-unloading of overburden, that is the thick outer surface covering the coal seams.
- Pollutants cause harm to public health and safety; air quality; flora and fauna around open-pit mines.

#### Rehabilitation

- After mining finishes, the mine area may undergo land rehabilitation.
- It may take hundreds to thousands of years for some waste dumps to become "acid neutral" and stop leaching to the environment.
- The dumps are usually fenced off to prevent livestock denuding them of vegetation or to prevent access, and it generally eventually fills up with ground water.
- Instead of returning the land to its former natural state, it may also be reused, converting it into recreational parks or even residential/mixed communities.

## GOVERNMENT STUDY ON MINING ACTIVITIES ON LOCAL INHABITANTS

A recent government study has found that mining activities in the coal-rich Tamnar area of Chhattisgarh have put the local tribal population, at an increased risk of acute respiratory diseases and tuberculosis. The disease burden rate of tuberculosis in Tamnar is nearly double the national rate and almost triple the rate in the state. "...Tribal population of Raigarh are at increased risk of acute respiratory infection (ARI), tuberculosis, road traffic accident (RTA), etc." The study was by Madhya Pradesh-based health research institute Indian Council of Medical Research-National Institute of Research in Tribal Health (ICMR-NIRTH) which conducted the cause of death survey in the 33 villages of Tamnar block between December 1, 2018 to November 30, 2019. The survey covered 1,713 individuals from 984 households from 33 selected villages of Tamnar block for clinical examination.

The study showed that apart from environmental health hazards, "undernutrition increases the risk further for various diseases." It noted that among non-communicable diseases, "cardiovascular diseases were the leading cause of death" while "tuberculosis was the major cause of death in infectious and parasitic diseases category." The report also found a high rate of prevalence of fungal infection in the people of the area and noted that "various causes such as environment, overcrowding, diabetes mellitus, bathing in contaminated water and poor living conditions may be major factors." Kelo river in Tamnar is polluted due to waste disposal from mining activities."

## HEALTH ISSUES CAUSED BY MINES

In a 2010 paper, *Under-mining health: Environmental justice and mining in India*', that focused on health impacts of iron-ore mines in Keonjhar in Odisha, researchers found that those living closer to mines reported a higher incidence of respiratory illness and more workdays lost due to malaria.

Researchers pointed out that for malaria, this would be through mosquito ecology – in a disturbed landscape (e.g., when land is torn up, puddles form and this is what mosquito larvae need to hatch).

For respiratory illness, this would be through air pollution-related to the mining and the transportation of ores. Those staying nearer to the mines, hence more exposed, had higher rates of diseases, compared to those less exposed.

This study gathering ground level evidence on adverse health consequences of mining, which continues to grow around the world pointed at the increase in the literature related to mental health impacts, besides respiratory and vector-borne illness (like malaria).

Unregulated mining and destruction of natural habitats might force the displacement of communities living in these areas for generations. Not only does it lead to adverse economic and dietary impacts, but also to a deep sense of loss related to the cultural and emotional connection of these people with the environment that had sustained them.

## HEALTH OF COAL WORKERS

A recent exploratory study to determine the health and livelihood conditions of coal workers in the Jaintia Hills in Meghalaya where rat hole mining is prominent finds respiratory problems as the most prevalent disease. As many as 511 household members were surveyed, out of which 266 respondents were coal labourers (coal digger, cutter, cart puller, owner, and others). Cholera and malaria, typhoid, skin disease was also reported. Tuberculosis was found to be relatively low, followed by vision defects and broken bones. The occurrences of these diseases in the mining areas were due to inhalation of dust particles and subsequent use of contaminated water. It is also important to note that majority of the household members are prone to suffer multiple diseases at a time. Mining, unless there are sufficient safeguards, generate environmental problems that have health and other implications, the researchers said.

## 'RESOURCE CURSE': BENEFITS TO LOCALS

Social workers who have been working in mining dependent areas, say that the locals who are affected by mining rarely get the benefit of that mineral even as they pay the highest cost.

The story is almost the same everywhere.

Like in the coal-rich Korba region of Chhattisgarh and Singrauli in Madhya Pradesh, considered the energy hub of the country, miners are facing very similar "resource curse".

People living close to power plants fail to get electricity while it is supplied to distant parts of the country; their water bodies get contaminated due to polluted water from mining and power generation activities; and the air quality is very poor leading to respiratory problems.

Some say, that if the livelihood, income, and other benefits are large, these are costs one may choose to accept. However, often there is a disconnect between who is bearing the costs (e.g., economically impoverished and politically disenfranchised) and who is gaining the benefits.

It is said that unless the government and the mining companies are operating in good faith (which is not common), the country does not have good policies or laws to either minimise the environmental damage – pollution, land degradation, etc. or to compensate those directly impacted so they can protect themselves or take other adaptive actions.

## RENEWABLE ENERGY

Following is a list of some alternative, sustainable and renewable energy resources in use: -

- 1. Wind Energy: Wind power has tripled over the past 10 years in the United States, making wind energy the number one largest renewable energy source in USA.
- 2. Solar Energy: Solar power most commonly refers to the use of photovoltaic cells (or solar cells) to create energy.
- 3. Hydroelectric Energy: Generated from the energy of moving water, hydroelectricity (also known as hydropower) is produced when water behind a dam causes turbine blades to move as it flows through an intake.
- 4. Geothermal Energy: We generate geothermal power by tapping into underground reservoirs of hot water and steam.
- 5. Bioenergy: We generate bioenergy from organic materials known as biomass or biofuels.
- 7. Hydrogen Energy: Hydrogen is used as a clean-burning fuel, leading to fewer pollutants and a cleaner environment.
- 8. Tidal Energy: With the movement of the tides, we get tidal energy when the kinetic energy of the water movement converts into electrical energy.
- 9. Wave Energy: Wave energy is an alternative energy source derived from waves as they move across the water.

## COLLATERAL DAMAGE – DOES ANYONE REALLY CARE?

Buyer wants the coal – the company incurs a cost in getting the coal – hence the company charges the buyer for the coal – the collateral damage on the people, land, air and environment, in and around the mines, is no one's cost and remains unaccounted.

Maybe the buyer would be willing to pay extra to help reduce the costs or compensate for the costs, in which case the seller would be willing to charge for it and take extra precautions in the extraction process.

Health and environmental impacts are, what an economist might call, an 'externality'. In most cases, neither side has any incentive because these are health costs to 'others' who are locals, rural poor or might be even better if they are also 'tribals'. And even trying to offset environmental degradation is still signs of sheer naivety.

Some urge that until people are made partners in mining activities they will continue to suffer as no one will ensure that promises made on paper while setting up such activities and seeking clearance for them are fulfilled. The indiscriminate and unscientific mining and absence of post mining treatment and management of mined areas have made the fragile ecosystems more vulnerable to environmental degradation. As a result, the soil, water, forest and forest products, biodiversity etc. have been severely affected both in terms of their quality and quantity. The traditional livelihood options linked to these have been affected.

To some extent, coal mining has indeed contributed towards industrial and economic development of the state. However, mining of coal and limestone has severely affected the land and soil, water, air, fishery, forest, biodiversity, agriculture and agricultural production, socio-economy etc. in the mining areas. Sustainable livelihood has also been affected. Do the 'benefits' limited to some people elsewhere, really match up to the harm it brings about in the lives of the locals?

## IMPACT OF MINING ON SOIL, WATER, AIR

## • Impact of Mining on Soil – severe degradation

Unscientific method of coal mining generates huge quantity of mine spoil in the form of gravels, rocks, sand and soil which are dumped over a large area adjacent to mine pits changing the natural landscape leading to severe soil degradation. Further, excavation of land leads to loss of top fertile soil.

# • Impact of Mining on Water – qualitative degradation and quantitative depletion

The water bodies are victims in terms of qualitative degradation and quantitative depletion. The streams and rivers are badly affected too by contamination of 'acid mine drainage' originating from mines and spoils, leaching of heavy metals, organic enrichment and silting by coal and sand particles.

# • Water Scarcity due to Mining – Poor people are worst affected

Due to excavation and disturbance of landscape, many streams become seasonal as water percolates into the ground. Thus, water resources in the mining area are affected and people face real difficulty in getting access to clean drinking water. Besides establishment of cement plants near mines further aggravate the water scarcity. Poor people are worst affected.

## • Effect of Mining on Air quality – thick dust coating

Drilling, blasting, hauling, loading and transportation, contributes to air pollution increasing concentration of suspended particulate matter (SPM) and respirable suspended particulate matter (RSPM) in the area. The gaseous pollutants are caused by movement of bulldozer, drilling machines, dumpers and transportation vehicles. Cement plants which are often found to set up in the vicinity have coal based captive thermal power plants for generation of electricity. These power plants are burning coal which is a major source of sulphur dioxide in atmosphere. Deposition of thick dust on vegetation, buildings and roof top especially during the dry season is a common phenomenon.

## EFFECT OF MINING ON FOREST, AGRICULTURE, SOCIO-ECONOMY

## • Effect of Mining on Forest – deforestation and degradation

Mining involves clearance of large amount of forest. Mining causes deforestation, fragmentation of forest, diminishing plant diversity and degradation and loss of habitats. The diversity and density of trees, shrubs and herbs in the mined areas has been reported significantly lower than that of the unmined areas.

## • Effect of Mining on Agriculture – mining versus agriculture

Mining activity has adversely affected crop growth and production. The pollution of air, water and soil caused by mining activities has affected the agriculture/horticulture, fisheries and rearing of livestock. Mining has adversely affected habitat of aquatic flora and fauna and abundance and diversity of aquatic species.

#### • Effects of Mining on Socio-economy – tradition under attack

Poorer section of the society is losing their land to mining companies. Companies are claiming community lands for coal mining. Loss of community land results in some loss of livelihood avenues specially for the landless. Indigenous people face difficulties to maintain cultural continuity as the mining activities have separated them from their traditional homestead and agricultural lands and ecosystem. After coal mines start operating, issues like excessive consumption of alcohol, prostitution and other illegal activities are becoming rampant. The women in the community are at the receiving end. Sustainable options of livelihood of a large number of people have been affected while benefits reach a small number of people.

[Source: This is a preliminary factsheet ... This is basically a documentation ... We have used matter in the public domain up to January 2022 ... We acknowledge all such writeups by individuals and organisations.]

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