

A Study in Industrial Health: Coal Miners in Eastern India, 1890s-1952

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Declaration

I herewith affirm that I wrote the submitted dissertation “A Study in Industrial Health: Coal Miners in Eastern India, 1890s-1952”, independently and without any prohibited help. I did not make use of any aids and papers other than those indicated by me. I have marked all word-by-word or implied citations of the writings of other authors. The treatise has not been published yet and not been an object of a doctoral process yet.



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Tag der mündlichen Prüfung.....

This dissertation is dedicated to my parents.

Curriculum Vitae



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EDUCATIONAL QUALIFICATIONS

- Finished **PhD** on 12 June, 2017 from the Centre for Modern Indian Studies (CeMIS), University of Göttingen, Germany. The title of my PhD thesis is “A Study in Industrial Health: Coal Miners in Eastern India, 1890s-1952.” I have worked under the supervision of Prof. Dr. Ravi Ahuja.
- **M.A. (in History)** from University of Calcutta in 2006 with 61% of marks.
- **B.A. (in History)** from Presidency College, University of Calcutta in 2004 with 56% of marks.
- **Higher Secondary (in Arts)** from West Bengal Council of Higher Secondary Education in 2001 with 71.1 % of marks.

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PROFESSIONAL EXPERIENCE

- Worked as a **Lecturer in History** at Dum Dum Motijheel Rabindra Mahavidyalaya (under West Bengal State University) from **October 26, 2009 to July 20, 2011**.
- Taught History at **Post-Graduate level** as part of Kalyani University's Directorate of Open & Distance Learning Programme, 2010.
- Worked as a **research assistant** with Projit B. Mukherji, the then Wellcome Fellow, Southampton University, UK. The project was on **the History of Ayurvedic Practices in Late Colonial India** (January-March 2007).
- Worked as a **research assistant** with **Professor Dr. Kunal Chakraborty**, Centre for Historical Studies, Jawaharlal Nehru University, New Delhi. The project was on **the History of Bengali Sweetmeats and Food-culture** (March 2007-June 2008).

SCHOLARSHIPS

- My PhD was majorly funded by the **CeMIS (University of Göttingen)** Internal Funds.
- Was awarded a scholarship for 3 months (October 1–December 31, 2012), by **German Historical Institute London** for field research in London.
- Received a scholarship from the **Graduate School of Humanities (GSGG), University of Göttingen**. Duration of the fund was six months (May to October, 2015).

PUBLICATIONS

- A research paper titled "**Occupational Disease, Dhowrahs and Migration: Coal Miners of Eastern Indian Collieries, 1900s-1940s**" has been published in the October 2016- March 2017 issue (Volume 56, Nos 3 & 4, pp. 5-22) of *the Quarterly Review of Historical Studies*, a refereed journal published by the Institute of Historical Studies, Kolkata.
- "**Media Effects and Public Opinion: A Cynical Perspective**" published in *Perspectives / Drishtikon*, a magazine published by the Department of History, University of Calcutta, in January 2007.

SEMINARS

- Presented a paper titled “*The Plight of the Colonial Coal-miners: Accidents and the Colonial Government-Capitalist Class Nexus (1894-1912)*” at a National Level Seminar with International Delegate Participation on *Political Economy, Nation, Development and Environment: A Historical Perspective of India between 1707 and 1960*, Sponsored by UGC and ICSSR & organized by the Post Graduate Department of History, Malda College, Malda on 16th & 17th January, 2010.
- A paper titled “*Coal Exhaustion, Exhaustion of Human Wealth and Technological Intervention (1900-1920)*” was presented at a ICHR sponsored National Level Seminar on *Interrogating and exploring Hindustan, British “India” and “India” 1556-2000*, Organized by the Post Graduate Department of History, Malda College, Malda, in Collaboration with the Department of History, Jadavpur University, Kolkata, on 8, 9 and 10 September, 2010.
- Presented a paper titled “*The Working Class of Bengal: An Attempt at Broadening the Horizon*” at the 71st session of the Indian History Congress, held at Gourbanga University, Malda, on 11,12 and 13 January, 2011.
- Presented a paper titled “*A Study in Industrial Health: the Coal Mines of Eastern India (1901-1973)*” at German Historical Institute, London, on 27th November, 2012.
- A paper titled “*Miners, Migration and Maladies: Occupational Health and Migrant Miners (The World War Years)*” was presented at a workshop on ‘Labour and Social Change in India’, held at the Nehru Memorial Museum and Library, New Delhi, on 18th and 19th January, 2013.
- Have been regularly presenting at the History Research Group Seminars of **CeMIS (University of Göttingen)**; twice a year from 2011-2015.

LINGUISTIC PROFICIENCY

Bengali:	Native Language
English:	Full professional proficiency
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MISCELLANEOUS QUALIFICATIONS

Computer Literacy:

- A certificate course on **Editing and Publishing** from Jadavpur University.

- **Software Packages:** MS Word, MS Excel, Adobe PageMaker, Adobe Photoshop, Quark Express.

CO-CURRICULAR ACTIVITIES

- Champion in Presidency College Annual Football Championship, 2003.
- Attained 2nd position in all campus Annual Quiz Competition, Alipore Campus, (Calcutta University), 2005.
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I do hereby declare that the above furnished details are true to the best of my knowledge and belief.

Zusammenfassung

Diese Dissertation widmet sich der Geschichte des Bergbaus in Indien, wobei der Fokus von den Rohstoffen auf die Minenarbeiter*innen gelenkt wird. Neben geologischen Entdeckungen, formte der Kolonialstaat die Identität der Minenarbeiter in der letzten Hälfte des 19. Jahrhunderts. Diese Arbeit dokumentiert einige Phasen dieser Identitätsbildung von 1890 bis 1952 und hält fest, welche Rollen Parteien, der Kolonialstaat, der postkoloniale Staat, Gewerkschaften, feministische Aktivist*innen, die Minenarbeiter*innen, Ingenieur*innen, Minenbesitzer*innen, Unternehmen, Mediziner*innen und Spezialist*innen auf internationaler Ebene, spielten. Die Vorstellung von 'safety' (Sicherheit) war Gegenstand aller bedeutenden Debatten und Auseinandersetzungen über das Leben der Minenarbeiter*innen. In meiner Doktorarbeit werde ich aufzeigen wie unterschiedlich das Wort 'safety' interpretiert wurde und wie die Debatten darum die Zukunft der Minenarbeiter*innen bestimmten.

Meine Arbeit deckt die Kohlenreviere im ehemaligen Bengalen und heutigen westbengalischen Region Jharkhand ab. Der Betrachtungszeitraum reicht von 1890 bis 1952, die jeweils entscheidenden Jahre für Sicherheitsvorkehrungen im Bergbau. Diskussionen über Sicherheitsvorkehrungen begannen 1890. 1952 wurde der abgeänderte *Indian Mines Act* erlassen, dessen Schwerpunkt auf der Erhaltung von natürlichen und humanen Ressourcen lag – ein Konzept, das integral für den Diskurs um 'safety' war.

Die Abbaugelände, mit denen sich diese Arbeit im Wesentlichen auseinandersetzt, liegen vorwiegend in den Regionen Raniganj, Jharia und Giridih. All diese Bergbaugelände waren bis

zur ersten Hälfte des 20. Jahrhunderts Teil von Bengalen. 1912, nach der Aufhebung der Teilung Bengalens von 1905, wurden Jharia, einige Teile von Raniganj und Giridih Teil der zusammengesetzten Provinzen Bihar und Orissa. Das Bergwerk in Giridih gehörte den *Eastern Indian Railways*. Es war bekannt dafür, wesentlich bessere Infrastruktur und Arbeitsgeräte im Vergleich zu den Bergwerken in Raniganj und Jharia zu haben. Bergwerke, wie Dishergarh, wurden von führenden Unternehmen wie Macneill and Company, Burns, oder Andrew Yule, betrieben. Die Kohlenreviere in Raniganj und Jharia wiesen eine Anzahl auffällender Ähnlichkeiten in Bezug auf den Bergbaubetrieb auf. Die Methoden zur Bearbeitung und Gewinnung von Kohle waren in den meisten Bergwerken gleich. Die Bodenbedingungen und das geographische Terrain unterschieden sich nicht besonders. Tatsächlich fielen Teile des Raniganj Bergwerks in die Gebiete von Jharia.

Trotz dieser allgemeinen Gemeinsamkeiten sind die Differenzen innerhalb der Bergbaugebiete nicht zu übersehen. Die unterschiedliche Qualität der Kohle, die Unterschiede zwischen Kokskohle und solcher die es nicht war, sogar die Härte oder Weichheit des Rohstoffes spielten eine signifikante Rolle bei der Gestaltung der Arbeitsbedingungen in den Minen. Ein bedeutender Unterschied, der sich zwischen Raniganj und Jharia feststellen lässt, ist die Art der Arbeitskraft, die sie jeweils anzogen. Während man in Jharia eine sesshafte Arbeiter*innenschaft vorfand, war Raniganj einer fluktuierenden Population von Bergarbeiter*innen ausgesetzt. Der Grund für eine sesshafte Arbeiter*innenschaft in Jharia könnte die Möglichkeit zur Besiedlung gewesen sein. In Raniganj jedoch konnten die Bergarbeiter*innen keine substantziellen Grundstücke besitzen; meistens zogen sie es vor, zu migrieren. Außerdem zogen die Bergwerke Arbeitskräfte aus einer Vielfalt von Gemeinschaften an. In Jharia waren es vor allem Santhals

und Bauris, während in Raniganj Migration aus den Central Provinces und Madras gewöhnlicher war. Bergwerke mit fortgeschrittenen Arbeitswerkzeugen hatten ihre eigenen Methoden zur Rekrutierung, wie man sie bei dem Bergwerk der Eisenbahn in Giridih finden kann. Darüber hinaus könnte man noch Unterschiede im Management, den verfügbaren Einrichtungen, der Art der Arbeitskraft oder den infrastrukturellen Einrichtungen anführen.

Die Arbeitsbedingungen über und unter Tage jedoch waren eine Gemeinsamkeit aller Minen, sowohl in Raniganj als auch in Jharia und Giridih. An dieser Stelle möchte ich mit meiner Forschung einsetzen. Ausgehend von den wesentlichen Debatten in der bestehenden Historiographie zu Arbeit, setze ich meinen Fokus auf zwei Knotenpunkte: *mine safety* und *industrial health*. Ich habe aufgezeigt, wie sich das Leben der Arbeiter*innen von Kindheit an bis ins Alter, sogar die migratorischen Gegebenheiten, um diese zwei Themen drehen. Der beengende Raum unter Tage und die zu Beginn fehlenden Wohltätigkeitsmaßnahmen führten zur Abwanderung von arbeitenden Gemeinschaften. Selbst eine bessere Entlohnung konnte sie nicht aufhalten. Dadurch ersetzte die Frage der Arbeitsbedingungen und '*safety*' oft die des Lohns.

Die Geschichten von revolutionären Arbeiter*innen wurden bereits sehr ausführlich erzählt. Geschichten über die Ausbeutung der arbeitenden Armen des industriellen Sektors in Indien haben ein adäquates Maß an Aufmerksamkeit in der wissenschaftlichen Arbeit erhalten. Neue Strömungen in der oral history haben neue Perspektiven zur Forschung eröffnet. Die Themen '*safety*' und Gesundheit von Arbeiter*innen haben jedoch erst kürzlich Eingang in die Historiographie indischer Arbeit gefunden. Der indische Bergbau Sektor ist offensichtlich Opfer dieser geringen Aufmerksamkeit. Historiker*innen sind schwerwiegende Themen wie

Katastrophen, Unfälle und daraus resultierende Verletzungen, Todesfälle in Minen, die täglich eine Rolle sowohl zur Kolonialzeit als auch im postkolonialen Indien spielten, umgangen. Das Schweigen darüber in der indischen Historiographie ist vergleichbar mit dem gleichen Schweigen der Gewerkschaften in Bergbau-Regionen. Obwohl führenden Personen die Lebensbedingungen der Arbeiter*innen thematisiert haben, fanden Arbeitsbedingungen wenig Platz in Diskussionen. Fragen nach Arbeitsstunden und Gehalt wurden in adäquatem Umfang behandelt, Fragen rund um Unfälle allerdings werden nicht mit dem gleichen Nachdruck diskutiert.

Zwei große Themen, die diese Arbeit behandelt, sind Aspekte von Gender und Kindheit. Dadurch, dass Frauen und Kinder separat von der generellen Kategorie der Minenarbeiter*innen im Jharia-Raniganj-Giridih-Gürtel positioniert werden, soll diese Studie die vielen Dimensionen und Formen im Diskurs um *safety* und *security*, offenlegen. In manchen Arbeiten erlangen Frauen merkliche Aufmerksamkeit, Kinderarbeiter*innen in Minen oder Kinder von Minenarbeiter*innen allerdings haben die Aufmerksamkeit, die sie von Historiker*innen verdienen, nicht erhalten. Da sie Teil einer größeren Population von Arbeitenden in Kohleminen waren, würde eine exklusive Studie über ihre Lebens- und Arbeitsbedingungen ihren Status im Vergleich zu dem von Kohlearbeiterinnen aufdecken.

Diese Arbeit soll die Verbindung zwischen den Versuchen grundlegende Voraussetzungen und Standards zum Leben zu schaffen sowohl von Seiten der Regierung als auch von Individuen aufdecken, indem sie über das Bild des rebellischen oder ausgebeuteten Arbeiter hinaus geht und die vielfältigen Kategorien von Minenarbeitern separat betrachtet. Unfälle und Krankheiten

stellten eine kontinuierliche Bedrohung für Minenarbeiter dar. Die Regierung, die Kohle Lobbys und das Bergwerkmanagement konnte scheinbar nicht genug *security* für die Arbeiter sicherstellen. Die Arbeiter ihrerseits reagierten darauf mit dem Verlassen der Bergwerke. Gleichzeitig muss auch das relative Schweigen von indischen Gewerkschaften zum Thema *health and safety* in Minen analysiert werden. Vor allem muss daran erinnert werden, dass viele Gewerkschaften, Interessenverbände und andere Organisationen zur gleichen Zeit in Europa und Amerika aktiv waren. In der ganzen westlichen Welt erlangten Gewerkschaften große Bedeutung, während ihre indischen Pendanten wenig Fähigkeit zur Verhandlung mit dem Kolonialstaat zeigten, besonders dann nicht, wenn es um 'health' und 'safety' am Arbeitsplatz ging. Ich habe auch untersucht, welche Rolle die leitenden Behörden bei der Gewährleistung von Sicherheit in Minen spielten.

Die ersten beiden Kapitel widmen sich der Idee von 'safety' und den neuen Maßnahmen, die die Situation von Frauen und Kindern begünstigen sollten. Letztendlich führten alle Auseinandersetzungen zu ihrer Ausgrenzung. In den beiden darauffolgenden Kapiteln werden berufsbedingte Risiken, namentlich Unfälle und Krankheiten, die Minenarbeiter*innen im Allgemeinen betrafen, in einer breiteren Perspektive analysiert. Zusammengenommen werden in den ersten vier Kapiteln die wesentlichen Themen in Bezug auf *industrial health* und die damit einhergehenden gesetzgebenden Maßnahmen, deren Umsetzung und Ausführung, aus verschiedenen Winkeln beleuchtet und gefragt, wie sehr sie das materielle Leben der Minenarbeiter*innen beeinflussten.

Die Kindheit in und um Kohleminen herum wurde noch nicht sehr umfangreich in der indischen

Forschung diskutiert, obwohl es einen umfangreichen Bestand Forschung zu Kindheit in anderen Kolonien und Metropolen in vielerlei Kontexten gibt. Man muss sich jedoch bewusst sein, wie die verschiedenen kolonialen Gebiete sich voneinander unterschieden. Man muss diese Tatsachen zur Kenntnis nehmen, um den Kern der Geschichte von Kindern im Bergbau zu erfassen. Im ersten Kapitel liegt der Schwerpunkt auf der Frage wie Kinder in und um Minen herum nach und nach, durch ein Wechselspiel aus zweigleisigen Maßnahmen aus legislativen und erzieherischen Bestreben aus den Minen-Bezirken ausgegliedert wurden.

Wie man Kindheit in den Minen definieren sollte, war das erste Problem auf das Politiker stießen. Dies führte dazu, dass sie ein Alter festlegten, ab dem Jungen und Mädchen zugesprochen wurde zur Arbeit in Minen im Stande zu sein. Kindheit und Familienstrukturen in und um Minen herum unterschieden sich stark von solchen in anderen industriellen Sektoren. Kinder, die in den Minen arbeiteten, aber auch solche, die ihre Eltern, besonders ihre Mütter, zur Arbeit begleiteten, waren beschwerlichen Situationen ausgesetzt. Ich habe versucht ihre Kindheitserfahrungen mit der Frage nach 'safety standards', die ihnen zur Verfügung standen, zu verknüpfen. Der primäre Grund diese Dinge zu verknüpfen ist, dass eine Vielzahl von Maßnahmen die augenscheinlich wenig mit der Frage nach 'safety' zu tun hatten, doch untrennbar mit ihr verknüpft waren. Der Ausschluss von Kindern wurde sukzessive vollzogen, fand in einer Zeitspanne von 30 Jahren statt und wurde phasenweise umgesetzt. Bemerkenswerterweise wurde der tatsächliche Ausschluss bei vielen Gelegenheiten hinausgezögert. Zu diesem Thema wurden Pro und Contra Argumente verhandelt, die ich im Verlauf des dazugehörigen Kapitels behandeln werde. Die Debatte wird in den größeren Kontext des allgemeinen Bestreben der kolonialen Regierung die Alterspanne der Kindheit festzulegen

gesetzt, das sich durch das 19. Jahrhundert zog. In dem Kapitel werden die Differenzierungen innerhalb des kolonialen Konstrukts aufgezeigt und wie die Idee des Kindes in verschiedenen Kontexten anders konnotiert war. Es gab keine universelle Definition von Kindheit. Die Festlegung des Kindesalters fand in mehreren Phasen statt und durchlief einige Änderungen. Zunächst wurde 1923 Kindern das Arbeiten verboten. Dann durften sie sich nicht mehr in oder in der Nähe von Arbeitsplätzen aufhalten. Wie sich später herausstellte, galten sie mit der Einführung des *Indian Workmen's Compensation Act* als abhängige Familienmitglieder. Ich möchte diesen sich wandelnden Status von Kindern in und um Minen herum durch eine eingehende Studie zu diesbezüglichen Gesetzgebungen erforschen. Die 'safety' von Kindern wurde als das hauptsächliche Interesse hinter den meisten Maßnahmen, die ich in diesem Kapitel erforsche, angegeben. Die Verzweigungen enthüllen allerdings eine andere Geschichte, die ich versucht habe aufzudecken. Selbst nach der Einführung von Regulationen, blieben die Kinder Gefahren in verschiedener Art ausgesetzt. Die Regulationen wurden wiederum nie mit der notwendigen Härte umgesetzt.

Das Verbot von Kinderarbeit in Minen (ein Spross des *Indian Mines Act* von 1923), war dicht gefolgt von dem Antrag Minenarbeiterinnen von der Arbeit unter Tage auszuschließen (dem Antrag wurde 1928 stattgegeben). Das zweite Kapitel soll die Verbindung dieser beiden Anträge analysieren. Frauen als Bestandteil der Geschichte waren bis in die späten 1960er Jahre eine etwas unsichtbare Einheit, als feministische Forscher*innen das 'andere Geschlecht' vom Vergessen bewahrten. Arbeiterinnen wurden unter dem Vorwand der 'safety' von der Arbeit unter Tage ausgeschlossen. Der Ausschlussprozess begann 1929 und war 1946 abgeschlossen, obschon das ursprüngliche Ende des Prozesses bereits 1937 hätte sein sollen. Zuvor waren

Minenarbeiterinnen für ihre Disziplin gelobt worden. Ihre Arbeitskraft war billiger, als die der Minenarbeiter. Außerdem waren sie ein integraler Bestandteil des Familiensystems der Arbeit. Bergarbeiten in tieferen Schichten und zunehmende Mechanisierung allerdings erhöhten die Produktionskosten. Zudem nahm der internationale Druck Frauen auszuschließen stark zu, hatten doch fast alle führende Bergbau Nationen es bereits umgesetzt. All diese Umstände führten zu der Durchsetzung des Verbots. Nach und nach wurden sie auch aus der Arbeit über Tage verdrängt. Es ist umstritten, wie sehr Minenarbeiterinnen von den neuen Gesetzen profitierten. Die Minenarbeiterinnen begrüßten diese Entscheidungen meist nicht. Die Frauen fanden sich arbeitslos wieder. Ihre Familienstrukturen brachen zusammen. In den 1940er Jahren wurden weiter Gesetze erlassen, 1941 der *Mines Maternity Act* und 1946 die *Mines Creche Rules*. Ironischerweise war dies die Zeit, in der die Menschen, die von ihnen profitieren sollten, beispielsweise Frauen, ihre Arbeit in den Minen verloren. Gleichzeitig veränderte sich an der generellen Sicherheit am Arbeitsplatz nahezu nichts. Indische Kohleminen blieben weiterhin große Unfallstätten. Durch ein tiefes Eintauchen in den Diskurs um Bergwerk-Unfälle traten verschiedene Ebenen in Debatte und Diskussion zum Vorschein. Die anfängliche Reaktion der Kohleindustrie auf Unfälle, war die Minen in Indien als sicherer und weniger gefahrgeneigt zu erachten, als in vielen anderen Ländern, vor allem Großbritannien. Zu Beginn des 20. Jahrhunderts machten die um sich greifenden Unfälle in Bergwerken das Festsetzen von Regulationen in Minen erforderlich. Eine Änderung in der Typologisierung von Unfällen aber rückte 1912 den Faktor Mensch in den Fokus. Nun wurden Minenarbeiter*innen für die anhaltenden Unfälle verschiedenster Art von dem Minen-Management verantwortlich gemacht. Das führt uns zu der Frage nach der Ausbildung in Bergbau-Methoden. Die einschlägige Frage, die ich in dieser Arbeit gestellt habe, ist, ob den Minenarbeiter*innen eine effektive Ausbildung

zugänglich gemacht wurde, sodass sie ihre Fähigkeiten im Bergbau verbessern konnten. Die Nachlässigkeit den Minenarbeiter*innen gegenüber war eklatant. In gleicher Weise wurden Fragen nach Ausbildungsstätten und Rekrutierungsmethoden des Minen Personals, zum Beispiel Minen Ingenieure, gestellt. Diese standen auf der anderen Seite des Sicherheitsdiskurses in Kohleminen. Sie spielten in den Bereichen Abbaumethoden und Minensicherheit eine große Rolle. Ingenieure aus Großbritannien zu rekrutieren, verlief nicht immer glatt. Es gab eine Reihe von Diskrepanzen und es wurden viele Kompromisse während des Rekrutierungsprozesses gemacht. Oft wurden Mechanik-Ingenieure anstelle von Elektroingenieuren angestellt. Des weiteren wurde die Rolle von rekrutiertem Personal in Unfällen mit Zweifeln verschleiert. In diesem Kontext kamen oft fachliche Rivalitäten zwischen verschiedenen Minen-Beamten zum Vorschein, was in einigen Fällen zu unnötigen Kontroversen führte. Vom Anliegen Sicherheit am Arbeitsplatz zu gewährleisten, wurde dadurch abgelenkt.

Der Frage nach 'security' von nicht-menschlichen Ressourcen, wie zum Beispiel Mineralien, fanden Eingang in den generellen Diskurs um 'safety'. Auf die gleiche Art wurde die Frage nach der Sicherheit eines Minerals jahrzehntelang umgangen, sogar als große Bedenken im Report des *Coalfield Committees* von 1920 geäußert wurden. Fragen um die Erschöpfung von Kohle wurden über Jahrzehnte diskutiert und debattiert; beginnend als Folge des ersten Weltkrieges, 1930 nach dem das *Coal Dust Committee* seinen Bericht veröffentlichte und wieder 1937, mit der Veröffentlichung des Berichts des *Coal Mining Committees*. 1920 pochte man darauf, Sand aufzustauen als Sicherheitsvorkehrung gegen die anhaltenden Brände, Zusammenbrüche und die Absenkung des Arbeitsplatzes und forderte dies in den späteren Berichten erneut. 1939 wurde der *Sand stowing Act* erlassen. Der Umfang dieses Erlasses war jedoch auf 'safety' beschränkt,

die Notwendigkeit von Naturschutz wurde nicht abgedeckt. Der Erlass stellte vielleicht den Schutz von Kohlewerken vor Unfällen sicher, hatte aber keinen Einfluss auf das Leben der Arbeiter*innen und resultierte auch im Verlust von Kohle. Der *Sand Stowing and Conversation Act* von 1952 jedoch beinhaltete Umweltschutz. Der Erhalt von natürlichen Ressourcen wurde gleichgewichtet mit dem Erhalt menschlicher Ressourcen.

Eine wichtige Eingangsstelle in den Diskurs um 'safety' sind Aspekte von Gesundheit und Krankheit. Die Diskussion um Krankheiten ist Teil eines größeren Rahmens. Zu dieser Zeit identifizierte der Kolonialstaat diverse Gruppen und Gemeinschaften als Quelle von Krankheiten. Pilger*innen, Strafgefangene und migrierende Arbeiter*innen wurden als Überträger von Krankheiten markiert. Während scheinbare Verbindungen zwischen Mobilität und Krankheit erdacht wurden, war es fast schon eine Besonderheit, dass sesshafte Arbeiter*innen Beachtung fanden.

Krankheiten, die ihren Ursprung am Arbeitsplatz hatten, wurden vom Kolonialstaat, dem Bergbau-Management oder Kohle-Unternehmern nicht ohne Weiteres erkannt. Diskussion über derartige Krankheiten findet man in diversen Erlassen und Berichten, angefangen beim Indian Mines Act von 1901 bis hin zum Indian Workmen's Compensation Act von 1923, in denen manche dieser Krankheiten anerkannt wurden. Die bloße Anerkennung solcher Krankheiten führte jedoch nicht dazu, dass Maßnahmen zur folgenden Behandlung getroffen wurden, wie man im Royal Commission report und anderen Bänden aus den frühen 1930er Jahren sehen kann. Krankheiten wie Cholera, Malaria, Windpocken und andere, die einen direkten Effekt auf die Produktion hatten, wurden offiziell anerkannt. Die Gesundheitsämter in Jharia und Asanol

achteten darauf diese Krankheiten unter Kontrolle zu halten. Von diesen konnte man nicht behaupten, sie seien am Arbeitsplatz erstanden. Daher erachteten offizielle Kreise und Minen-Managern die Hütten der Minenarbeiter*innen als Ursprung der Krankheiten. Die sanitären und hygienischen Standards der *dhowrahs* der Arbeiter*innen wurden genau unter die Lupe genommen. Die Frage, der sich in dieser Arbeit angenommen wird, ist, ob die Hütten, die vom Minen-Management bereitgestellt wurden, die Bedingungen eines gesunden Lebensraums erfüllten, die den Hütten der Arbeiter*innen vermeintlich fehlten. Effektive Ventilation und sanitäre Einrichtungen waren allerdings nachweislich unzulänglich. Andere Abhilfemaßnahmen, wie Krankenhäuser oder Apotheken und Krankenversicherung waren in der Kolonialzeit ebenso unzureichend.

Diese Arbeit ist eine Geschichte darüber, wie der Diskurs um 'safety' in den Bergbau Sektor gelangte, und wie sowohl die humanen als auch nicht-menschlichen Ressourcen in seinen Bereich fielen. Wir werden sehen, wie die verschiedenen Konzepte von 'safety' miteinander in Konflikt gerieten und wie die schlussendliche Politik durch Verhandlungen, Kompromisse und oft durch willkürliche Regulierungen umgesetzt wurde. Oft verfolgten der Staat oder Minenbesitzer andere Interessen unter dem Deckmantel von 'safety'. Finanzielle Belange, diplomatische Maßnahmen, soziale Belange, all das wurde subtil unter dem Mantel der Sicherheit verhandelt. Das offenbart die Natur des Staates, des späten kolonialen und des postkolonialen, der die Aufgabe der Wohlfahrt übernimmt, jedoch vorsichtig genug, sodass keines der Interessen des Staates selbst oder seiner Profiteur*innen verletzt wird.

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Abbreviations

AICC	All India Congress Committee
AITUC	All India Trade Union Congress
ARCIMI	Annual Report of the Chief Inspector of Mines
BL	British Library, London
CMRI	Central Institute of Mining and Fuel Research, Dhanbad
DGCIS	Directorate General of Commercial Intelligence and Statistics, Kolkata
ICOA	Indian Colliery Owners' Association
ICWA	Indian Workmen's Compensation Act
IMA	Indian Mining Association
IMF	Indian Mining Federation
MGMI	Mining, Geological and Metallurgical Institute, Kolkata
NAI	National Archives of India, New Delhi
NLI	National Library of India, Kolkata
NMML	Nehru Memorial Museum and Library, New Delhi
RCIMI	Report of the Chief Inspector of Mines
RCLI	Royal Commission on Labour in India

Introduction

My work is situated in the coalfield regions of erstwhile Bengal and present-day West Bengal-Jharkhand region, between early 1890s and 1952. Since my dissertation essentially relates to mine safety and the discourse around it, 1890 is the logical starting point because from that year began the discussion around the issue of safety regulations. This study ends in 1952 with the passing of the amended *Indian Mines Act*, in which the conservation of natural and human resources—a concept integral to the safety discourse—came to be cogently articulated for the first time.

There are essentially three types of collieries: (i) captive collieries owned by consumer interests e.g. Railways; (ii) collieries controlled by managing agents who also controlled other enterprises, such as Tata, which also held iron and steel companies; (iii) private collieries operating in small units. The mining areas that this dissertation deals with are principally in the Raniganj, Jharia and Giridih regions, all of which were part of Bengal until the first decade of the twentieth century. In 1912, after the revocation of the 1905 Bengal partition, all of Jharia and parts of Raniganj and Giridih became part of the combined province of Bihar and Orissa.¹ The colliery in Giridih was well known because it was owned by Eastern Indian Railways Company. It was reputed for having much better infrastructure and working facilities compared to most other collieries in the Raniganj and Jharia regions in eastern India. Other collieries, like Dishergarh, had the fortune to be run by some of the leading managing agencies like Macneill and Company, Burns or Andrew Yule.² The coalfields of Raniganj and Jharia shared a number of striking similarities as far as mining operations were concerned. The method of working and extracting coal was the same in most

¹ J.K. Samal, *Economic History of Orissa, 1866-1912*, Delhi: Mittal Publications, 1990, p. 1.

² Shantimoy Bandyopadhyay, *Asansol Parikrama* (History of Asansol Sub Division about Five Hundred Years), 2nd edn., Asansol: Trinity Trust, 2005, p. 45.

of the collieries. The soil condition and the geographical terrain were not much different. In fact, parts of Raniganj colliery areas fell within the district of Jharia.

At the same time, differences could be located within the respective colliery districts i.e. the difference in the quality of coal; differences in coking and non-coking coal as well as in the hardness and softness of the mineral. One major difference that can be discerned between Raniganj and Jharia was the nature of the labour force in respective regions. While in Jharia, there was a settled workforce; Raniganj was more exposed to floating population of miners. The land settlement in Jharia might have resulted in a more settled workforce than Raniganj, since in the latter the miners could not possess significant plots of land, which they could in Jharia.³ Furthermore, the migration of workers from other regions of India varied; in Jharia, there was a predominance of Santhal and Bauri miners, while in Raniganj there was significant migration from the Central and Madras provinces.⁴ Collieries with advanced facilities had their own methods of recruitment, such as that practiced by the railway's colliery in Giridih. There were also differences in collieries' management, available facilities, nature of the workforce, and infrastructural amenities.

The one strikingly apparent commonality in all the mines in Raniganj, Jharia and Giridih was the unsafe working conditions, both above and below ground. This is where my research seeks to make an intervention. In doing so, I have analysed the major themes in Indian labour historiography through the prism of mine safety and industrial health. Miners' continued migration to their villages is analysed from the angle of claustrophobia: the perilous work of mining underground and the workers' urge to find a breathing space, even if for only a while,

³ Government of Bihar and Orissa, Municipal Department, Commercial Branch, *The Report of the Committee of the Enquiry Appointed to Report on the Question of the Housing of Labourers on the Collieries of Bihar and Orissa: June 12, 1917*, Patna, 1919, p. 6 (National Archives of India, New Delhi: hereafter NAI).

⁴ *Ibid.*, p. 9.

has been pointed out. I have not considered miners' circulation between different collieries as merely a question of wages, but also an indication of their search for better working and living conditions. Md Shakeeb Athar identifies the causes of migration and the lack of a settled labour force due to the 'nature of industry (violent cycle of boom and depression), the pathetic working condition and the equally pathetic residential arrangement and the low wages, the industry could never have a settled working population totally divorced from agriculture.'⁵ Going against the stream of current historiography, this dissertation adds the workers' need to find an escape from the grind of mine life as well as some rest and recuperation.

Tales of revolutionary Indian workers have been told at great length. Exploitation of the labouring poor of industrial sectors in India has also received adequate attention in scholarly works. For example, Shalini Mishra's unpublished dissertation takes a broad view of the living and working conditions of miners during the years around the Second World War.⁶ Using extensive primary sources, she narrates the various welfare measures that the government adopted to better the condition of the workers and how these insufficient dollops of assistance led the trade unions making their inroads into the colliery belt. Taking into consideration the safety and disease situation in and beyond the workplace in a detailed manner, is however a recent phenomenon as far as Indian labour historiography is concerned. That scant attention has been paid to safety issues in Indian coal mining sector is glaringly evident from the existing scholarship. Disasters and mishaps and resultant injuries and deaths in the mines, were everyday affairs in both colonial and post-colonial times. This silence of Indian labour historiography is comparable to the silence of trade unions in coal mining

⁵ Md Shakeeb Athar, 'Nationalism and Labour: The Coal Mining Industry of Bihar till 1947', Phd thesis, Aligarh Muslim University, Aligarh, 2011, p. 109.

⁶ Shalini Mishra, 'Labour in Coal Mining Industry in Bihar (1939-1947)', M. Phil Dissertation, Centre for Historical Studies, Jawaharlal Nehru University, New Delhi, 1991.

regions: although union leaders have been vocal about the need for improvements in workers' living conditions, working conditions have taken a backseat. Working hours and wages have been adequately addressed, but accident-related questions have not been discussed with equal vigour and conviction.

Among the present-day scholars, issues related to accidents in coal mines in India are first taken up by C.P. Simmons in one of his articles.⁷ He explores the typologies of accidents and analysed their effects on the health of miners as well as on the overall production process. On the flipside, he accepts the interpretation that Indian mines were less prone to disasters as compared to the British ones—an idea propagated by officials working under the colonial government in India. Furthermore, mining officials were of the habit of ascribing mine accidents to the prevalent method of extracting coal. Simmons does demonstrate the accelerating accident rate but at the same time takes resort to the prevalent notion without questioning it: '[n]ature has been relatively kind to the Indian coal miners. The geo-physical conditions which they encounter are considerably less hostile than those which their brother workers in Europe and Japan are forced to contend.'⁸ This myth of the safety of Indian mines in eastern India was busted by Rakhi Raychowdhury⁹ who deals with the impact of workplace accidents in the Raniganj coal mining region: '[t]hough most of the British writers including Collin Simmons found underground mining environment in eastern India a favourable one compared to that of the British mines, yet accident rate of Bengal-Bihar collieries was alarmingly high...'¹⁰ But when it came to analysing the background of the proposed ban on women labourers underground on grounds of safety and security,

⁷ Colin Simmons, 'Working Conditions, Accidents and 'Protective' Labour Legislation in the Indian Coal Mining Industry in the Pre-Independence Period', *Bengal Past and Present*, Part I, 1976, pp. 184-200.

⁸ *Ibid.*, p. 184.

⁹ Rakhi Raychowdhury, *Gender and Labour in India: The Kamins of Eastern Coalmines, 1900-1940*, Kolkata: Minerva Associates Publications, 1996.

¹⁰ *Ibid.*, pp. 61-62.

Raychowdhury somewhat self-contradictorily negates the unsafe status of Indian mines: '[i]t was often argued that on the ground of health and safety, it became dangerous to employ females anymore underground. But this argument could easily be left aside by referring to the recommendations of the Whitley Commission...'¹¹

While dwelling on the issue of mine accidents, Dilip Simeon¹² takes into account the evolution of mine technology—a potent factor behind the occurrence of mining accidents. Mine accidents have also found prime importance in Dhiraj Kumar Nite's work.¹³ From dissecting the morphology of accidents to unearthing the ongoing politics behind workplace accidents, he pays significant attention to safety at workplace. He does not confine himself to merely explaining the method of mining, but traverses beyond and explored how accidents were perceived by the mine managements, the government, coal lobbies and workers over the years of mining in India. However, the typologies that Nite subscribes to somewhat follow the conventional route, where workplace accidents have been categorised as roofs that fall; gases that explode; poison in the gas; floods in the mines; mishandling of mining tools; explosion in the caves; electrocution; persons at faults.¹⁴ In this study, I aim to add further dimensions to the study of accident-prone mines in India by widening the definition of accidents to include those that did not find enough space or were intentionally left out of official reports, especially those that were avoided to escape certain responsibilities, namely age-specific accidents like those afflicting children. The first chapter, in which I catalogue the journey of a mine child, deals with the dangers to children in the accident-rife atmosphere of

¹¹ Whitley Commission's recommendations on the safe environment of the Indian mines, '[i]n India underground working conditions are far more favourable to the health and safety of the worker than in other countries...' Quoted in Raychowdhury, *Gender and Labour in India: The Kamins of Eastern Coalmines, 1900-1940*, p. 118.

¹² Dilip Simeon, 'Work and Resistance in the Jharia Coalfield', *Contributions to Indian Sociology*, vol. 33, no. 1-2, February 1999, pp. 43-75.

¹³ Dhiraj Kumar Nite, 'Work and Culture in the Mines: Jharia Coalfields, 1890s-1970', PhD thesis, Centre for Historical Studies, Jawaharlal Nehru University, New Delhi, 2010.

¹⁴ *Ibid.*, pp. 142-179.

in the Indian mines. Even after children were barred from mining areas through legislation, they continued to become the unsuspecting victims of accidents. As I discuss, children as a category of worker/victim/dependant do not feature in the existing historiography. This dissertation aims to fill this lacuna by classifying children as a separate segment of the mine-related population and trying to unravel the traits and characteristics that further problematise the narrative.

While Naina Banerjee's thesis does bring the plight of children and women to light, but more so within the umbrella term of 'Coal Miners'; where neither the nuances of gender and age specificities nor the differing perceptions of the administration, have been adequately explored.¹⁵ Lindsay Barnes, by traversing the colonial and the post-colonial, does pay exclusive attention on the women miners to underline their trials and tribulations within the time-frame between 1900 and 1985, but her geographical area being limited to the Bhowra colliery of Jharia region is a micro-study the findings of which cannot be generalised. Different areas have their own connotations and traits and hence one cannot take the findings of one region as absolute. Kuntala Lahiri-Dutt, has written extensively on the women miners of the eastern Indian collieries, transcending the geographical barrier that besets the study of Barnes. Her gendered study definitely brings to the fore various nuances that had remained hitherto unexplored. However, studies through the gendered lens have their limitations in the sense that these essentialise only one aspect, diluting the others. This study aims to cross the gender as also the spatial boundaries. Moreover, by spacing out women and children and untwining them from the general category of miners and moreover by taking the Jharia-Raniganj-Giridih belt as the study area, this dissertation would attempt to unravel the various dimensions and shades embedded within the discourse of safety and security. In some works,

¹⁵ Naina Banerjee, 'Coal Industry in Bengal (1870-1947): Structural Changes, Capital Labour and Trade Union Movement', Phd thesis, Visva-Bharati University, Santiniketan, 2011.

women get distinct attention but child miners and children of the miners have been denied deserving attention of the historians. As they were part of the larger working population in coal mines, an exclusive study of their condition would reveal their position in relation to the female miners.

Going beyond the rebellious or the exploited images of workers and by taking into account separately the various categories of miners, this dissertation is an attempt to find out the interface between the individuals' and the government's attempts at ensuring the basic requirements and standards of living. Accidents and diseases posed continuous threat to the mining community. The government, the coal lobbies and colliery managements did not seem to ensure enough security for the miners. On their parts, miners reacted by deserting collieries. At the same time, relative silence of the Indian trade unions as to health and safety issues in mines also needs to be critiqued. Especially, it needs to be remembered that several unions, pressure groups and other organizations were active around the same time in Europe and America. At the same time, trade unions all over Europe and America were rising to prominent positions while their counterparts in India showed little signs of an ability to negotiate with the colonial state, particularly on issues concerning workplace health and safety. I have also tried to explain the role of engineers and managing agencies in ensuring mine safety. The role of managing agencies on the question of productivity and the economy of mine is dealt with by Henner Papendieck in a Dietmar Rothermund edited book.¹⁶ I have, on the other hand, demonstrated their role in recruiting engineers who, in turn, were seen to be engaged in workplace politics around accidents. Mining technology and the question of cheap labour and hazards of new technology have been dealt with by Dilip Simeon.¹⁷ But I

¹⁶ Henner Papendieck, 'British Managing Agencies in the Indian coalfield', in Dietmar Rothermund and D.C. Wadhwa (eds.), *Zaminders, Mines and Peasants: Studies in the History of an Indian Coalfield and its Rural Hinterland*, New Delhi Manohar, 1978, pp. 165-224.

¹⁷ Dilip Simeon, 'Work and Resistance in the Jharia Coalfield', p. 61.

have also linked the question of the conservation of coal with the evolution of mining technology.

Within the given spatial time frame and geographical location, the four chapters, forming the core of the dissertation, proceed from a micro to a macro level. The first two chapters try to discern a continuum in regard to the 'safety' measures enacted in 'favour' of women and children over the span of 60 years. The next two chapters, in a broader spectrum, analyse the issue of 'occupational hazards', namely, accidents and diseases related to miners in general. Taken together, the four chapters explore from various angles, the major themes related to industrial health, the passage of concomitant legislative measures, their implementation and execution and most importantly whether these produced any material change in the lives of the miners.

Childhood in and around coal mines has not been extensively discussed in Indian scholarship, though there is a rich body of scholarship concerning childhood in other colonies and the metropole in various contexts. Danielle Kinsey,¹⁸ for example, has researched on mining children in Britain. In this dissertation, the accounts of growing up in colonies like Barbados and Natal have also been juxtaposed.¹⁹ However, one needs to be aware of how the different colonial domains were distinct and divergent from each other. Hence one needs to take cognizance of these facts to get to the pith of the story of mining children in India. The first chapter of this study focuses on how children in and around mines were gradually phased out from the precincts of the mines through an interplay of two-pronged measures of legislative and educational endeavours.

¹⁸ Danielle Kinsey, 'Atlantic World mining, Child labour, and the Transnational Construction of Childhood in Imperial Britain in the Mid-nineteenth Century', *Atlantic Studies*, vol. 11, no. 4, 2014, 449-472.

¹⁹ Ibid., Audra A. Diptee and David V. Trotman, 'Atlantic Childhood and Youth in Global Context: Reflections on the Global South', pp. 437-448.

Differences in the experience of childhood were particularly evident in the legal debate regarding the age of boys and girls considered capable of performing mining jobs. In other words, definitions of the very concept of childhood reveal different stories in different places, and sometimes in the same place. Both the children working in mines and those accompanying their parents—especially their mothers—to work were equally unsafe. Growing up in and around mines could be different from other industrial sectors or different familial ambience. I have tried to connect their childhood experiences with the question of safety standards available to them. The main reason behind linking them was that several measures that seem disconnected from the question of safety nevertheless became inextricably linked with it during this period. The exclusion of children was gradual and it took place over a span of more than 30 years, to be implemented in phases. One notable feature was that the actual exclusion was stalled on many occasions. Arguments and counter arguments were traded on the issue, which would be addressed in the course of the related chapter. Positioning the debate within the larger context of the colonial government's endeavour to fix the age of a child, throughout the nineteenth century, the chapter would show the differentialities in the colonial design—how the idea of a child attained different connotations in different contexts. Childhood did not have a universal definition. Determining the age of children passed through various phases, witnessed several amendments. First, the children were prohibited from work in 1923. Then they were prohibited from staying in or near the workplace. As things turned out later on, they were rendered dependents with the advent of the *Indian Workmen's Compensation Act of 1923*. I seek to explore this changing status of children in and around mines through various pieces of legislation in different times. Safety of children was projected as the main concern behind most of the measures discussed in the chapter. The ramifications, however, revealed a

different story which I have tried to explore. The lives of children continued to be exposed to danger in many forms. I have explained that with examples of accidents and other forms of negligence even after the implementation of regulations. The regulations, in turn, were never executed with required firmness.

The prohibition of children from staying in and around mines was linked to the simultaneous process of excluding women miners from the underground areas of mines. The second chapter seeks to unearth this connection. Peter Alexander's work on the South African case provides a larger context for this ban on women miners.²⁰ Women as a component of history were a somewhat invisible entity until the 1960s when feminist scholars rescued the 'second sex' from oblivion. In the iconic work of E.P. Thompson, *The Making of the English Working Class*, women workers ironically could not break away from their stereotypical role as mere adjuncts to men. Thompson's understanding of masculinity and femininity structured his understanding of class, which appears in this seminal text as gender-neutral, whereas class consciousness is somewhat masculine in character.²¹ It was left to Joan Wallach Scott to read against the grain and identify gender stratifications within the working class and rescue the women labourers from playing second fiddle to the male workforce. Scott's work has been essentially crucial in identifying ways in which gender operated as a category of difference, constructing meaning even when it was not apparently there. Working from Scott's argument, this chapter portrays how this 'category of difference' was manifested in the case of women miners, whose role was subsumed within the vortex of economic calculations.²²

²⁰ Peter Alexander, 'Women and Coal Mining in India and South Africa, c1900-1940', *African Studies*, vol. 66, no. 2-3, August-December 2007, pp. 201-222.

²¹ E. P. Thompson, *the Making of the English Working Class*, New York: Vintage Books, 1966.

²² Joan Wallach Scott, *Gender and the Politics of History*, New York: Columbia University Press, 1988, pp. 71-77.

Chronologically speaking, the prohibition of children from mines (as an offshoot of the *Indian Mines Act* of 1923) was quickly followed by the proposal of excluding women miners from underground areas. The proposal was accepted in 1928. Though Barnes²³ and Lahiri-Dutt²⁴ have worked extensively on the theme of women miners and their retrenchment in India, the connection between the absence of children and that of women has somehow escaped their attention.

In the third chapter, I delve deep into the background and aftermath of an accident to dissect the typologies of accidents that would reveal workplace politics around disasters—how the impact of an accident could take a backseat as a result of professional vendetta and backstabbing attitude among mine officials. The colliery management in India and the official reports were on the same plane so far as the habit of pointing fingers at the workers for the accelerating rate of mine accidents was concerned. Miners' knowledge of mining principles was incessantly put to question. Anjan Ghosh, too, subscribes to this colonial perception when he writes that the miners 'lacked interest to acquire skills and settle down as part of the permanent industrial workforce. Their lack of education also proved an impediment to the acquiring of skills.'²⁵ Nevertheless, the question of rectifying these lacunae was not prioritised by the mine management. Training facilities for the miners was not

²³ Lindsay Barnes, 'Women, Work and Struggle: Bhowra Colliery 1900-1985', PhD thesis, Centre for the Study of Social Systems, Jawaharlal Nehru University, New Delhi, 1989; idem, 'Roti do, ya goli do! (Give us bread, or give us bullets!): Stories of Struggles of Women Workers in Bhowra Colliery, India', in Kuntala Lahiri-Dutt and Martha Macintyre (eds.), *Women Miners in Developing Countries: Pit Women and Other*, Hampshire: Ashgate publishing Ltd, 2006.

²⁴ Kuntala Lahiri-Dutt has a number of works dedicated to the issue of women miners in eastern Indian colliery regions. Regarding the imposition of ban on women miners underground in coal mines, some of her most important works are: Kuntala Lahiri-Dutt, 'Roles and Status of Women in Extractive Industries in India: Making a Place for a Gender Sensitive Mining Development', *Social Change*, vol. 37, no. 4, December 2007, pp. 37-64, p. 57; idem, 'The Shifting Gender of Coal: Feminist Musings on Women's Work in Indian Collieries', *South Asia: Journal of South Asian Studies*, vol. 35, no. 2, 2012, pp. 456-476, p. 465.

²⁵ Anjan Ghosh, 'Social Conditions of Political Mobilization among the Coal Workers of Eastern India, 1860-90', M. Phil Dissertation, Centre for the Study of Social Systems, Jawaharlal Nehru University, New Delhi, 1976, p. 58.

adequately addressed. A few cursory attempts on a fairly irregular basis do not count as concrete attempts at imparting effective training to miners.

Even the activities of trained mine professionals can be heavily doubted. I question the qualifications and capabilities of the personnel responsible for ensuring safety in mines and I try to find out whether the colonial government's fetish for recruiting mining engineers from the UK paid off as far as the existing condition of mine safety in India was concerned. Mine managements often had to settle for less qualified engineers than they were looking for due to the lack of deserving candidates. For example, they had often to settle for mechanical engineers while the actual demand was for a candidate specialised in electrical engineering. Moreover, qualified engineers from the United Kingdom did not find engineering jobs in India particularly lucrative. Hence, compromise in recruiting personnel for mine safety was made on a number of occasions.

In the same vein, I question the efficacy of safety measures directed towards the conservation of coal. Ensuring the safety of the mineral was one of the first and foremost preconditions for ensuring the safety of the miner. Workplace safety was contingent on the preservation of human resources as well as natural ones. Thus I refer to the debate around the necessity of the widespread use of sand stowing in Indian coalmines, which was propped up as one of the effective measures to conserve coal. I demonstrate the tussle between the colonial government, the leading coal lobbies and the Indian railways concerning a proposal for compulsory sand stowing. As far as the conservation of coal was concerned, I will show how the actual question of conservation was undermined as a result of the internal bickering between powerful players in the mining industry. In the end, the safety of both the coal and the miners was undermined and compromised.

The fourth chapter is devoted to the study of diseases that affected the workplace and miners' living spaces, and therefore endangered the safety of the miner and, in turn, his/her productive capacities. In a recent study, Neeraj Singh dwells on the issue of occupational hazards in the form of diseases afflicting the miners in the South Karanpura Coalfield of Hazaribagh in present-day Jharkhand.²⁶ Through extensive fieldwork among the miners, Singh collected primary data which was then subjected to a Chi Square test. On the basis of the generated data, he concludes that mineworkers are prone to health hazards in the workplace. The quality of life of the mineworker's households, which are located near the mining areas, has also been adversely affected. His study, though valuable, concerns only the present-day scenario. My study uses data from the colonial period which, when combined with Singh's findings, demonstrates that the perils of the miners' lives have not lessened to any appreciable extent. In my case, the prism of disease provides an opportunity to tread beyond the confines of the workplace and penetrate into the miners' households. The major debate that appears in this chapter concerns the sources of the diseases: whether they come from the workplace or from miners' residences. Identifying the miners' habitat as the source served ulterior purposes for both the Indian colliery managements and the colonial government. First, they were able to prove that the workplace was relatively free of diseases, leading to industrial diseases like ankylostomiasis remaining unrecognised for a long time. Second, miners were usually held responsible for even recognised diseases due to their allegedly unhygienic standards of living. Here I question whether the alternative provided by the colliery managements in India, i.e. better accommodations that were deemed a remedial measure, could raise the living standards of Indian colliers and hence ensure a better lifestyle and well-being. The availability of other amenities like hospitals, dispensaries, sickness

²⁶ Neeraj Singh, 'Coal Mining and Its Impact on Environment and Human Health in Jharkhand', Phd Thesis, Centre for the Study of Regional Development, Jawaharlal Nehru University, New Delhi, 2006.

insurance and other forms of medical care also comes under discussion. As a corollary to the proliferation of diseases, this chapter also seeks to establish a connection between occupational hazards and miners' migration. The latter provided the miners with a gateway to escape from the pitfalls and hazards, namely diseases and accidents, connected with their jobs. The agricultural background of the miners, the claustrophobia and looming dangers of mines, and socio-cultural dynamics that function as potent push-pull factors, have been analysed at length to question whether mining was, in fact, a secondary occupation for this floating population of miners and whether migration served as a tool for negotiation.

Methodology:

Following a specific methodology to deal with the issue of occupational health and hazards has been a challenge in this research. It was difficult to find a model for this kind of study in Indian historiography. Hence, I have had to turn to works on Europe, Africa, or elsewhere to get a sense for a model of analysis that could be applied to my work. Before explaining my use of the phrases 'Industrial health' and 'Mines Safety' in this dissertation, I would like to throw some light on the models that I could not incorporate into my discussion.

Let me first refer to a work by Paul-Andre Rosenthal, in which he discusses the prevalent models of action in Europe in different time frames.²⁷ According to Rosenthal, 1906 saw the inception of a model of 'occupational diseases', which was meant to 'build the legal grounds to compensate workers made sick by their activity.' The promotion of an 'occupational medicine' model, which combined social medicine and work organization, was initiated in the 1930s. And, as Rosenthal pointed out, from the 1970s the model of action was that of

²⁷ Paul-Andre Rosenthal, 'Health and Safety at Work: An Issue in Transnational History- Introduction', *Journal of Modern European History*, vol. 7, no. 2, 2009, pp. 169-173.

‘Health at work’. This was supposed to adopt an ‘integrated and interdisciplinary idea of sanitary well-being.’ These models could be applied and tested in the context of Indian mining sector, but the more important question is whether it is possible to discern any specific model of action pertaining to health and safety issues in Indian mines over the years. Moreover, these models were mainly implemented by organizations like the International Labour Organisation and European Union and were therefore transnational in nature.

An example is the case of Italian migrant miners in Belgian coalfields as discussed by Rene Leboutte.²⁸ Mine accidents played a seminal role in the miners’ migration. Occasional incidents of mine disasters and the consequent loss of Italian miners often resulted in the interference of the Italian government, which sought to regulate the emigration of Italian miners. Fresh out-migration of Italian workers was completely stopped by the government, and sometimes the existing workforce was withdrawn from Belgian mines. Mining activities in Belgium were seriously hampered as a result. In this context, the European Coal and Steel Community intervened to find a solution to the existing problem. However, absence of a regulatory body of this sort was noticeable in the Indian context even in case of trans-regional migration. In addition, any kind of model of action pertaining to safety issues in and around mines was hard to find. Enactment of various pieces of legislation or appointment of committees was the most-resorted to remedial measure. But a discernible model of action was not easy to find.

I will now explain the utility of the usage of the terms like ‘Mine Safety’ and ‘Industrial Health’. With mine safety the workplace comes under discussion. Hence health at work is partly relevant for this approach. Mine safety will allow me the scope to take into account

²⁸ Rene Leboutte, ‘Coal Mining, Foreign Workers and Mine Safety: Steps toward European Integration, 1946-85’, in Stefan Berger, Andy Croll and Norman Laporte (eds.), *Towards a Comparative History of Coalfield Societies*, Aldershot: Ashgate, 2005, pp. 218-237.

workplace accidents as well as occupational diseases engendered by the mining methods and working conditions respectively. The connection between the safety of the mineral i.e. the exhaustion and possible conservation of coal, and the safety of the miner i.e. the preservation of human resources can also be established under the purview of mine safety. In a nutshell, with mine safety the workplace comes under discussion. Hence health at work is partly relevant to this approach. The discussion over the safety of mineral completes the picture. 'Industrial health', on the other hand, stretches beyond the workplace itself to cast light on conditions in the workers' residences and the general sanitary conditions in the regions surrounding the collieries. 'Industrial health' allows me to situate the working and living conditions of mining areas vis-à-vis those of the wider region, including the impact of policies that are not directly focused on colliery areas. *Dhowrahs* or the coolie huts were part of wider colliery areas.

During this time period, miners lived in coolie huts, the structure of which hardly varied throughout the Indian coalfields. The poor sanitary conditions and tiny size of these huts were of course matters of serious concern, but here I would like to discuss the issue of the construction of those coolie huts itself. The colliery companies were primarily entrusted with the task but there were a few exceptions. Again we can refer to the colliery company of Giridih which supplied its workers with the necessary building materials and assigned them the responsibility of construction.²⁹ The adequacy of the amount of materials can be questioned but it provided an opportunity to the labouring minds to build their residences the way they could imagine or they would want albeit within considerable constraints. It was a faint chance for them to reconstruct the 'Home' they were familiar with especially when some of them had their share of experience of living in other colliery companies' coolie huts

²⁹ S.R. Deshpande, *Report on an Enquiry into Conditions of Labour in the Coal Mining Industry in India*, Delhi: Manager of publications, Govt. of India Press, 1946, p. 32.

which were built by others. Hence, the participatory approach adopted by the management was in a way a ray of hope and provided a sense of responsibility to the miners. On the other hand, the mine authorities wanted to both cut down on the cost of construction by entrusting the miners with the task and secondly, they were trying to have a stable workforce. There was a similar case in an African mine, as shown by Charles van Onselen.³⁰

I used several works on collieries in different parts of Africa to help grasp multiple aspects of mining in India, such as the work of Carolyn Brown on Enugu colliery in Nigeria. Brown has shown how the nature of the miners' household changed under colonial influence.³¹ The household of the miners of Enugu was generally polygynous in nature, which meant co-habitation with more than one wife. When the miners carried this household habit into the Enugu colliery districts, this practice proved rather expensive for the colliery management. With the stipulated number of huts allotted to each miner, the mine authority had to intervene with the inherent nature of the miners' household. The miners of Enugu colliery, on the other hand, did not like to the kind of interference the authority was making but they were hardly left with any other choice. The compulsion of survival made it necessary for them to accept the sudden change in their traditional household habit. This transition in the coal miners' household triggered off a number of questions which we might find pertinent in case of the coal miners of India. We might ask whether the migrant Indian miners or the miners from a specific household were exposed to the kind of shocks the miners of Enugu colliery was exposed to. It remains to be seen the extent to which the Indian miners were able to adjust to certain habits unseen and unknown to them. Colliery managements guaranteed the miners far more sanitary households than they were allegedly used to. The question is to what extent this

³⁰ Charles van Onselen, *Chibaro: African mine labour in Southern Rhodesia, 1900-1933*, Johannesburg: Ravan Press, 1980, pp. 37.

³¹ Carolyn A. Brown, 'Nigerian Coal Miners, Protest and Gender, 1914-1949: the Iva Valley Mining Community', in Stefan Berger, Andy Croll and Norman Laporte (ed.), *Towards a Comparative History of Coalfield Societies*, pp.127-145.

claim was fulfilled. James Ferguson's work on Zambian copper belt reveals miners' lives at work and afterwards.³² The story of miners spending their lives after work with injuries incurred during work, was brought to the fore by him. Similarly in my work, I have discussed the lives of women miners before and after the ban that was imposed on them in the late 1920s. Sickness, injuries and their long-term impacts are equally integral to my research.

I have looked up to the works of Donald Quataert³³ and Catherine Mills for the discussion on accident related themes. While the former has worked on Zonguldak colliery of Turkey, the latter has dealt with regulations pertaining to mine accidents in Great Britain. Quataert's work deals with workplace politics around accidents, and particularly the role of the state in accident-related issues in a 19th century Turkish mine. He also details the availability of mine machinery and its impact on overall mine safety. In Mills' work, typologies of accidents and the state's prioritisation of certain types of accidents become evident. She provides a detailed explanation of what she calls the 'visibility of risk'³⁴ and the state's obsession with the issue. Accidents caused by the 'fall of roofs and sides' were much more rampant than any other types of accidents in the coalfields of the United Kingdom. But accidents by explosion were much more visible than any other accidents and thus explosions drew most of the state's attention. This tendency was remarkably visible even in the legal measures drafted for the protection against accidents. In this dissertation, I have also made an attempt to discuss the ramifications of those accidents in great detail.

³² James Ferguson. *Expectations of Modernity: Myths and Meanings of Urban Life on the Zambian Copperbelt*, Berkeley, California: University of California Press, 1999.

³³ Donald Quataert, *Miners and the State in the Ottoman Empire: The Zonguldak Coalfield, 1822-1920*, Series: International Studies in Social History, Volume 7, New York: Berghahn Books, 2006.

³⁴ Catherine Mills, *Regulating Health and Safety in the British Mining Industries, 1800-1914*, Burlington: Ashgate, 2010.

As I have mentioned earlier, D.K. Nite is one of the few scholars on Indian mining history, who has keenly delved deep into the politics behind the categorization of accidents. He has also attempted to unearth disease-related issues that affected the workplace. Dust borne diseases were recognised in most leading coal-producing nations, as shown in Arthur McIvor's work *Miners' Lung*.³⁵ In case of India, however, coal dust committee was appointed but its principal function was to measure dangers entailed by coal dust. The disease aspect of it was altogether overlooked. The same was true of the recognition of hookworm as a workplace disease. Mere recognition of a disease that could be industrial was the major question. Furthermore, the first step to compensate miners in case of any injury in 1923 was limited to accidents only. Sickness or disease found no place in the legislation. Diseases had to qualify as injuries by accident. Only then, workers could get compensation against sickness. But the terms and conditions associated with the whole process, made the matters worse. I have tried to incorporate these aspects of disease management in Indian collieries into my research.

Sources and Archives:

Starting from government reports to newspaper reports to private papers and from magazines on mining to treatise by trade union leaders, I have made an attempt to fuse multifarious sources in order to arrive at a holistic analysis in this dissertation. I have visited libraries and archives in different places in India. I started my search for sources with The West Bengal State Archives in Kolkata, where I found colonial reports of the relevant departments and government branches. Similar kinds of reports, especially from after the transfer of the capital from Calcutta to Delhi in 1911, were located in the National Archives of India, New Delhi.

³⁵ Arthur McIvor and Ronald Johnston, *Miners' Lung: A Short History of Dust Disease in British Coal Mining*, Aldershot: Ashgate Publishing Ltd, 2007.

Some volumes of the Annual Report of the Chief Inspector of Mines were housed in the library section of the National Archives of India. I was, however, first exposed to those reports in the Secretariat Library, Kolkata. The Annexe building of the National Library, Kolkata had some of them, too. Several government reports, especially pertaining to the mining industry, were located in the same place. I have extensively perused this report. Its publication started in 1901 and continued regularly throughout the period of study I have undertaken. Its precursor i.e. Report on the Inspection of Mines in India is equally important for my research. It was published throughout the late 1890s.

I have also taken into account various pieces of legislation pertaining to the mining industry in India. To cite a few examples, I have referred to the *Indian Mines Act of 1901, 1923 and 1952*. The debate and discussion prior to and after the passage of these acts reveal the opinions of various quarters of the mining industry. For the theme of the conservation of coal, coal dust problems and mine accidents, I relied on reports prepared by various government-appointed committees. The Coalfields Committee of 1919, the Coal Mining Committee of 1936 and the Indian Coalfields Committee of 1946 were a few such committees. *The Indian Workmen's Compensation Act of 1923* and the debate it unleashed speak volumes about the situation of industrial health. *The Sand Stowing Act of 1939* and the debate around it were equally crucial for forming a concrete idea about scenario of coal conservation and mine safety at that time. The reports of the Sanitary Commissioner or those of the Jharia and Asansol Mines Boards of Health helped me to understand the disease situation in collieries of eastern India. Report of the Royal Commission and its evidence volumes incorporated the

voices of people from different sections of the mining industry, including the workers. B. P. Adarkar's report³⁶ was crucial to understand the government's insurance schemes for miners.

I had an opportunity to visit the British Library in London where I had access to multifarious sources of information. There I have located some private papers by important mining personnel like mine engineers. The most important of them has been the one of Edward Cork's.³⁷ He was managing a number of reputed collieries like Dishergarh colliery in eastern India. Cork was working for Macneill and Co., one of the leading managing agencies associated with coal mines of India. Later on, he became a mining consultant for the same managing agency's head branch in London. He was mainly consulted for collieries in India because of the experience he had gathered in India over many years. His papers consisted of reports on accidents, accounts and evidence given by witnesses, reports on production on collieries, their income and expenditure, and correspondence over recruitment of engineers from abroad to Indian collieries. Apart from that, private papers of mine administrators and those in other capacity have also been perused. Private papers of Le Mesurier³⁸ and by others have also been used in my work. I had access to a journal run by mine managers in India which added another dimension to my research. Academic texts, texts by trade union leaders, government reports pertaining to the Indian mining industry have been explored, too. I have got access to a journal of mine managers in India in the British Library. Their perspectives have added a new dimension to this account of mine safety. I have also found some medical journals in the Wellcome Trust Library, London.

³⁶ B.P. Adarkar, *Report on the Health Insurance for Industrial Workers*, Simla: Government of India Press, 1945 (British Library, London: hereafter BL).

³⁷ *Cork Collection: Papers of Frederick Lawrence Cork*, File no. MSS 194/12, BL. Papers of Frederick Lawrence Cork (1885-1980), colliery manager 1908-37, mining consultant 1937-46, employed by Macneill & Company, Calcutta, including colliery quarterly reports 1937-45, Cork's inspection reports 1937-40, and colliery plans. 63 items 1907 – 1953.

³⁸ *Le Mesurier Papers*, File no. MAA EUR/D1077/1, BL. Papers of Sir Havilland Le Mesurier (1866-1931), Indian Civil Service 1886-1922; Chief Secretary to the Government of Bihar and Orissa 1912-16; member, Executive Council, Bihar & Orissa 1917-21; acting Governor of Bihar and Orissa 1921-22 (consisting chiefly of personal correspondence).

Newspaper reports have been of great importance in my work. I had access to *The Times of India* online archive and reports of the International Labour Organisation beginning from 1929 from CeMIS, University of Goettingen. I worked at the library of the Directorate General of Mines Safety in Dhanbad, India, where I had access to government reports related to mine safety. I received access to the library of the Indian School of Mines and that of the Central Institute of Mining and Fuel Research, where I found some important texts on mining like the Indian Mining Journal. I have also used sources of other kinds to substantiate my research findings. The search for pertinent sources took me to Puri, in Orissa, India, where I visited the library of the Gandhi Labour Institute. Annual reports of the Indian Mining Association and those of the Indian Mining Federation have been preserved there. The leading coal lobbies like the Indian Mining Association or the Indian Mining Federation published these reports on a regular basis, and I have consulted them extensively in this research. I also perused many of these reports at the library of the Directorate General of Commercial Intelligence and Statistics, Kolkata. I also had access to various records, reports and pamphlets of the All India Trade Union Congress (AITUC) at the Nehru Memorial Museum and Library in New Delhi.

Literary sources have also been of invaluable importance for my research. Authors like Shailajananda Mukhopadhyay³⁹ have written novels, short stories and dramas based in the colliery districts of Bengal. The everyday lives of miners and others associated with the mines come to life in the pages of these literary works. The impact mine disasters could have on workers' lives is also depicted. Shailajananda himself was associated with the coal mining

³⁹ Shailajananda Mukhopadhyay, *Sunirbachito Kailakuthi Golposongroho*, Reprinted, Kolkata: New Age Publishers, Reprint 2010 (first published in 2004; the author was born in 1901 and died in 1976). This is a collection of short stories by the author. All the stories were exclusively based on the life of miners and other mining personnel in eastern Indian colliery regions.

industry. He was appointed as an Arkathi of a colliery in Raniganj. He was entrusted with the responsibility of recruiting workers in mining jobs, but he was not fond of this job and saw the inhuman side of it. He later quit, but shared his experience in some of his novels and short stories. I have also drawn references from literary works focusing on the colliery districts of Asansol.

Culling and collating information from this plethora of sources, this dissertation tries to weave a holistic story of the mines and miners, with various shades and nuances, to add to the existing historiography and enrich our understanding of the subject.

Chapter 1: From Producers to Dependants: ‘Safeguarding’ Children in and around the Coal Mines of Eastern India (1901-1929)

The chapter proposes to chart the changing status of children in the mines, both in their capacity as workers and as accompanying their parents to work, during the first three decades of the twentieth century. This discussion hinges on the construction of ‘child labour’ within the larger colonial attempt to define ‘childhood’—one of the central foci of the British rule throughout the nineteenth and early twentieth century. What started off in the first half of the nineteenth century as a colonial design for improving the pitiable condition of Indian women, for which defining the age of consent of girls was imperative, later assumed a wider connotation, in which ‘children’, as a generic term, came to be debated within the ambit of colonial discourse. It is with this backdrop that the administration tried to legislate qualitative changes in the lives of the mine children, both as labourers and as part of the mining family, incurring vigorous debates concerning the definition of a ‘child’, working conditions, and the general well-being of the children in the forms of education and compensation. This chapter brings to the fore the various nuances and ramifications of this debate.

As far back as 1842, the Children’s Employment Commission commented on the state of children employed in British mines: ‘Childhood is no less essentially the period of the development of the mental faculties, on the culture and direction of which, at this tender age, the intellectual, moral, and religious qualities and habits of the future being almost wholly depend.’¹ Thus the employment of children in British mines was condemned. Did the administration in India work with the same concern and philosophy to ensure a safe and secure childhood for mining children? The first *Indian Mines Act*, passed in 1901, focused on

¹ British Parliamentary Papers 1842, vol. 15: *Children’s Employment Commission, First Report (Mines)*, London, p. 268. The Commission was intended to collect information about the condition and treatment of children working in the mines.

the regulation of health and safety in Indian mines. The official deliberations leading to this act had started a decade earlier, in the early 1890s. In this discussion, one of the major concerns was the existing degree of safety of children working as labourers in the mines. The safety of other children, i.e. children other than those present and working in and around mines, was also included; the need to protect both categories of children brought to the fore a whole gamut of related issues. For example, the required physical maturity for Indian boys and girls to be deemed fit for mining work was debated at length. Comparisons were drawn between them and their counterparts in the United Kingdom and elsewhere in Europe. Quantifying the age of children and deciding who counts as a child became imperative for the creation of this legislative intervention.

Defining childhood was an integral component of the civilising mission of the British administration. After gaining a strong political foothold in the nineteenth century, the colonial government sought to justify its rule in India with an ideology based on India's 'difference' from Britain as part of the larger project to emphasise the 'inferiority' of the subject-state along the triad of language, race and gender. Of these, the colonial definition of childhood was most closely tied to gender. In a bid to ameliorate the plight of the child-bride, the British administration sought to raise the age of consent, i.e. the age at which a girl would be deemed fit to enter into a sexual relationship. Starting with the draft *Indian Penal Code of 1837* until the *Age of Consent Act of 1891*, the administration time and again attempted to prevent premature intercourse, which often resulted in the death of the child-wife through excessive bleeding. What turned out as a project to alleviate the sufferings of the girl-child had acquired a somewhat gender-neutral connotation in the second half of the nineteenth century, with the passage of the *Indian Majority Act of 1875*. Section 3 of the Act stated that every person

living in British India, other than the Court of Wards², whether native or foreigner, would be deemed to be an adult on attaining eighteen years of age. Subsequently the *Factory Act of 1881* sought to fix the age of an ‘employable child’, i.e., the age at which a child would be considered fit to enter the job market in the factories. The age of employment was eventually fixed at twelve years old. Thus the discussion pertaining to the mining industry was a part of this larger debate concerning who could be defined as a child and that too as an employable child.³

This chapter deals with the initial years of discussion over the need for safety in and around mines, taking the issue of children’s safety as a case study to see how the issue was debated and discussed in the colonial discourse. To do so, I analyse the provisions of the *Indian Mines Act of 1901* through juxtaposition with the other major acts of the late nineteenth century that concern the age and physical maturity of children. The changing notions and provisions regarding the presence of children in mines after 1901 are further explored through an account of the adversities children were exposed to and the safeguards available to them in the mines. Straddling the years of the First World War, the narrative takes into consideration the *Indian Mines Act of 1923*, which successfully restricted the age of children who could be employed in the mines. *The Workmen’s Compensation Act of 1923* was also a major step towards defining the age of children outside the category of labourers—i.e. children accompanying their parents to work. This act portrays the transition of a child from a producer to a dependant, as entailed by the restrictions imposed on the age of employment. However, children were often denied their deserved share of compensation due to their dependent status, which was complicated by the provisions of the *Compensation Act*.

² The Court of Wards was meant to protect the heirs who were underage and unable to take care of their own estates.

³ S.D. Prasad and Rakesh, *Legislation in Indian Mines: A Critical Appraisal*, vol. 1, 6th edn.(reprint), Varanasi: Tara Book Agency, p. 2: The Indian Mines Act of 1901 determined 12 as the minimum age of employment for children; *ibid.*, p. 3: the amended version of the same act in 1923 changed it to 13.

Although non-labourer children were present in large numbers in and around mines, concern for them ironically took a backseat in mining legislation beginning from the mid 1920s.

1.1. Defining a Child: Determining His/Her Age of Physical Maturity and Employment:

From in the early 1890s, there was a huge debate regarding the recruitment of women for mining work and whether they should be permitted to take their children along if they were appointed underground. At that time, it was categorically suggested that, due to the lack of alternative childcare, women should take their children underground: ‘Women ought to take children into the mines, because there is no one else to take care of them.’⁴ Mines were considered to be safe for minors, as evidenced by the record of a meeting of the members of the Indian Mining Association organized at the Bengal Chamber of Commerce on 20 June, 1894. The meeting was mainly in response to the demand for effective mining legislation as a follow up to the Berlin Conference of March 1890.⁵ C.W. Gray, who represented the Bengal Coal Company Limited and was also the chairman of the meeting, was of the opinion that ‘An accident to a baby in the mine is almost unknown; we have never heard of any.’⁶ James Grundy, the Inspector of mines in India at that time, went as far as to call the mines ‘better and healthier than many of the miners’ houses. They live, cook, keep, and do everything inside their small house.’⁷ At this meeting, the members expressed concerns about the safety and upkeep of miners’ children and provided an explanation of the prevalent situation, but a

⁴ James Grundy, *Report of the Inspection of Coal Mines in India (hereafter RICMI), for the year ending 30th June 1894*, Calcutta: Office of the Superintendent of Government Printing, 1894, p. 52 (National Library of India, Kolkata: hereafter NLI).

⁵ At the initiative of the German Emperor Wilhelm II, Berlin International Labour Conference took place in 1890. Employment of women and children in industries was one of the principal issues discussed at the conference. See Report of the International Labour Conference, *Night work of women in industry*, 89th session, 3, part 1B, Geneva: International Labour Office, 2001, p. 24.

⁶ *Ibid.*, p. 64.

⁷ *Ibid.*, p.52.

few things remained unexplained. In the first place, the age of ‘old enough’ children of a miner’s family was not specified. These members of the mining industry were of the opinion that an Indian boy attained his physical maturity and was fit for mining work by the age of 10; girls were considered fit at age 12.⁸ Hence, an ‘old enough’ boy of about 10 years or girl of 12 years could be considered employable and would not have been able to stay at home to take care of his or her minor siblings. Second, women miners were known to have often ‘shared their one-roomed *dhowrah*⁹ with other families and divided child-care responsibilities between themselves.’¹⁰ This sharing of childcare provided the older children who had reached the government-designated employable age with the opportunity to work, since they would not be saddled with the responsibility of caring for their siblings.

In 1894, an Inspector of Mines’ verdict concerning the age of physical maturity of Indian children was as follows: ‘Girls come to the state of puberty at about 12 to 14 years and even as low as 11 years...’¹¹ Their employable age was, however, considerably lower: ‘A child of 8 years is fit to work...’¹² These quotations are taken from an 1894 report, at which time the age of consent bill had, after much debate and deliberation, already fixed 12 as the minimum age at which a girl could consent to consummate a sexual relationship. Certain sections of the debaters sought to fix a higher age limit of fourteen or sixteen, but did not succeed due to the perceived clash with Shastric prescriptions. In the Indian religious discourse, puberty did not play a role in the age of marriage; Manu prescribed that the younger a girl married, the better she would be as a wife. Manu also fixed the age of marriage at eight or even lower. Despite

⁸ Ibid., p. 26.

⁹ Miners’ huts were known as *dhowrahs* which were infamous for their insanitary conditions.

¹⁰ Dhiraj Kumar Nite, ‘Famelist Movement and Social Mobility: The Indian Colliers (Jharia) 1895-1970’, *Indian Historical Review*, vol. 41, no. 2, 2014, pp. 297-322, p. 315.

¹¹ *RICMI*, for the year ending 30 June 1894, p. 53.

¹² Ibid., p. 53.

the law, girls continued to be married off early, but they were not allowed to consummate the relationship until attaining the legally prescribed age of twelve.¹³

The demand to raise the age of consent to fourteen came from several different quarters. In the *Sahachar* of 9 July 1890, the necessity of amending the Indian Penal Code by increasing the age of consent from ten to fourteen was emphasised. It stated, 'In this country only a very small number of girls attain puberty at 12, and puberty is attained in most cases at 14.'¹⁴ Considering the physical deterioration of the Bengalis, the writer continued, he would not object if the age of consent were raised to 16.¹⁵ The government found considerable support in favour of its decision to raise the age limit to twelve. The *Sanjivani* of January 10, 1890 lauded that the government 'proposes to raise that age to 12, a very reasonable proposal, and to which nobody should object. A girl of 10 years is quite an infant. Government will not object to her marriage, but it proposes to punish her husband if he cohabits with her before she has attained the age of 12.'¹⁶ However, opposition kept surfacing. The *Surabhi-o-Pataka* of January 16, 1891, for example, questioned, 'Will all difficulty be overcome by raising the age of consent to 12? Doctors say that a girl does not become fit for cohabitation before 14. Why do not the legislators then raise the age of consent to 14?' To this the Hon'ble Sir Andrew Scoble replies by saying that 'to adopt that limit would involve *too abrupt* a revolution in the social life of India, and to attempt to enforce it by legislation would almost certainly fail in its object. But why make a law if you know that it will fail to produce the desired effect?'¹⁷ People generally agreed with 12, but did not think that raising it higher would work.

¹³ Mrinalini Sinha, *Colonial masculinity: the 'Manly Englishman' and the 'Effeminate Bengali' in the Late Nineteenth Century*, Manchester: Manchester University Press, 1995, p. 138.

¹⁴ *Report on Native Newspapers*. Bengal Presidency, for the Week ending on 19 July, 1890 (NAI).

¹⁵ *Ibid.*

¹⁶ *Ibid.*, for the Week ending on 17 January, 1891.

¹⁷ *Ibid.*

The concern for girl children expressed in the *Age of Consent Act* was evidently missing in the case of girls whose service was essential to the Indian coal mining industry. The consent act ostensibly dealt with practices pertaining to the upper class/upper caste of Indian society, a section that Nicholas B. Dirks calls the 'ruling elites of the colonized'.¹⁸ These ruling elites were the ones with whom the British forged strategic alliances, and who prompted the government to take concrete action in this and other matters. In the case of the mine-girls, who belonged to the poorest, tribal untouchable segments of society, however, the government was keener on ensuring its economic interest. Hence the government's efforts at the upliftment of women were conditioned by the notions of caste and class. Thus, while the age of puberty was a major determinant in fixing the age of a girl's sexual consent at 12, the inspector of mines thought that an 11-year-old Indian girl would be mature enough to work in the adverse conditions of the mines. The Inspector thus commented in 1896: 'Both little girls and little boys should go into mines early and become accustomed to carrying coals.'¹⁹ As mentioned earlier, the age of 8 was considered enough for a boy-child to engage in mining work. Following is a table showing the employment of children of various age groups in mines in India in 1895:

¹⁸ Nicholas B Dirks, *Colonialism and Culture*, Ann Arbor: University of Michigan Press, 1992, p. 321.

¹⁹ James Grundy, *Report of the Inspection of Mines in India, for the year ending the 30th June, 1895* (hereafter *RIMI*), Calcutta: Office of the Superintendent of Government Printing, 1896, p. 53.

Table 1.1: Employment of Children in Mines in India

Description	Below ground			Above ground			Below and above ground total number	Remarks
	European mines number	Native mines number	Total number	European mines number	Native mines number	Total		
Men	9115	2109	9325	3926	68	3994	13319	
Boys 10 to 16 years	1043	2	1045	758	2	760	1805	
Boys under 10 years	144	2	146	162	Nil	162	308	Not many under 10years
Women above 16 years	2816	27	2843	1110	121	1231	4074	
Women 12 to 16 years	698	3	701	751	4	755	1456	
Girls under 12 years	173	2	175	223	Nil	223	398	Not many under 12 years
Girls under 10 years	Nil	Nil	Nil	Nil	Nil	Nil	Nil	No girls given as under 10 years, but there were probably a few
Total	13989	246	14235	6930	195	7125	21360	
Married females	3350	26	3376	1976	95	2071	5447	
Unmarried females	337	6	343	108	30	138	481	Only 8 per cent unmarried

Source: James Grundy, *Report of the Inspection of Mines in India (RIMI), for the year ending the 30th June, 1895*, Calcutta: Office of the Superintendent of Government Printing, 1896, p.77.

I have already referred to a meeting held by The Indian Mining Association on 20 June, 1894.

At that meeting it was stated that ‘the proposal to fix the inferior age limit at 12 years instead of 14 years for southern countries, was opposed by Great Britain alone (even after) ruling India where the young come to maturity, marry and girls become mothers as early as 12 years

age.’²⁰ In the debate over the necessity of any legislation, issues like women’s labour, their children, and child labour took centre stage. The Indian Mining Association’s reactions to the provisions of the Berlin Conference concerning miners’ children and child labour were not in support of the conference.²¹ The chairman found a 10-year old Indian boy to be ‘well advanced for his age’, especially in comparison with the British boys of the same age. Thus, he made a case in favour of employing children in mines. Even in the case of Indian girls, he opined that ‘a girl of 12, is in 9 cases out of 10 a woman.’²² Here we must note his careful choice of words and how this remark was influenced by the events of the preceding years, particularly the passing of the *Age of Consent Bill of 1891*. This act increased the age of consent for all girls, married or unmarried, from ten to twelve years, and was passed amidst huge protests from conservative quarters. Hence the chairman’s remark that most Indian girls reached womanhood by age 12 sounds quite calculative. The Act sought to strike a blow at one of the age-old customs of India, where, per religious dictum, a girl-child could be married off at the age of eight or nine to a man old enough to be her father or grandfather; the subsequent consummation of the marriage could result in grave physical injuries leading to excessive bleeding, vaginal rupture and death. The members of the Indian Mining Association decided to vindicate their arguments in favour of the employment of girl children in mines by resorting to the same law that outlawed pre-pubertal sex for Indian girls.²³

This attempt to fix an acceptable limit for the age of child labour runs counter to another colonial discourse that was predominant in nineteenth century India: the discourse of eugenics, which pitted the effeminacy of Indian men, especially Bengali men, against the robust masculinity of the British. According to one writer, for example, ‘The physical

²⁰ Ibid., p.37. For more information about the meeting, see p. 27.

²¹ Ibid., p.27.

²² Ibid., p.30.

²³ Ibid., p.66.

organisation of the Bengalee is feeble even to effeminacy...courage, independence, veracity are qualities to which his constitution and his situation are equally unfavourable.’²⁴ On the one hand, adult men were termed effeminate and seen as weak and fragile, while on the other it was believed that Indian boys attained physical maturity and became fit for strenuous physical labour by the age of 10. As per this argument, physically mature children seemed to develop weaknesses as they grew up. However, the targets of these two arguments were apparently different: the former was targeted towards the intellectual section of Bengali society in an attempt to render them incapable of governing themselves and their women and thereby requiring the salubrious hand of British rule, while the latter concerned working class children who were necessary to run the colonial economic machinery. Self-contradiction was therefore embedded in the colonial discourse regarding Indian men. On racial strength, the colonial writers did not rank adult Indians very high; Richard Burton, for example, ranked Brazilians and ‘Hindus’ the same: brown, falling somewhere more advanced than ‘black’ but less than ‘white’ on the scale of racial fitness.²⁵ However, the mining officials had no hesitation in ranking Indian children as being of high fitness when it came to various jobs in mines. Indian boys of varied social standings, from tribal origins to those belonging to various sub-castes, were treated as strong enough for arduous mining work. In his book on colonial childhood, Satadru Sen remarks: ‘If the native child was not truly a child, then the native adult could not be a true adult... because he was the culmination of a flawed childhood.’²⁶ I would phrase this question differently: how could an effeminate adult from the

²⁴ Margaret J. Frick (ed.), *Macaulay’s Essay on Warren Hastings*, New York: the Macmillan Company, 1900, p. 26. The original essay was written in 1841; James Forbes describes the Indian men as “maidenly and well nigh effeminate, of a countenance shy and somewhat estranged.” Mentioned in Sachidananda Mohanty (ed.), *Travel Writing and the Empire*, First Reprint, New Delhi: Katha, 2004, p. 108.

²⁵ Danielle Kinsey, ‘Atlantic World mining, Child labor, and the Transnational Construction of Childhood in Imperial Britain in the Mid-nineteenth Century’, p. 461.

²⁶ Satadru Sen, *Colonial Childhoods: the Juvenile Periphery of India, 1850-1945*, London: Anthem Press, 2005, p. 213.

same racial background start off his/her childhood years on a healthy note and then grow up to be a comparatively weaker adult?

Children in and around mines were therefore assumed to be physically more mature. Danielle Kinsey demonstrates how Britons viewed (at least some) Indian children as intellectually mature, much ahead of their expected age. The children were also considered to have the power to control 'the public sphere in terms of inhabiting major roles in high politics (such as Dalip Singh²⁷), in the economy (such as in the diamond trade), and in the institution of marriage.'²⁸ Kinsey draws our attention to the way Dalip Singh was being 'fashioned as intellectually adult and, perhaps implicitly, India as a place where children commonly performed the duties of adults.' But the case of the child miners was different than someone belonging to the upper strata of the Indian society. The children's wages did not match this presumed superiority. The children in and around mines lagged behind their British counterparts both in terms of educational accomplishment and intellectual superiority.

Discussions about the recruitment of child labour for Indian mines reflected the widening gap between the patterns of childhood in colonial India and in Britain. Writers reflected upon these different experiences of growing up in different parts of the world. Childhood experiences in the UK and 'native childhood' were placed under the lens of a comparative framework. While childhood in Britain constituted exclusion from the socio-political privileges associated with adulthood, the colonial understanding of childhood in India primarily derived from the 'assumptions about race, moral content and political status, and

²⁷ Dalip Singh ascended the throne when he was merely five years old. See 'Prince of Punjab and Perthshire: Remembering Maharajah Duleep Singh', *The Scotsman*, 5 September, 2012, <http://www.scotsman.com/heritage/people-places/prince-of-punjab-and-perthshire-remembering-maharajah-duleep-singh-1-2506091>.

²⁸ Kinsey, 'Atlantic World mining, Child labor, and the Transnational Construction of Childhood in Imperial Britain in the Mid-nineteenth Century', p. 461.

serving as a model for the marginality of various segments of the colonized.²⁹ On one hand, Indian children were perceived to attain physical maturity earlier than their counterparts in the United Kingdom, a perception that problematised the attempt to create a universal definition of childhood, and which was juxtaposed with perceptions of Indian children's intellectual maturity. On the other hand, the definition of physical maturity in the traditional Indian social system was being contested by the *Age of Consent Bill of 1891*.

Differences in the colonial definition and perception of childhood are evident from variations among the British colonies. As asserted by Audra A. Diptee and David V. Trotman, there was never a single 'colonial project';³⁰ the colonial perceptions of childhood in different colonial contexts tended to vary. Childhood as experienced in India was not the same as that in Barbados or Natal. Furthermore, childhood as experienced by children in and around mines was also different from childhood in other parts of colonial India. For example, the schooling given to the children of miners was essentially different from that in other parts of India. Sarada Balagopalan has delved into the ways in which children of the working classes 'were reproduced as labour, using a parallel discourse on the kind of schooling ideally suited for working children and children of labouring populations.'³¹ The children of miners had no choice but to spend a good chunk of their time in and around their parents' workplaces, sometimes foregoing education altogether.

The question now is whether this colonial discourse of childhood influenced the formation of childhood in relation to the mining industry in India. Prior to the enactment of the *Indian*

²⁹ Satadru Sen, *Colonial Childhoods: the Juvenile Periphery of India, 1850-1945*, p. 2.

³⁰ Audra A. Diptee and David V. Trotman, 'Atlantic Childhood and Youth in Global Context: Reflections on the Global South, *Atlantic Studies: Global Currents*', p. 439.

³¹ Sarada Balagopalan, *Inhabiting 'childhood': Children, Labour and Schooling in Postcolonial India*, New York: Palgrave Macmillan, 2014, p. 59.

Mines Act of 1901,³² discussions about the childhood of children in and around mines focused on the twin axes of the working capacity and physical maturity of Indian children. The *Apprentices Act*, also called *Act No. XIX of 1850*, was probably one of the first Acts to address concerns about the age of Indian children vis-à-vis the age of employment. Under the provisions of this Act, any child above the age of ten and under the age of eighteen years could be enrolled as an apprentice by his or her father or guardian to learn any suitable trade, craft or employment for such term as set forth in the contract of apprenticeship, but not more than seven years, so that the apprenticeship could not be prolonged beyond the time when the child reached the age of twenty-one years, or in the case of a female, beyond the time of her marriage.³³ Starting from the latter half of the nineteenth century, *the Apprentices Act* was followed by the *Factory Act* and its subsequent amendments and the *Mines Acts*. Whereas the debate preceding the passing of the *Factory Act* did not separately delve into the age of girls, the issue could not be bypassed in the case of mining, since both boy and girl children were very visible in the Indian mines. Thus the requirements of mining productivity led to the formation of a discourse of childhood that, to some extent, followed a different trajectory from either of the preceding acts. More than the ‘tension between international vision and local perceptions of childhood,’³⁴ what we see in the context of mining is the clash between contradictory discourses of childhood put forth by the colonial state in India. While Europeans were often accused of having ‘made little effort to incorporate, or even consider, local ideas about childhood and youth,’³⁵ in the case of the mining industry they had to take local perceptions into account, which in turn became the principal reasons for the multiplicity

³² *The Indian Mines Act of 1901* was the first major legislative intervention in ensuring and regulating mine safety. It was a result of decades of discussion and deliberations.

³³ Mentioned in Ved Kumari, ‘Juvenile Justice: Securing the Rights of Children during 1998 – 2008’, *NUJS Law Review* 2 (557), October-December 2009, pp. 557-572, p. 558; K.K. Sreekala, ‘An Assessment of the Educational and Vocational Programmes of Juvenile and Observation Homes in Correcting the Behaviour of the Juvenile Delinquents’, PhD thesis, School of Pedagogical Sciences, Mahatma Gandhi University, Kottayam, 2007, p. 31, http://shodhganga.inflibnet.ac.in/bitstream/10603/7114/14/14_chapter%202.pdf.

³⁴ Audra A. Diptee and David V. Trotman, ‘Atlantic Childhood and Youth in Global Context: Reflections on the Global South, Atlantic Studies: Global Currents’, p. 443.

³⁵ *Ibid.*, p. 444.

of views within the discourse on childhood. All of the issues relating to women or child labour, the work culture of male miners, and safety at work were clubbed together with the question of whether to interfere in the lives of the miners using policies and regulations. It was feared that any 'benevolent measures' by the government would be received with apprehension by the workers. They could even 'emerge rebellious by forming a gang'³⁶ in response to such interference with the 'dustoor', or customs, of the miners.³⁷ Nevertheless, the chain of protective legislation from the *Indian Mines Act of 1901* to the *Indian Workmen's Compensation Act of 1923* did prove to be interventionist in approach.

The *Indian Workmen's Compensation Act of 1923* finally put an end to the employment of children below the age of 13. From the first reports from the Chief Inspector of Mines, Chief Inspectors consistently claimed that the number of working children below the age of 12 was declining every year due to persistent dissuasion, especially from the mine owners.³⁸ As per the Chief Inspector's report of 1903, 'the number of children employed below ground, has decreased';³⁹ the reason for this was ascribed to 'continuous discouragement during the last 10 years.'⁴⁰ According to the report, the number of children below 12 years employed in Indian coalmines in 1903 was 1651, of which 1158 were employed below ground in Bengal's coalmines alone.⁴¹ The number of children employed below ground in Indian coalmines in 1901 was 1408.⁴² This decrease was noteworthy, but the scenario changed within the span of

³⁶ *RICMI*, for the year ending 30 June 1894, p. 66; the remark was made by C.W. Gray (of the Bengal Coal Company Limited), the chairman of a meeting organised by the Indian Mining Association on 20 June, 1894 (NLI).

³⁷ *Ibid.*, p. 66.

³⁸ As mentioned above, according to the Indian Mines Act of 1901, anybody below the age of 12 was considered a child.

³⁹ James Grundy, *Report of the Chief Inspector of Mines in India, under the Indian Mines Act of 1901, for the year ending the 31st December* (hereafter *RCIMI*), 1903, Calcutta: Bureau of Mines Inspection in India, Government of India, 1904, p. 6 (NAI).

⁴⁰ *Ibid.*

⁴¹ *Ibid.*

⁴² Geo A, Stonier, *RCIMI*, for the year ending 1901, p. 6.

a few years. In 1907 the number rose to 6098,⁴³ fluctuating over the following years (the number was 5317 in 1911),⁴⁴ followed by a steep rise in 1913, when the number reached 6353.⁴⁵ During the initial years of the First World War, this number did not witness any remarkable jump. On the contrary, it dropped to 5205 in 1915.⁴⁶ However, from then on the number of working children was on the ascendant: in 1917, it was 7439, followed by 7750 in 1919,⁴⁷ 8084 in 1920,⁴⁸ and 8548 in 1921.⁴⁹ Thus it is difficult to discern any concerted effort to cut down on child labour. This rise was, however, finally halted due to the provision of the *Indian Mines Act of 1923*, which prohibited the employment or presence of children under the age of 13 in any part of the mines below ground. That year's report demonstrated a marked decline in the number of children employed below ground, at 4135.⁵⁰

Mine owners feared that the prohibition of child labour would markedly affect the supply of miners who would work underground. The principal object of concern was the women miners, who would stop working should their children be denied access to the underground. J.H. Lang, the then-Officiating Chief Inspector of Mines in India, however, did not seem to share this concern with the sympathizers of the mining industry, explaining:

Many persons maintained that when the children were taken out of the mine the women would not go down and that the men would also be affected but this fear did not materialize. If any labour did leave the mine for this reason the number was

⁴³ J.R.R. Wilson, *Ibid.*, for the year ending 1907, p. 2.

⁴⁴ G.F. Adams, *Ibid.*, for the year ending 1911, p. 3.

⁴⁵ R.R. Simpson, *Ibid.*, for the year ending 1913, p. 2.

⁴⁶ G.F. Adams, *Ibid.*, for the year ending 1915, p. 5.

⁴⁷ R.R. Simpson, *Ibid.*, for the year ending 1919, p. 2.

⁴⁸ *Ibid.*, for the year ending 1920, p. 4.

⁴⁹ *Ibid.*, for the year ending 1921, p. 2.

⁵⁰ R.R. Simpson, *Annual Report of the Chief Inspector of Mines in India* (hereafter *ARCIMI*), for the year ending 1926, Calcutta: Government of India, Central Publication Branch, 1927, p. 3 (NLI). The noteworthy feature of this series of reports was that from 1923 onwards the Report came to be known as the Annual Report of the Chief Inspector of Mines. In 1923, the Indian Mines Act of 1901 was amended and the Indian Mines Act of 1923 came into existence. That was when the change was made.

insignificant and I have never heard of any complaints on this score. It did, however, prevent the suckling mothers from going underground.⁵¹

Prior to the passage of the *Indian Mines Act of 1923*, this fear surfaced time and again. The Indian Mining Federation was one of the leading coal lobbies dominated mainly by Indian entrepreneurs. K.M. Purkayastha, the secretary of the Federation in 1922, sent a letter to the Secretary to the Government of India, Department of Industries, Delhi with the Federation's suggestions on the proposed amendments to the existing *Indian Mines Act*. The prohibition of children from underground could be detrimental to the mining industry, Purkayastha argued: '[i]t is impossible to prevent either the presence of the children or the employment of women underground without completely dislocating the industry...'⁵² However, the Secretary to the Government of Bengal A. Marr informed the Secretary of India, Department of Industries that the Federation had earlier 'raised no objection to the proposal' of prohibiting children from going underground.⁵³ On the other hand, Marr added that 'the Indian Mining Association who have now intimated in general terms that they have no objections to the Bill as drafted, originally opposed the suggestions that children should be prohibited from going below the surface, until at least female labour underground was likewise prohibited.'⁵⁴

Following the passage of the *Indian Mines Act of 1923*, the Indian Mine Managers' Association was one of the sections of the industry most reluctant to implement the new regulations, due to the fear of losing a big chunk of the labour pool. The apprehension of the representative of the Association was evident: 'As a result of the Indian Mines Act 1923,

⁵¹ Ibid., p. 229.

⁵² *Revision of the Indian Mines Act, 1901 (Act VIII of 1901)*, Department of Industries and Labour, Government of India, File No. 665-M, 1923, Proceedings nos. 1-67, Mines Regulations-A, May 1923, Letter no. 3133-6-10, dated Calcutta, the 18 November 1922, p. 93 (NAI).

⁵³ Ibid., Letter no. 5869-Com., dated Calcutta, the 13 December 1922, p. 107.

⁵⁴ Ibid.

there has been a total abolition of children (under 13) from work either on surface or underground. This has affected the industry..., (and) women have sometimes to keep away from work for looking after the babies.’⁵⁵

1.2. Children in Mines: Accidents, Deaths and Injuries: Differing Notions:

Corollary to the issue of prohibition comes the question of the safety of children in and around the mines. In this section, I propose to test the veracity of statements made by colonial officials concerning whether mining work or the environment in mines adversely affected the health of children, both in terms of accidents and of long-term physical and mental toil. By August 1923, the necessity to redress the hardships faced regularly by women and children miners in the workplace was felt even in Britain. Tom Smith, the Labour Member of Parliament for Pontefract, stated to the *Daily Herald* that ‘nearly half the workers in the coal mines of India are women and children and that legislation is needed to limit their labour and better their conditions.’⁵⁶ Smith stated that, in the ten years prior to December 31, 1921, there were 1465 accidents resulting in 1871 deaths and 2212 other accidents led to serious injury to 2306 persons; he went on to add how difficult it was to ascertain the number of women and children who were injured or killed due to mine accidents based on the official reports available to him. In the Chief Inspector’s report of 1926, for example, there was hardly any reference to the employment of children under the age of 13 in Indian mines.

Even if we make the statistically unlikely assumption that children were not be involved in any of these accidents, it would be difficult for them to escape the generally unhealthy and

⁵⁵ *Royal Commission on Labour in India* (hereafter *RCLI*), vol. 4, part 1: Bihar and Orissa with Coalfields, Written Evidence, London: His Majesty’s Stationery Office, 1931, p. 254.

⁵⁶ ‘Women and Children in India Coal mines: Labor Member of Parliament Demand Better Working Conditions for Them’, *New York Times*, 26 August, 1923: available from New York Times archive, (accessed 6 January, 2017).

claustrophobic conditions of a coalmine, both on the surface and underground. Prohibiting the presence of children in coalmines did not necessarily ensure comprehensive safety to the children of miners. Accidents and death of children under the age of 13 on the premises of coalmines kept happening years after this prohibition was implemented. Before reflecting upon the array of mishaps and misery concerning children in Indian mines after 1923, however, I will try to trace the history of accidents involving children, both in the capacity of workers and otherwise, from the late nineteenth century.

In 1894, the Inspector of Mines had a few reassuring words about the safety of the boys and girls involved in underground mining activities: ‘Under-ground work does not do children any harm at all; the children that [sic] work grow up strong and healthy.’⁵⁷ Taking this comment as a lead, I propose to explore whether this assurance is at all valid as far as safety in underground areas, or in mines in general, was concerned. A probe into accident statistics in mines in India throughout the period under review might challenge such reassuring comments. In 1894, the year when those reassuring words were uttered, a girl below 12 years of age was killed on the premises of a mine.⁵⁸ In the same year, a boy recruited as an oil boy was reported to be seriously injured at work.⁵⁹ One comes across several such accidents in the annual report of the Chief Inspector of Mines. The victims included not only employed children, but also those accompanying their mothers to work. In 1908, in the Bansdeopur Coal Company’s coal mine at Kusunda of Manbhum region, a 3-year-old child named Sahadeo Monda died as a result of the fall of a roof while his mother was busy loading her tub.⁶⁰ J.R.R. Wilson, the then-Chief Inspector of Mines, differed from his predecessor James

⁵⁷ Grundy, *RICMI*, for the year ending 30 June 1894, p. 53.

⁵⁸ *Ibid.*, p. 97.

⁵⁹ *Ibid.*, p. 98.

⁶⁰ J.R.R. Wilson, *RCIMI*, for the year ending 1908, p. 15.

Grundy when he suggested that ‘taking children and particularly babies into mines cannot always be avoided, but it should never be encouraged.’⁶¹

J.F. Adams, the Chief Inspector of Mines in 1910, expressed similar concerns and explained that children should not be ‘allowed to wander about’ as ‘underground working was full of danger’. He also provided the information that some mines had already prohibited the presence of children underground.⁶² However, all of these cautionary words remained empty rhetoric in most of the collieries in Raniganj and Jharia. The employment of children below the surface continued. In 1915, a boy named Nagwya Bhuia was recruited as a coal picker in a mine in Bihar and Orissa. He was just ten years old; the colliery management did not pay any heed to the provisions of the *Indian Mines Act of 1901* regarding the employment of children. The boy was run over by a set of loaded tubs and died nine days later from the severe injuries incurred during the accident.⁶³ In 1917, Peari Noonia, a 12-year-old boy employed in a Bengali Coal Company’s colliery, died above ground when he was run over by a locomotive on the colliery tram line.⁶⁴ This boy could not be considered a minor, as his age had reportedly reached 12 when he was recruited to work below ground. In 1919, in one of the Burrakar Coal Company’s collieries this rule was flouted again when a ten-year-old boy named Jhari Hajjam was recruited as a coolie. He fell victim to an accident underground and died.⁶⁵ Accidents and the consequent death or injuries continued to plague young children, especially those bordering the permissible age limit. Even after the 1923 Act, there was no sea change so far as the accidental deaths of children below 13 years of age were concerned.

⁶¹ Ibid., p. 16.

⁶² G.F. Adams, Ibid., for the year ending 1910, p. 28.

⁶³ Ibid., for the year ending 1915, p. 55.

⁶⁴ Ibid., for the year ending 1917, p. 55.

⁶⁵ R.R. Simpson, Ibid., for the year ending 1919, p. 73.

The Chief Inspector of Mines J.F. Adams made an observation in 1910 that bore testimony to the fact that sometimes mine premises were as dangerous as the environment underground. He observed: 'During the last six years there have been several deaths by drowning in unprotected or insufficiently protected feed water tanks... most of them are young children.'⁶⁶ He added further that these tanks were supposed to be walled or fenced to a height of at least three feet above the ground, which was not the case on most of these occasions. While he was referring to the situation that had prevailed for the previous six years, this type of accident would prove rampant in the years to come. In 1917, a three-year-old boy named Gogla Beldar fell into a tank and died. The tank was 2.6 feet deep, less than recommended by Adams.⁶⁷ Although the formal prohibition of children from underground areas was legally recognised, children continued to be involved in accidents above ground, in areas that were not regulated at all. Moreover, regulations concerning the 'below ground' areas did not necessarily ensure the complete absence of children from the underground, which I will discuss later. Most victims were children accompanying their mothers or elders, a practice which was supposed to be discontinued after 1923 but did not seem to be affected by the new regulations. The only difference was that prior to 1923 these incidents had been regular, unperturbed and largely debated within the mine industry; after 1923, with concrete provisions in hand; the imposition of stricter regulations was sought. It is nevertheless pertinent to speculate about whether any of these regulations had any real impact on the practice of taking children into mines, either above- or belowground.

As mentioned in the last section, in the 1890s, a section of people associated with the mining industry did not consider it unsafe to take children into mines. This scenario started to change with the Act of 1901, when differing opinions started circulating within the industry.

⁶⁶ Ibid., for the year ending 1910, p. 28.

⁶⁷ Ibid., for the year ending 1917, p. 58.

Accidents involving children could not be removed from the agenda despite debates over the issue. In 1915, Mangli Pankha, an eight-year-old girl, was hit by a tub and later died from injuries incurred by the accident. This happened in Hariladih Coal Company Ltd.'s Kendwadih mine and the girl was not officially employed in any kind of mining work.⁶⁸ In another instance, Suti Manjhian, a coal carrier, was found drowned in an old shaft along with his two-year-old son Budhan Manjhi. The accident was categorized as 'Not a mining accident'.⁶⁹ Accidents of these kinds were often treated as outside the precinct of mine accidents, restricting the kinds of accidents that could be considered mine-related and thus putting the lives of children at risk.

The miners' *dhowrahs* were often not far from their workplace. Hence, the mine's premises often turned into the children's playground. These factors heightened the chances of accidents such as falling into a water tank. Refusal to term these 'mine accidents' put those children's lives in imminent danger. Let me refer to another accident that took place in the Sinidih coal mines in 1917. Megwa Bhuiya, a five-year-old boy, was reported to be

playing in the shade beneath an East Indian Railway wagon, which his parents were loading with coal. A second wagon was attached to the first, the effect of which pushed the latter and led it to move a few feet ahead. The child was struck on the head by the under frame, and killed on the spot.⁷⁰

Children did not stop accompanying their elders to mines despite the 1923 act. In Burn & Company Ltd.'s Sunkerpur coal mine in Bengal, a four-year-old girl named Parbatia Ghatwali accompanied five women and one male mine worker, all her elders. They were

⁶⁸ *RCIMI*, for the year ending 1915, p. 58.

⁶⁹ *Ibid.*, p. 60.

⁷⁰ *RCIMI*, for the year ending 1917, p. 59.

reportedly engaged in ‘manufacturing gunpowder’. The gunpowder suddenly ignited, leading to the death of the five women miners and the child. The male miner escaped from the accident scene.⁷¹ This accident happened in 1926—almost three years after the *Indian Mines Act of 1923* came into effect. Moreover, manufacturing gunpowder was itself a process full of danger but the management had no qualms in allowing a four-year-old access to such a place.

In the International Labour Conference held in June 1926, India was represented by Lala Lajpat Rai, a prominent nationalist leader. While commenting on the larger issue of the slow and unsatisfactory progress of social reforms in India, he lamented the continued employment of children in underground mining works.⁷² However, Sir Atul Chatterjee, the High Commissioner to the United Kingdom,⁷³ disagreed with Mr. Rai and claimed: ‘[n]o such thing exists in India. No children are allowed to go underground.’⁷⁴ In 1931, the Royal Commission interviewed K.K. Bakshi, manager of the Kirkend colliery in the Jharia region. Among many questions, one was: ‘How many children of school-going age, that is to say, up to the age of about 14, have you on the colliery?’ The manager replied, ‘It cannot be more than 50.’⁷⁵ This means that children continued to be allowed in mine premises even eight years after the prohibition was passed.

1.3. Education and the Miners’ Children: Illiterate Future Workforce or Educated Individuals:

If one side of the coin was this prohibition of taking children to the mines or employing them below a certain age, the other side was the alternative childcare arrangements, i.e. where to

⁷¹ Ibid., for the year ending 1926, p. 142.

⁷² Nripendra Nath Mitra (ed.), *Indian Quarterly Register*, vol. 1, no. 1 and 2, January-June 1926, Sibpur: The Annual Register Office, 1926, p. 150.

⁷³ The Montreal Gazette, 11 July, 1931, p. 12.

⁷⁴ Nripendra Nath Mitra (ed.), *Indian Quarterly Register*, vol. 1, no. 1 and 2, pp. 145-146.

⁷⁵ *RCLI*, vol. 4, part 2: Bihar and Orissa with Coalfields, Oral Evidence, p. 135.

leave the children while their elders went to work. One option was to leave them with their elder brothers or sisters '[w]hen they have children old enough to look to small ones then they generally leave them at home.'⁷⁶ This requirement for the children who were 'old enough' to stay home and look after their younger siblings must have hampered their education. The alternative was to send them to school— which begs the question of whether schooling was more about keeping miners' children in a safe refuge while their mothers were busy working, or about fostering their intellectual development. Thus the establishment of educational facilities for miners' children became inextricably linked with their safety.

There were two conflicting discourses concerning the need to educate miners' children. One section of the industry, as well as the colonial government, feared that education would subsequently drive the children away from mining work: 'having been able to read and write, [they] would look down with scorn on working in mines.'⁷⁷ In 1894, a mine manager opined that since

A child of 8 years is fit to work...both little girls and little boys should go into the mine early and become accustomed to carrying coals...it is questionable whether children should be educated, for it would...make them more miserable...they would not afterwards work as coal-cutters, but try to get other work...those who can read and write will never cut coal; on the other hand, they take a most important attitude, and demand respect from everybody...⁷⁸

⁷⁶ *RICMI*, for the year ending 30 June 1894, p. 67; the remark was made by the chairman of a meeting organised by the Indian Mining Association on 20 June, 1894.

⁷⁷ *Ibid.*, p. 26.

⁷⁸ *Ibid.*, pp. 51-53: Communication from Walter Saisse, Eastern Indian Railway Colliery Manager, Giridih.

The other side concerned the formation of an educated, skilled and efficient future workforce that would be a boon for the industry. The manager of one of the largest and most successful collieries in Bengal was reported to have lent his full support for the education of miners' children, who would in turn produce 'favourable' results. According to the Inspector, 'The most intelligent of the lot... will be required for skilled labour in the workshops, at the engines and other machinery, supervising work, and as underground *Sirdars* who will be able to write their own reports of inspections made.'⁷⁹ The proposal to impart elementary technical education to miners' children was also mooted by the coal lobbies. The representatives of the Indian Mining Association, a European-dominated, leading coal lobby in India, were questioned by the Chief Inspector of Mines regarding the complete prohibition of young children from mines. The proposal of providing those children with school accommodation was put forward, too.⁸⁰ The Association, however, ruled out any such possibility and spoke against prohibition. As to education for miners' children, the Association explained: '[o]nce educated, they never consent to begin life as working miners, but swell the army of unemployed clerks.'⁸¹

Some early schools for 'aboriginals' primarily working in collieries (in Raniganj subdivision) were reported in 1896. Most of these collieries were privately owned; the situation in state-owned collieries looked more promising. As of 1896, The East Indian Railway Collieries Company was supporting as many as 35 schools at Giridih.⁸² The company was reported to have 1400 children in their register and the schools evidently provided a place for elders to leave their children while they went to work. This also demonstrated some clarity on the differences between the infrastructures of various coal companies. Smaller collieries than the

⁷⁹ Ibid., p. 26. *Sirdars* were the sub-ordinate officials working in the Indian mines. Recruiting miners and supervising their works were among their important functions.

⁸⁰ Ibid., p. 62.

⁸¹ Ibid. p. 64.

⁸² *RIMI*, for the year ending 1896, p. 15.

one in Giridih could not afford to provide their workers with similar kinds of facilities. The East Indian Railway Company was described to have ‘at its back a large capital, and it is also especially fortunate in having a manager and an assistant manager who have been there for years,... and who, owing to the funds at their disposal, can do more for their labourers than any other company.’⁸³ The company’s ability to support as many as 35 schools was ascribed to this ample funding and competent managerial staff. The number of schools came down to 24 by 1905 but schools like the Beniadih Industrial School became one of the most important institutes ‘where the boys were trained to be fitters and draughtsmen.’⁸⁴ In 1907, a mining inspector of the circle that included Giridih, heaped praise on the schooling system that the colliery company in Giridih had consistently maintained for decades. He was impressed with the way the classes for technical education for children were organised. He stated, ‘The school I visited at Giridih was an object lesson of what can be done for the native by native teachers and is extremely encouraging for the future.’⁸⁵

Barring the few collieries that had adequate infrastructure to run schools for the miners’ children, however, most others found it difficult to maintain such a system. While the conditions in places like Giridih were much appreciated by government officials, other mining regions were struggling to find a foothold in establishing functional machinery that could provide adequate educational facilities. The system of running and maintaining schools for miners’ children in Jharia, for example, did not seem to work as efficiently initially planned by many well-wishers in the coal mining industry.

⁸³ Ibid. p. 23.

⁸⁴ Balagopalan, *Inhabiting ‘childhood’: Children, Labour and Schooling in Postcolonial India*, p. 64.

⁸⁵ *RCIMI*, for the year ending 1907, p. 16.

After the passage of the *Indian Mines Act of 1923*, J.M. Mitra, the Registrar of Co-operative Societies, Bengal, wrote a memorandum to the Royal Commission on Labour about the condition of education in the Asansol sub-division of Burdwan district, where most of the Bengal's collieries were located. Mentioning a number of schools that had been closed down over the previous few years, he commented: 'My impression of the coalfields was that there had never been any concerted attempt to bring the miners' children to school, either by employers or any other agency.'⁸⁶ He referred to a similar observation by the then-Chief Inspector of Mines in his 1927 annual report, in which the latter complained that '[g]enerally speaking facilities for education are poor in the vicinity of mines.' Mitra continued with a proposal for improving the condition of education in colliery regions:

there should be:- (1) A definite policy behind a progressive and well thought-out scheme for extending primary education among the labouring classes and their children by means of- (a) Free night schools for adults; (b) free day schools for children. Attendance should be made compulsory for those in industrial areas.⁸⁷

In the Annual Report for the Chief Inspector of Mines for 1929, there is a comparison with the 1927 report:

in the Jharia coalfield area with a population of 376,000 (including 138,000 rural inhabitants) there were 99 schools, of which 16 were colliery schools with an aggregate number of 617 pupils. There has since been no increase in the number of

⁸⁶ *RCLI*, volume 5, part 1: Bengal: Excluding Coalfields and Dooars, 1930, p. 54.

⁸⁷ *Ibid.*, p. 57.

colliery schools and the number of pupils in such schools is practically the same. The total number of schools has fallen from 99 to 88.⁸⁸

The same report mentions that, although children were excluded from the mines in 1924, '[t]here had been as yet no concerted movement for bringing into force the provisions of the Bihar and Orissa Primary Education Act, 1919, in the Jharia coalfield.' That Act sought to promote primary education among miners' children, but the decrease of schools proved detrimental to that initiative, defeating the very purpose of providing 'minors' with a safe haven while their parents were at work. Most of the larger collieries 'made subscriptions for the maintenance of the Local Board primary schools in their neighbourhood',⁸⁹ all of which were meant for the children of miners in that region. Only four collieries provided their own primary schools. Among the collieries in Jharia, Standard Coal Company was the only one running two schools; one of the schools was for the workers' children, but the attendance rate was quite low. Another school was run by Pure Jharia Colliery, but this school was plagued by the same poor attendance of the miners' children as the other major collieries' schools.⁹⁰

In 1931, a manager of Kirkend colliery in the Jharia region was asked by the Royal Commission whether miners' children were encouraged to go to school on a regular basis. The manager's reply was positive, but he also referred to the reluctance of some miners to send their children to school: '[t]here are some people who say that if they send their boys to school they may die.'⁹¹ Unfortunately the manager did not elaborate on this remark before moving on to the Commission's other queries. The scenario in Asansol was different. On being asked whether the miners themselves were running any schools, P.C. Bose, the

⁸⁸ *ARCIMI*, for the year ending 1929, pp. 7-8.

⁸⁹ *RCLI*, volume 4, part 1: Bihar and Orissa with Coalfields, Written Evidence, 1931, p. 39.

⁹⁰ *Ibid.* p. 40.

⁹¹ *RCLI*, vol. 4, part 2, Bihar and Orissa with Coalfields, Oral evidence, 1931, p. 13.

Secretary of the Indian Colliery Employees' Association,⁹² replied, 'There are some primary schools maintained not by miners but by the collieries and high class employers in the coal area. The miners' children are not allowed to go there; at any rate they do not go there.'⁹³ Bose's account claims that the miners lacked interest in their children's education. However, there is other evidence that the miners were noticeably interested in their children's education. The Royal Commission asked J. Kirk, the superintendent at the Jamadoba Colliery, whether the miners run any schools on their own. Kirk's reply was as follows: 'The miners have started one on their initiative. We have purposely not helped them with it. This effort shows a desire on the miners' part for the education of their children.'⁹⁴

B. Mitter, the Indian Colliery Employees' Association's representative to the Royal Commission in 1931, painted the educational scene for miners' children in rather gloomy colours: 'No facilities are given to laborers' children for education; since the children are prohibited from entering in [sic] mines or to do any kind of work in mines it is advisable that some arrangement should be made to control and educate these children.'⁹⁵ The Indian Mining Association, in its memorandum to the Royal Commission, also did not seem impressed with the existing educational opportunities in the colliery regions: 'Small primary schools exist on most collieries- certainly on the larger ones- but these are admittedly not sufficient to meet the needs of the present day when so much importance is attached to the provision of educational facilities for every child.'⁹⁶ This seems to suggest that the Indian Mining Association was no longer arguing about the inadvisability of schooling miners' kids but had bowed to a changing public consensus with regard to universal primary education.

⁹² Bandyopadhyay, *Asansol Parikrama* (History of Asansol Sub Division about Five Hundred Years), p. 47; The Indian Colliery Employees' Association was formed in 1920 and this labour association rose to prominence in late 1920s and early 1930s.

⁹³ *RCLI*, vol. 4, part 2, Bihar and Orissa with Coalfields, Oral evidence, 1931, p. 150.

⁹⁴ *Ibid.*, p. 278.

⁹⁵ *Ibid.*, p.190.

⁹⁶ *Ibid.*, p.245.

Giridih was the glorious exception. The condition of the educational atmosphere in Giridih continued to attract praise from different quarters: 'The only serious attempt to educate the Indian miner has had been made at Giridih, where twelve classes were commenced in 1894. There are now thirty classes with approximately 2,000 children. Attendance is necessary for boys up to 12 years of age.'⁹⁷

There is scanty information on the encouragement of industrial education by agencies other than the government. The contribution of missionary endeavours towards the dissemination of such secular, technical education can also hardly be ascertained from the available sources. Missionary activities among the tribal population of India are well known, but their impact on the tribal workers of the colliery regions is unclear. While commenting on missionary efforts to impart an industrial education, Balagopalan suggested that '[t]he colonial state believed that the missionaries had failed to adequately separate a technical education from a literary one in their schools....Missionary schools were widely recognized as combining literary education with teaching a trade, and as a result, their "industrial school" model had been beset with ambiguity.'⁹⁸ The inevitable religious undertone of missionary education added to this ambiguity. This was evident from the final remarks from a conference on industrial education organised by missionaries in March 1924:⁹⁹ 'The Conference considers that the contact of Christian Missionaries with the industrial life of the country should have as its final end the application to Christian principles to industrial conditions....'¹⁰⁰ The coal mining

⁹⁷ *RCLI*, vol. 4, part 1, Bihar and Orissa with Coalfields, written evidence, p. 224.

⁹⁸ Sarada Balagopalan, *Inhabiting 'childhood': Children, Labour and Schooling in Postcolonial India*, p. 67.

⁹⁹ *Industrial Education in India: report of a Conference held in Allahabad, March 25th-29th 1924 under the auspices of the National Christian Council of India, Burma & Ceylon*, India: National Christian Council of India, Burma & Ceylon., 1924. The Conference was held under the auspices of the National Council. 35 representatives from 13 different missionary bodies dealing with industrial education in India participated in the conference, p. 1.

¹⁰⁰ *Ibid.*, p. 56.

industry or mining industry in general seemed to have completely escaped from this conference's sphere of considerations.¹⁰¹

Thus it was essentially under the patronage of either the government or individual collieries that the education of miners' children made some headway, though of course it never reached the level that would have achieved its original purpose i.e. the imparting of technical information to make good workers. An important question is whether school attendance impacted the attendance of child workers at the mines. Danielle Kinsey draws our attention to the mining industries (except the coal-mining sector) in Britain after 1842, when an increase in school attendance was directly proportional to a decrease in attendance in the mining industries.¹⁰² According to this study, then, the foundation of schools in mines would not only mean ensuring safety for the children who were not working, but also losing part of the workforce, i.e. children who had been involved in mining activities and now were attending school. Sylvain E. Dessy resorted to statistical methods to prove that the imposition of compulsory education could reduce child labour.¹⁰³ Dessy's study covers an altogether different timeframe, but the inextricable link between education and child labour is unavoidable. As Dessy further explicated, 'under a free education regime with no compulsory education laws, an under-development trap with high incidence of child labor and high fertility rates is always at work.'¹⁰⁴ This is not only true for different time periods, but also in different regions. For example, the situation of compulsory and free education in Barbados in and around 1938-39 was as follows:

¹⁰¹ Ibid., p. 22.

¹⁰² Danielle Kinsey, 'Atlantic World mining, Child labor, and the Transnational Construction of Childhood in Imperial Britain in the Mid-nineteenth Century', p.459.

¹⁰³ Sylvain E. Dessy, 'A Defense of Compulsive Measures against Child Labor', *Journal of Development Economics*, vol. 62, no. 1, June 2000, pp. 261-275.

¹⁰⁴ Ibid., p. 273.

On the one hand, the beneficence of the state in providing free education rendered the formalization of compulsory education in law unnecessary. On the other hand, laws compelling children to be in school or abolishing child labor would hurt the working classes, whose families needed the supplementary earnings of children or, in any event, simply could not afford school clothes.¹⁰⁵

In colonial India, the first serious attempt to make primary education free and compulsory was made by the Maharaja of Baroda in 1910.¹⁰⁶ Gopal Krishna Gokhale, a leading nationalist leader, spoke in favour of free and compulsory education and introduced a bill in the Central Legislative Assembly on March 19, 1910. The bill was, however, withdrawn and the example of Baroda was not followed in other Indian states.¹⁰⁷ It took almost ten years for the *Primary Education Act of 1919*, covering both rural and urban areas, to be passed in the state of Bihar and Orissa. The state of Bengal, passed a similar act in 1919, but it only applied to boys in municipal areas; girls were not included until 1922.¹⁰⁸ Thus, in the late nineteenth century and first two decades of the twentieth century the education system in India had yet to find a systematic structure.

As mentioned earlier, a primary concern of the discourse about imparting education to miners' children was whether the educated children would then be unwilling to take up mining work. To combat this, some quarters of the coal mining industry emphasised the importance for both boys and girls to have an early training in underground mining activities. More generalised education was thought to be 'detrimental to the children's taking coal-

¹⁰⁵ Cecilia A. Green, 'the 1938–1939 Moyne Commission in Barbados: Investigating the Status of Children', *Atlantic Studies: Global Currents*, vol. 11, no. 4, October 2014, pp. 515-535, p. 525.

¹⁰⁶ Ram Nath Sharma and Rajendra Kumar Sharma, *History of Education in India*, New Delhi: Atlantic Publishers, 2004, p. 137.

¹⁰⁷ *Ibid.*, p.138.

¹⁰⁸ *Ibid.*

cutting as a profession.’¹⁰⁹ This begs the question of whether children in mines were asked to do work requiring particular skills. In most cases, they assisted their parents or elders with cutting and extracting activities. As Madhura Swaminathan has asserted in the context of high economic growth in cities of Western India in the 1990s, ‘[c]hildren work at simple repetitive manual tasks that do not require long years of training or experience. The work is low-paying, involves drudgery and is hazardous.’¹¹⁰ Similarly, the distribution of jobs in mines ensured that most of the skilled jobs were reserved for adult workers; jobs reserved for children were by no means ‘technologically special’.¹¹¹ Children were considered to be helping hands or aides for their adult counterparts, and were treated as ‘subsidiary’ earners who were ‘employed at much lower wages, “subsidiarity” stemming from the notion that children are not meant to be bread-winners...’¹¹² Nevertheless, the physical toil of working in the mines was, needless to say, excruciating. The children who were consigned to physical labour lost the opportunity to develop their skills, and consequently their possibility of employment in skilful and high earning jobs also decreased in adulthood. For this reason, ‘[e]arly entrance into the work force is not associated with any advantages in skills, mobility or earnings.’¹¹³

Crèches or resting houses could have been alternative solutions for childcare while miners were at work. However, they did not find a place in discussions of the safety of mine children until the late 1920s; the *Mines Crèche Rules* were framed and passed only in the 1940s,¹¹⁴ when the ban on the employment of women underground was in vogue. The number of

¹⁰⁹ *RIMI*, for the year ending 1894, p. 24.

¹¹⁰ Madhura Swaminathan, ‘Economic Growth and the Persistence of Child Labor: Evidence from an Indian City’, *World Development*, vol. 26, no. 8, August 1998, pp. 1513–1528, p. 1513.

¹¹¹ C.P. Chandrasekhar, ‘The economic consequences of the abolition of child labour: An Indian case study’, *The Journal of Peasant Studies*, vol. 24, no. 3, 1997, pp. 137-179, p. 146.

¹¹² *Ibid.*, p. 145.

¹¹³ Madhura Swaminathan, ‘Economic Growth and the Persistence of Child Labor: Evidence from an Indian City’, p. 1523.

¹¹⁴ Prabhas Kumar Chakrabarti, *Coal Industry in West Bengal*, New Delhi: Northern Book Centre, 1989, p. 19; *Mines Crèche Rules* were framed in 1946.

women miners in the World War II years constantly fluctuated: increasing after lifting the ban and decreasing when the ban was again imposed.¹¹⁵ R.R. Simpson, the Chief Inspector of Mines in 1930, was asked by the Royal Commission about the condition of crèches in mining districts. He replied that there had been no concrete development in regularising crèches:

It is merely a shed with a shelter with drinking water provided and an old woman or two to look after the children. These crèches have been set up by some large collieries. I have not seen any lately. We are continually advising in favour of these crèches. We very often find these crèches disappear after a year or two and we are told that women will not bring their children because it is said that a child has been ill-treated. They prefer to have the children under their own eyes. It is all a matter of education; it will come in time.¹¹⁶

Evidently only a few large collieries could afford to create crèches for their workers' children, but colliery managements were still considering the possibility of opening 'crèches in different places'.¹¹⁷

1.4. System of Registration: Regulating the Presence of Women and Children in Mines:

In addition to schools and crèches, the third alternative floated to control the presence of children in mines was the adoption of a system of registration for women and young children.

This system was considered more useful for regularising the presence of children in mines

¹¹⁵ 'Exclusion of Women Workers from Underground Work in Coal Mines: Government of India Communique', *International Labour Office*, Indian Branch (hereafter *ILO*), September 1937, pp. 21-22, p. 21; 'Draft Regulations for Prohibiting Employment of Women Underground in Mines', *ILO*, June, 1936, p. 20.

¹¹⁶ *RCLI*, vol. 4, part 2, Bihar and Orissa with Coalfields, Oral Evidence, 1931, p. 312.

¹¹⁷ *Ibid.*, p. 432. J.C.K. Peterson and C.A. Alexander were interviewed. They were representing the Tata Iron and Steel Company, Ltd.

and especially underground. While the system of maintaining a register for all miners had not yet concretized, the necessity for some rudimentary system to record women and child miners was felt as early as the 1890s. However, the government finally formalized this facility in 1923. From the start of the discussion, there were plenty of opinions against inaugurating any system of registration. The logistical aspects of implementing such a system left the mine authorities deeply worried:

If a system of registration of females and young children should be adopted, it would be well for some person to be appointed at each mine to make it a part of his duty to keep the register and to make the entries, and generally see that the register was a true and complete record. The immediate employers of female workers and young children might be required to give to the person appointed all the particulars required for registration, either before employing the females and children or at the time of its employment.¹¹⁸

In 1896, the Mines Inspector referred to some difficulties in maintaining registers in individual coalmines. He proposed that the managers of the collieries should start the practice of keeping registers, especially to ascertain the number of women miners and the age of the younger children employed in the mines.¹¹⁹ However, along with maintaining a register came the ‘additional expense in another way, i.e., the engagement of a man constantly at the entrance of the mine.’¹²⁰ What seems important here is not just the additional expenditure, but that the register implied a bureaucratic form of labour management that had not been practised or even deemed necessary in Indian mines: working with contractors and sardars

¹¹⁸ *RIMI*, for the year ending 1895, p. 125.

¹¹⁹ Department of Revenue and Agriculture, *Papers Regarding Legislation for the Regulation and Sanitation of Mines in India*, Calcutta: Government of India, 1896, p. 21.

¹²⁰ *RIMI*, for the year ending 1896, p. 24.

rendered formal registration of the workforce unnecessary and even unhelpful. Thus the issue of registration was tied up with the issue of rationalization, which became more important during the First World War.

Discussion over the best methods of regularising the presence of children in mines took a backseat until August 1918, when the Governments of Bengal and Bihar and Orissa published rules requiring ‘a correct record to be kept of the number of persons entering and leaving coal mines, and requiring the provision of gates or permanent fences at the entrances of coal mines.’¹²¹ The First World War was still ongoing; the sudden introduction of these new rules would have hampered the production of coal in a time of high demand. Thus the colonial government informed the Indian Mining Association that ‘time would be given to introduce these rules.’ Accordingly, steps were reportedly taken by the Government to oversee that these new rules were effectively carried out. By the second decade of the 20th century, some of the collieries in Raniganj, Jharia, and elsewhere in Eastern India started to maintain registers of the entire workforce associated with mining works. Different methods of recordkeeping were practised across the mining industry. Some collieries followed the ‘most usual method’, which was ‘for the munshis, time-keepers, overmen to hand in lists of the names of workers at the colliery office, where a clerk prepares a register either at the end of the shift or on the following morning.’¹²² Although such a shift system existed on paper, in most Indian coal mines scarcely any was followed. In the *Mines Act of 1923*, an attempt was made to regularise such a system in the Indian collieries, but there seems to have been little progress on that score; the Royal Commission’s report of 1931, for example, paid special attention to the lack of a regularized shift system in coal mines.

¹²¹ *RCIMI*, for the year ending 1919, p. 21.

¹²² *Ibid.*

Another method was followed in a number of mines where '[p]aper tokens were issued to persons entering the mine, and such persons were required, when leaving the mine, to deposit these tokens in boxes provided at all the mine entrances.'¹²³ However, doubts were cast on this token system, since on a number of occasions it had proven difficult to keep track of the tokens. Workers, more often than not, would forget to return the tokens while leaving the mines; sometimes the token collector would go missing from his appointed place. A system of metal tallies was introduced in a few collieries, and the Chief Inspector evidently placed greater faith in this system of recordkeeping: 'It is now being introduced at one of the largest groups of collieries in the Jharia coalfield. The owners are spending no less than Rs. 8700 for the erection of time-keeper's cabins, and they anticipate a monthly expenditure of Rs. 1575 for wages alone.'¹²⁴ Needless to say, not many collieries would have been able to afford such expenses just to keep a record of their workers. This financial concern had been demonstrated earlier, when the proposal for keeping records of women and child miners was opposed due to the expense of recruiting additional personnel.

The system of maintaining a register of employees became more regularised and organised when the *Indian Mines Act of 1923* was modified in 1938. As per the provisions of this amended Act, a "child" meant 'a person who has not completed his fifteenth year.'¹²⁵ Children above the age of fifteen were allowed above ground.¹²⁶ Prohibition on the presence of children underground was still in effect, but the age limit was modified: 'No person who has not completed his 17th year shall be allowed to be present in any part of a mine which is below ground, unless a certificate of fitness in the prescribed form and granted to him by a

¹²³ Ibid., p. 22.

¹²⁴ *RCMI*, for the year ending 1919, p. 23.

¹²⁵ Government of India, Legislative Department, *Indian Mines Act, 1923 or the Act IV of 1923 (Indian Mines Act, 1923, As modified up to 1st October 1938)*, Delhi: the Manager of Publications, 1938, p. 27.

¹²⁶ Ibid., p. 28.

qualified medical practitioner.’¹²⁷ The format for these records was also prescribed, and involved information about the nature of a worker’s employment, his periods of work, his entitlement to intervals of rest, and so on.

1.5. The Indian Workmen’s Compensation Act of 1923: Children as Workmen and as ‘Dependants’:

The position of children as workers and non-workers was redefined in the *Workmen’s Compensation Act of 1923*. The former found their way into the category of ‘workmen’; the latter were now treated as one kind of ‘dependant’ of workers injured or killed in accidents. Children under the age of fifteen were treated as minors/dependants.¹²⁸ *The Workmen’s Compensation Act of 1923* was thus a defining moment in the history of labour relations in India.¹²⁹ For the first time, an inclusive attempt was made to deal with both injuries and fatalities from accidents as well as occupational diseases. This act was instrumental in solidifying the basis of the workmen’s claim for compensation. However, it left enough scope for confusion, doubts and questions about its proposed provisions. In reference to the mining industry, one of the major highlights of the *Workmen’s Compensation Act of 1923* was its specification of the liabilities of mining authorities in relation to accidents in the workplace.

One of the liabilities of the employer under this Act was the liability to pay compensation to the workman or to the Commissioner, as the case may be. The role of the commissioner was also very important in this context as direct payment of compensation to any dependent of the worker was prohibited by this act. The Commissioner was required to scrutinise the

¹²⁷ Ibid., p. 25.

¹²⁸ A.G. Clow, *The Indian Workmen’s Compensation Act (VIII of 1923)* (hereafter *IWCA*), Allahabad: the Pioneer Press, 1923, p. 41 and p. 68.

¹²⁹ Ibid.

case and ensure payment of the compensation to the dependant.¹³⁰ In its attempts to define dependants, the act stated that

“Dependant” means any of the following relatives of a deceased workman, namely, a wife, husband, parent, minor son, unmarried daughter, married daughter who is a minor, minor brother or unmarried sister, and included the minor of a deceased son of the workman and, where no parent of the workman is alive, a paternal grandparent. There was, however, room for some noteworthy exclusions, too. Illegitimate children of a deceased workman were not considered to be “dependants”; on the other hand, legitimate children born posthumously were considered eligible for dependant status.¹³¹

At the same time, the question of dependency was shrouded in conflict. Confusion and diverse opinions regarding how to determine the identity of a dependant did not cease even years after the passage of the act in 1923. In 1929, confusion was expressed about the usage of the proof of dependence. Both the local government and the Governor-in-council opposed requiring proof of dependence.¹³² The Commissioner, who was in charge of the distribution of workmen's compensation, suggested that, ‘[a]t least in the case of widows and children, dependence should be presumed, but that the presumption should be rebuttable.’¹³³ This condition that rebuttals to the proof of dependence should be allowed was contested by the local government. It was stated that rebuttals

¹³⁰ *Ibid.*, pp. 12-13.

¹³¹ *Ibid.*, p. 133.

¹³² *RCLI*, vol. 5, part 1, Bengal: Excluding Coalfields and Dooars, Written Evidence, 1930, p. 70.

¹³³ *Ibid.*, p. 76.

would mean that normally, women and children could be awarded compensation, unless the employers or others could prove that they were not dependent on the deceased workman. If proofs were required in every case, much hardship would afflict women and children, for, as the commissioner points out, they might think it necessary to engage lawyers to establish their claims. Were the onus of proof placed on the person denying a widow's or children's dependence, the probability is that there would be few contested cases.¹³⁴

The situation was resolved for the time being as the Governor-in-Council declared that 'proof of dependence of any kind at the present stage' would not be required.¹³⁵ However, confusion persisted over whether other relations of a deceased or injured workman could be placed in the category of dependants. It was thought that '[t]here is some case for the addition of stepmother, half-brothers, half-sisters and stepchildren'. For example, there were mentions of a case in which 'half brothers and sisters had to be refused.'¹³⁶

Moreover, the decision-making power regarding the payment of compensation largely rested on the Commissioner's discretion: 'The whole responsibility for the distribution of the money is thrown on the commissioner; he can distribute it as he thinks fit.'¹³⁷ Single-handed reliance and bestowing of the responsibility of compensation distribution on the Commissioner often led to disputes, tussles and misunderstandings between him and the dependants of a workman. While responding to the Royal Commission, the Commissioner for workmen's compensation at Dhanbad referred to accidents which 'could have been inflicted for

¹³⁴ Ibid., p. 70.

¹³⁵ Ibid.

¹³⁶ Ibid, p. 76.

¹³⁷ A.G. Clow, *IWCA*, 1923, p. 69.

disobedience of and disregard of a rule or order.¹³⁸ The commissioner was explaining how, in such situations, he had to ‘inform widows with two children in arms and four minor children that they cannot be granted compensation because the husband and father had disobeyed some rules which she is incapable of understanding.’¹³⁹ He was of the opinion that ‘We cannot punish the dependents for they are in no way guilty or responsible for breach of discipline or rule. We cannot punish the worker as he has already paid the highest penalty.’¹⁴⁰ Furthermore, it was always difficult to decide how a certain rule or discipline was flouted by a deceased or heavily injured workman. According to the Commissioner,

Managements are not unknown who are themselves responsible for breaches of rules and regulations or who acquiesce in breaches of rules and regulations by labour and who do not mind denying liability in case an accident does occur. It is easy in such cases for the management to prove that the workman disobeyed some rule or some order verbally given to him. In fatal accidents it is impossible for the dependents to meet such a case and even in the case of permanent disablement it is extremely difficult for the workman himself to do so.¹⁴¹

This Act also provided compensation to miners in the case of ‘permanent total disablement’. Children were also considered for compensation in such cases. Permanent disability ranged from permanent blindness caused by workplace accidents, to being ‘permanently incapacitated from all work which he was capable of performing at the time of the accident.’¹⁴² The amount of compensation an adult was expected to receive differed to a certain degree from the compensation a minor was considered to deserve:

¹³⁸ *RCLI*, vol. 4, part 1, Bihar and Orissa with Coalfields: Written Evidence, 1931, p. 255.

¹³⁹ *Ibid.*, p. 256.

¹⁴⁰ *Ibid.*

¹⁴¹ *Ibid.*, p. 257.

¹⁴² A.G. Clow, *IWCA*, 1923, p. 71.

Compensation for permanent total disablement is fixed at 42 months' wages in the case of an adult and 84 months' wages in the case of a minor. There is a maximum of Rs. 3,500 for both minors and adult and...there are minimum of Rs. 336 for an adult and Rs. 672 for a minor. The higher rate for the minor is based on the consideration that, while he is usually on a much smaller wage than an adult, he may be expected to live longer after disablement.¹⁴³

However, compensation against any kind of permanent total disablement or permanent partial disablement did not come without its share of caveats. To cite one example, if a workman lost his or her hearing due to a workplace accident, the loss of this hearing capacity was supposed 'to be estimated'.¹⁴⁴ While imposing such a condition might be necessary, it meant that some workmen would not be considered eligible for compensation. The stated reason for this condition was that the injured worker could find another job where he or she would be able to function adequately despite these hearing problems.¹⁴⁵ Children in the capacity of workmen had the same fate. This demonstrated a tendency to refuse to identify certain problems and difficulties arising from mishaps or accidents in the workplace. As far as the intention of providing workplace safety was concerned, the partial recognition of workplace hazards somehow overshadowed several promises pertaining to miners' compensation that the *Indian Workmen's Compensation Act* did display.

¹⁴³ Ibid., p. 72.

¹⁴⁴ Ibid., p. 74.

¹⁴⁵ Ibid.

Table 1.2: Compensation Chart as calculated by the commissioner who was in charge of distribution: The Scales of Compensation:

Here the wages calculated under clause (a) or clause (b) of section 5 :-			The compensation is:-																							
			Lump sum for death									Lump sum for permanent total disablement									Each half monthly payment for temporary disablement					
Less than		Less than			Adult			Minor			Adult			Minor			Adult			Minor			Adult injured as minor			
a.	p.	Rs.	a.	p.	Rs.	a.	p.	Rs.	a.	p.	Rs.	a.	p.	Rs.	a.	p.	Rs.	a.	p.	Rs.	a.	p.	Rs.	a.	p.	
...	...	9	0	0	240	0	0	200	0	0	336	0	0	172	0	0	2	0	0	2	10	8	4	0	0	
0	0	11	0	0	300	0	0	200	0	0	420	0	0	840	0	0	2	8	0	3	5	4	5	0	0	
0	0	13	0	0	360	0	0	200	0	0	504	0	0	1008	0	0	3	0	0	4	0	0	6	0	0	
0	0	17	8	0	457	8	0	200	0	0	640	8	0	1281	0	0	3	13	0	5	1	4	7	10	0	
8	0	22	8	0	600	0	0	200	0	0	800	0	0	1080	0	0	5	0	0	6	10	8	10	0	0	
8	0	27	8	0	750	0	0	200	0	0	1050	0	0	2100	0	0	6	4	0	8	5	4	12	8	0	
8	0	32	8	0	900	0	0	200	0	0	1260	0	0	2520	0	0	7	8	0	10	0	0	15	0	0	
8	0	37	8	0	1050	0	0	200	0	0	1470	0	0	2940	0	0	8	12	0	11	10	8	15	0	0	
8	0	42	8	0	1200	0	0	200	0	0	1680	0	0	3360	0	0	10	0	0	13	5	4	15	0	0	
8	0	50	0	0	1387	8	0	200	0	0	1942	0	0	3500	0	0	11	9	0	15	0	0	15	0	0	
0	0	60	0	0	1650	0	0	200	0	0	2310	0	0	3500	0	0	13	12	0	15	0	0	15	0	0	
0	0	70	0	0	1950	0	0	200	0	0	2730	0	0	3500	0	0	15	0	0	15	0	0	15	0	0	
0	0	80	0	0	2250	0	0	200	0	0	3150	0	0	3500	0	0	15	0	0	15	0	0	15	0	0	
0	0	...	...	...	2500	0	0	200	0	0	3500	0	0	3500	0	0	15	0	0	15	0	0	15	0	0

Source: A.G. Clow, *The Indian Workmen's Compensation Act, 1923*, p. 87.

The *Indian Workmen's Compensation Act of 1923* started a new era in which employers were forced to consider compensation for children, even in the case of accidents or managerial mistakes of a lower degree compared to those of adult workers. As far as adult workers were

concerned, the employers could bypass crucial questions pertaining to the distribution of compensation that were rather unavoidable in instances involving children. Children might be more prone to committing mistakes leading to severe injuries or fatalities than the adult workers were: this, at least, was the prevalent perception among many people in the higher echelons of the Indian industrial sector. While being interviewed by the Royal Commission, Babu Bhagwat Prasad Jayaswal, a representative of the Bihar and Orissa Chamber of Commerce, was asked: 'Do you suggest the decrease in the number of children employed is because of the liability of the employers to compensate them under the Workmen's Compensation Act in the case of accident?'¹⁴⁶ In his reply, his anxiety over children committing mistakes and concern for the employers who had to bear the brunt of those mishaps and pay compensation was clearly evident. He found this liability on the employers' shoulders to be '[o]ne of the main factors which prevent employers from employing children. Children are liable to make mistakes and hurt themselves, in which event the employer is liable to pay compensation.'¹⁴⁷ It was apparent that the prohibition of children in underground mines had more to do with the calculation of the compensation that would have to be paid in the case of an accident and less to do with the effective functioning of the provision in the *Indian Mines Act of 1923*.

A simple yet crucial observation was conspicuously missing in this official discourse. If we surmise that children were more prone to accidents than the adults, there is no avoiding the fact that those children could be equally prone to catching diseases thanks to hazardous mining work. A child who begins to work at a young age has more years to develop a disease than an adult with similar exposure. This reflection has escaped the attention of many people who have debated both for and against the implementation of legal protections for children in

¹⁴⁶ *RCLI*, vol. 4, part 2, Bihar and Orissa with Coalfields: Oral Evidence, 1931, p. 63.

¹⁴⁷ *Ibid.*, p. 63.

mines. Deliberate silence on their part is another possibility. When the tendency to play down the occurrence of occupational diseases in the workplace was prevalent, it would be too much to expect special attention to the recognition of the diseases affecting child workers.

1.6. Conclusion:

The differences between the *Indian Mines Act of 1901* and the *Indian Workmen's Compensation Act of 1923* bear witness to the transition of the colonial perception of children as producers to that of dependants—a transition that has been established in the British context by scholars like Kinsey.¹⁴⁸ In Britain, this shift was perceived in the 1840s; in India, the years of transition were the first quarter of the 20th century. *The Compensation Act* formally recognized children as the dependants of their parents in case of death or severe injury resulting from workplace accidents. Even if the employment and presence of children in mines came to an end, the employment of child workers continued in other industrial sectors in India, such as the jute industry. This indicates that this transition from being producers to dependents was certainly not homogeneous or equally applicable to all industrial sectors. Even in the case of the mining industry, the continued presence of children in and around mines could be seen from the regular accidents they were exposed to. Neither protective legislation nor their dependent status could ensure their safety.

¹⁴⁸ Kinsey, 'Atlantic World mining, Child labor, and the Transnational Construction of Childhood in Imperial Britain in the Mid-nineteenth Century', p. 467.

Chapter 2: ‘Welfare and Protection’: Women Miners in Coal Mines of Eastern India (1920s-1940s)

The previous chapter demonstrated how the issue of mine safety for children in and around mines unfolded between the 1890s and the 1920s. From the late 1920s, attention was instead directed toward women miners, especially those working underground. This chapter looks at the issue of mine safety against the backdrop of legislation meant to ‘protect’ women miners—in which the very term ‘protection’ should be subjected to scrutiny. The safety and welfare of miners, including women, has been extensively studied. By delinking the women miners from their male counterparts, I plan to draw out gender-specific nuances that have hitherto been overlooked. Attempts have been made to locate a pattern in the history of mine safety between the late 1920s and late 1940s, taking the 1929 ban on women working underground as the starting point. In this chapter, I question the very premise of ‘welfare and protection’ (supposedly the philosophy behind this ban and other subsequent measures) against the backdrop of the general safety in mines. Exclusion of the ‘weaker’ section of miners could perhaps ensure their ‘safety’, but what about the safety of those who were left behind? It remains to be seen whether perilous working conditions actually improved after this ban was brought into effect. The larger question is whether the colonial state’s concern for a steadily decreasing section of the working class had any impact on the remaining mining population.

The linkage between protection, welfare, and women miners has been analysed and critiqued from several viewpoints. There are essentially three strands of argument, each offering its own logic but none completely divorced from the others. The first strand argues that mechanisation rendered superfluous the presence of women engaged in manual labour in the underground of mines. The other two strands are somewhat interconnected. The first argues

that the gendering of the workspace rendered the invisibility of women imperative: mining became a 'man's job', in which women could not effectively participate. As Linda Macdowell and Doreen Massey show, the mining world was vertically divided into watertight compartments with complete separation of the male and female spheres.¹ The clear-cut demarcation of jobs—skilled and unskilled, with gendered connotations—was the order of the day. Skilled work was not usually associated with female labourers, who were usually engaged in unskilled 'easy' labour, such as loading, while jobs requiring skilled manoeuvring like the cutting of coal were reserved for men. This was the case in Indian coal mines as well. Andrew Farquhar, the mine manager of the Bhowra colliery, condescendingly commented that the women were 'notoriously overpaid' for the 'easy work' of loading coal.² The skills of handling mining machineries were therefore limited to male miners. In reality, however, the 'feminine' job of loading coal was no less physically intensive than cutting coal. In 1905 the Chief Inspector of Mines gave an example of the strenuous work performed by the women (*kamins*) who were engaged in loading and carrying of coal:

The miner and his wife commonly work together, the men cutting the coal, and the women carrying it to the surface in baskets up a roadway seven hundred and fifty long with an inclination of one in ten. She will thus walk over five miles, and for half the distance carry a load of 80 lbs; and will have raised 13 cwts to a height of 75 feet. This is a remarkable day's work for a woman.³

¹ Linda McDowell and Doreen Massey, 'Coal Mining and Place of Women: A Case of Nineteenth Century Britain', in Doreen Massey and John Allen (eds.), *Geography Matters*, Cambridge, Cambridge University Press, 1984, pp. 197-217, p. 199.

² Lindsay Barnes, Women, 'Work and Struggle: Bhowra Colliery 1900-1985', PhD thesis, 1989, p. 99. Farquhar joined the Bhowra colliery as manager in 1922.

³ *RCIMI*, for the year ending 1905, p. 2.

Despite the obvious physical abilities of these women, the mine management considered skills to be important for cutting coal—something which women sorely lacked.

Then there is the separate sphere theory, in which there is a clear-cut division between the home and the world—men are the breadwinners and women are the homemakers. Thus a woman's role as a homemaker and mother would be jeopardised if she were engaged in hazardous underground mining work. Margaret Read elaborated on this idea when she wrote that women, as mothers and future mothers, needed greater protection: otherwise they would not be able to bear and rear healthy children. Hence to 'protect' their femininity, they needed the paternal, healing touch of the administration and mine owners to 'rescue' them from the pits of the mines and help them discharge their 'feminine' responsibilities at home.⁴ N.M. Joshi, the Trade Union leader, also subscribed to this notion. Male Indian miners, according to him, should strive to earn enough wages 'so that a wife need not be compelled to work to supplement his meagre wage for the maintenance of the family.'⁵ His explanation was that '[w]ork underground in mines is extremely exacting for women and deleterious both to their physical and moral health.'⁶ With this statement, the allegedly unsuitable physical condition of woman miners was brought to the fore. At the same time, the patriarchal concern for women's morality was also accentuated. Working women were squarely blamed for any vices plaguing the family and disrupting the harmony at home:

⁴ Margaret Read, *The Indian Peasant Uprooted: A Study of the Human Machine*, London and New York, Longmans, Green and Co., 1931, pp. 170-172.

⁵ 'Employment of Women Underground in Coal Mines: Government's Explanation for Lifting Ban', *ILO*, January 1944, p. 40. Mr. Joshi was, thus, successful in drawing others' attention to the other side of the coin i.e. adequate wages of male miners would denote that their female counterparts would stay back home taking care of domestic stuffs rather than dabbling in mining operations. This point, however, was not discussed further in official level and thus did not gain momentum.

⁶ *All India Trade Union Congress* (hereafter *AITUC*), Subject File No. 268, letter dated 19 August, 1943. (Nehru Memorial Museum and Library, New Delhi: hereafter NMML)

The home life of the workers suffers, and as women and men all turn home together, the male worker has a special temptation to go to the grog-shop, while his wife gets things ready for him at home. The family earnings suffer, the man forces the woman and children to go in for work on wages, and thus a vicious circle is set up which can only be broken by forbidding the further employment of women underground.⁷

This ‘unsexing’ of women through the character of their work and working conditions could only be reversed through banning their pursuit of certain jobs and their consequent ‘elevation’ to the status of homemaker.⁸

Regardless of the stress placed on welfare by these and other thinkers, I argue that the administration undertook these prohibitive measures for primarily economic reasons. Juxtaposing the timing of legislation with the overall economic scenario of the mines, I argue that protection and welfare were but facades used to justify the imposition of these restrictions. This chapter charts the aftermath of prohibitive legislation, like the *Mines Maternity Benefit Act of 1941*, which have not been adequately dealt with in the literature on Indian mining. The timing of this legislation was important, since the number of women working in mines at this point was insignificant compared to the total workforce. While Iftikhar-ul-Awwal does take up the question of maternity and the strategic equation behind the scheme,⁹ the connections between the imposition of the ban and the introduction of maternity benefits appear to have eluded him. Not only maternity benefits for women, but also several other ‘welfare’ measures were implemented at a time when their actual necessity

⁷ Editorial note of *Social Service/Science Quarterly*, vol. 8, no. 2, October 1922, p. 113.

⁸ Cathy Lubelska, ‘Chasing Shadows: Issues in Researching Feminist Social Histories of Women’s Health’ in Anne-Marie Gallagher, Cathy Lubelska and Louise Ryan (eds.), *Re-presenting the Past: Women and History*, Routledge, London and New York, 2001, p. 188.

⁹ Iftikhar-ul-Awwal, ‘The Indian Mines Maternity Benefit Question, 1919-1947’, *Indian Economic and Social History Review*, vol. 22, no. 3, 1985, pp. 329-351.

was limited. Was it really ‘welfare’ that propelled the enactors to moot such acts? To cite an example, the *Mines Crèche Rules* were passed in 1946 to care for miners’ children when their parents, especially mothers, were at work. It is true that the ban on women miners was lifted on more than one occasion during the Second World War, but this was essentially a stopgap measure meant to meet the escalating demand for coal during the war. With the waning of demand after the war, the ban was re-imposed. The actual effectiveness of measures like the 1946 *Crèche Rules* is therefore questionable. Was the discussion of ‘welfare’ mostly a smokescreen to cut down on costs?

Another pertinent question is whether general safety was actually ensured as a result of the spate of new rules and regulations concerning mines. As seen in the last chapter, children were first made dependents and then denied their dues. Much in the same vein, women workers were forced in the name of ‘welfare’ to leave their mining jobs and look for alternatives, some of which were more strenuous and dangerous than underground mining activities. On the other hand, the safety of workers in mines continued to be deplorable. Traversing the period between the ban on underground mining works, effective from 1929, and the *Mines Maternity Benefit Act of 1941* followed by the *Mine Crèche Rules* in 1946, this chapter attempts to answer these questions.

2.1. Ethos behind the Proposed Ban on Women Working in the Underground of Mines:

The idea of prohibiting the recruitment of female labourers for underground mines was first mooted by the Secretary of State for India in 1890.¹⁰ The Government of India received the

¹⁰ ‘Prohibition of the Employment of Women in Mines: Regulations come into effect on 1-7-1937’, *ILO*, February, 1937, p. 15.

proceedings of the Berlin conference of March 1890,¹¹ along with a suggestion from Lord Cross to ‘consider the advisability of legislating for the regulation of employment of women in mines.’¹² However, opposition from the coal lobbies rendered any sort of restriction on the employment of women miners impossible. A meeting of The Indian Mining Association was convened on 20 June, 1894 as a follow up to the Berlin Conference’s demand for effective mining legislation. In the debate over the necessity of protective/welfare legislation, women and children came to be interlinked. The Chairman pointed out that the prohibition of children meant their mothers would hesitate to come to work, leaving their children at home: hence the collieries would lose a significant amount of women workers. Mine owners E. Cable,¹³ and J. Gemmell,¹⁴ on the other hand, were apprehensive of the higher wages that male miners would demand to counteract the loss of family income caused by the exclusion of wives and other female members of the family from the mines. Gemell also feared that the mines would lose a number of underground male labourers because they ‘would look for surface works to work with their women folks.’¹⁵ Thus these early attempts at banning women were successfully thwarted by the mine owners.

Unwilling to bow to the pressure of the mine owners, the administration’s attempts to enact measures for the safety of women continued. The *Indian Mines Act of 1901* empowered the Governor-General in Council to frame rules in favour of their prohibition. Attempts to enforce prohibitions on the employment of women underground gained pace after the Berne Convention of 1906, which opposed the night-time employment of women in ‘industrial

¹¹ At the initiative of the German Emperor Wilhelm II, Berlin International Labour Conference took place in 1890. Employment of women in industries was one of the principal issues discussed at the conference. See Report of the International Labour Conference, *Night work of women in industry*, 89th session, 3, part 1B, Geneva: International Labour Office, 2001, p. 24.

¹² Mentioned in *ILO*, February, 1937, p.16.

¹³ *RICMI*, for the year ending 1894, p. 28 and p. 68: Mr. E. Cable was the owner of Burrackpore Coal Company Ltd.

¹⁴ *Ibid*, p. 69: Mr. J. Gemmell was the owner of New Beerbhoom Coal Company Ltd. and a fierce critique of the policies pertaining to mines in India adopted by the British House of Commons.

¹⁵ *Ibid*.

undertakings' in general.¹⁶ This Convention was created under the aegis of the International Association for Labour Legislation, which was founded in Paris in 1900.¹⁷ Great Britain played a leading role, both in the conference and in prohibiting night-time work for women in 'industrial undertakings'.¹⁸ Mines were considered to be under the purview of 'industrial undertakings', as defined by the Convention:

It is incumbent upon each contracting state to define the term "industrial undertakings." The definition shall in every case include mines and quarries and also industries in which articles are manufactured and materials transformed: as regards the latter the laws of each individual country shall define the line of division which separates industry from agriculture and commerce.¹⁹

Fourteen European states were the signatories of the Convention on 26 September, 1906, including Great Britain, Germany, Austria, France and Italy.²⁰

At the dawn of the twentieth century, most of the leading coal-producing nations banned the employment of women miners in the underground areas of mines.²¹ In the Indian mining industry, discussions, deliberations and debates long preceded the actual implementation of this ban. Production was of course the major concern of the principal coal entrepreneurs.

¹⁶ Francis Graham Wilson, *Labor in the League System: A Study of the International Labor Organization in Relation to International Administration*, Stanford University, California: Stanford University Press, 1934, p. 258.

¹⁷ Report of the International Labour Conference, *Night work of women in industry*, p. 25.

¹⁸ B.E. Lowe, *The international protection of labor – International Labor Organization, history and law*, New York: Macmillan, 1935, pp. 46-47.

¹⁹ Treaty Series, no. 21, 1910, *International Convention Respecting the Prohibition of Night Work for Women in Industrial Employment*, signed at Berne, September 26, 1906: British Ratification deposited at Berne, September 24, 1907. Presented to both Houses of Parliament by Command of His Majesty. August 1910. London: Printed for His Majesty's Stationery Office, Harrison and Sons, p. 351.

²⁰ *Ibid.*, p. 357.

²¹ I will discuss the global situation in detail later in the section dealing with the international developments with regard to exclusion of women from underground mines. See pp. 98-100.

They found it difficult to let go of the female workforce, which was cheaper to employ than their male counterparts. The difference in wages can be seen from the following table showing the wages in the Jharia coal-field in the month of December over a period of six years.

Table 2.1: Wages of Male and Female Miners

Miner (Underground)	1923 As. P	1924 As. P	1925 As. P	1926 As. p	1927 As. p	1928 As. p
Men	15.0	15.0	14.3	15.0	11.9	13.0
Women	10.0	10.0	10.0	7.0	8.9	8.9

Source: Annual Report of the Chief Inspector of Mines, 1923-1939, Quoted in B.R. Seth, *Labour in Indian Coal Industry*, Bombay: D.P. Taraporevala Sons & Co., 1940, p. 104-105.

In 1915-1929, women miners were primarily engaged in underground, rather than aboveground, activities.

Table 2.2: the Number of Female Miners (1915-1929)

YEAR	FEMALE WORKING UNDERGROUND	TOTAL NUMBER OF FEMALE MINERS	PERCENTAGE OF FEMALE UNDERGROUND MINERS
1915	35596	51477	69.14
1916	35348	50747	69.65
1917	37706	56124	67.18
1918	43449	65073	66.76
1919	47289	71367	66.26
1920	41064	65819	62.83
1921	42165	70831	59.52
1922	39753	64845	61.30
1923	40136	64083	62.63
1924	41616	63590	65.44
1925	39618	54531	72.65
1926	40342	50432	79.99
1927	33845	47446	71.33
1928	36428	49873	73.04
1929	29829	42481	70.21

Source: Indian Coal Statistics, 1921-1938, Quoted in B.R. Seth, *Labour in Indian Coal Industry*, 1940, p. 140.

In a 1922 letter to the Government of India, Industries Department, the Indian Mining Federation²² expressed their concerns over a provision in the Indian Mines Bill (then under consideration by the Joint Committee of the Indian legislature and later enacted as the *Indian Mines Act of 1923*) pertaining to the restriction of employment of women in mines.²³ As the table above shows, employment of female miners underground was much higher than on the surface in the early 1920s. The opposition of the Federation was not unfounded. The Federation emphasised the complementary roles played by male and female labourers in mines (male miners 'specialised' in cutting coal while female miners were 'adept' in loading it), subscribing to the notion of gendered roles in mine work. The committee of the Indian Mining Federation also observed, '[t]he man cuts the coal and the woman loads it and any miner who has no wife secures a female helpmate to load for him.'²⁴

The mining industry was fearful that banning women from working underground would cause great disruption to mining work. Connecting the necessity of female labour to the miners' family structures and its effect on women's jobs gave mine managements the scope to successfully delay the passage of this restriction. The government, coal lobbies and most other official voices expressed concerns about whether male miners felt comfortable working alongside their wives or female partners. The women miners themselves, however, resented the idea of a separate working space. In a report submitted by Kamini Roy, who was deputed by the Government of India to enquire into the condition of women miners in 1923, the women miners were emphatic: 'No no we should like to be together, otherwise we shall

²² The Indian Mining Federation (IMF) was a coal lobby dominated by Indian coal entrepreneurs. But they had less collieries under their ownership compared to their rival i.e. the Indian Mining Association (IMA), which was dominated by Europeans. Another Indian-based association was the Indian Colliery Owners Association (ICOA). In comparison with the former two lobbies, ICOA was less powerful and less influential.

²³ 'Mine Regulations: the Employment of Women', *the Times of India*, 21 November, 1922, p. 8.

²⁴ *Ibid.*

always be in fear and anxiety thinking what might happen to them [the men]. When we work together we have no anxiety, for if we die we die together.²⁵ The exclusion of women labourers would mean the loss of a significant number of male miners.²⁶

This emphasis on the family units of the mining population has been questioned in recent studies. As Dhiraj Nite demonstrates,

Women, particularly those who were single, such as widows or the deserted woman suffered as much if not more. Herded together in a few surface and quarry works, these women now received a lower wage rate compared to their male counterparts for the same work. Moreover, unlike women in other households, when faced with retrenchment, they had no one to fall back upon.²⁷

Revealing that a number of women miners were single or widows, Samita Sen²⁸ found the term 'family units' to be problematic that hit unattached women, sometimes the sole breadwinner, hard after they were excluded from underground work. Referencing the evidence volume of the Royal Commission of Labour (1930–31), Sen claims that 'Thirty percent of the women working in so-called "family units" were not formally attached to the men. They may have been from the same village, but had migrated on their own or were widows.'²⁹ One study from 1925 found that 42 per cent of the women working in Bhowra colliery were 'unattached', that is, working independently of their husbands or any other relations.

²⁵ Kamini Roy, 'Women Labour in Mines', *Modern Review*, April 1923, pp. 511-513, p. 512.

²⁶ 'Women's Work: Employment of Women Underground in Coal Mines: Government's Explanation for Lifting Ban', *ILO*, January 1944, pp. 40-41.

²⁷ Dhiraj Nite, 'Familist Movement and Social Mobility: The Indian Colliers (Jharia) 1895-1970', *Indian Historical Review*, vol. 41, no. 2, 2014, pp. 297-322, p. 306.

²⁸ Samita Sen, ' "Without His Consent?" : Marriage and Women's Migration in Colonial India', *International Labour and Working Class History*, no. 65, Agriculture and Working-Class Formation, Spring 2004, pp. 77-104, p. 86.

²⁹ *Ibid.*

Mokshada, a woman worker in the Loyabad Colliery, was examined by the Royal Commission and she made the following statement:

I do not know that women will be prohibited from working underground after a period of two or three years... I was born here and from my childhood am working in this colliery. I have no husband... I work with a miner belonging to the Central Provinces who blasts the coal and I load the coal into the tub.³⁰

It is evident that she was not attached to any family unit, and that the relationship between male and female mining partners was not always a marital one. Asumania, an ex-worker of the Loyabad colliery in Jharia, was disabled and widowed when she was interviewed by the Royal Commission.³¹ In the context of Jharia, Nite has stated

Evidences for Jharia coalfield show that the ties that bound men and women in the gangs to each other were not exclusively marital. A special investigation by the Chief Inspector of Mines (CIM) in October 1925 showed that out of a sample of 7000 women in the Jharia and Ranigungee coalfields, about 49 percent were working with their husbands, 29 percent with their relatives and about 22 percent, unattached.³²

A committee of the Indian Mining Federation showed strong opposition to the implementation of restrictions on women workers by local governments.³³ Much of this was done on the pretext that the loss of family units in mines would hamper production. However, this was evidently not true, but it served the interests of the coal lobbies.

³⁰ *RCLI*, vol. 4, part 2: Bihar and Orissa with Coalfields: Oral Evidence, 1931, p. 126.

³¹ *Ibid.*

³² D.K.Nite, 'Wo/men Mineworkers and Family-oriented Labour: Indian Collieries (Jharia), 1895-1948', *Indian History: Journal of Archive India Institute*, January 2015, Volume 2, pp. 1-36, p. 6.

³³ *Ibid.*

After passage of the *Workmen's Compensation Act of 1923*, India witnessed rising demands for labour-friendly social legislation, especially those for working women such as maternity benefits. A 1923 newspaper article, for example, discussed the delay in imposition of the ban in a condescending manner.³⁴ It stated that the Secretary of State had advised the Government of India as early as 1890 to look into matters related to the underground mining activities of women, and any delay would be detrimental for women at a time when deeper and more intricate mining activities were about to become widespread. And even though *The Indian Mines Act of 1901* enabled 'the Government, both central and provincial, to make a rule to prohibit, restrict or regulate the employment of women below the ground or on particular kinds of labour where such employment is attended by danger to the life, safety or health of such women,'³⁵ the Government could not come up with a concrete blueprint for the ban even 20 years later.

In 1922, the Joint Committee of the Indian legislature suggested that the Government consult the local governments, coal lobbies, and administration regarding the possibility of exclusion of female labourers from the underground areas. The major critiques of the proposal came from the Indian Mining Association and Indian Mining Federation, who feared the loss of labour as miners were prone to work in 'family gangs, the women assisting their relatives and helping to swell their earnings.'³⁶ In a letter to the Secretary to the Government of India, Industries Department, the Secretary of the Indian Mining Federation complained that '[w]hen the miner finds his wages cannot be supplemented by those of his wife he will either leave the mines or demand exorbitant wages.'³⁷ For the next three decades there were no real changes in this line of argument that without family gangs the men would want higher wages

³⁴ 'The Indian Miner', *The Times of India*, 30 January, 1923, p. 8.

³⁵ Ibid.

³⁶ 'Prohibition of the Employment of Women in Mines: Regulations Come into Effect on 1-7-1937', *ILO*, February, 1937, p. 17.

³⁷ 'Mine Regulations: the Employment of Women', *the Times of India*, 21 November 1922, p. 8.

to make up for the loss of income. Nor was there any development in the issue of the underground participation of women.³⁸

At the same time, scathing attacks were made on the lackadaisical attitude of the Government and the reluctance of the coal entrepreneurs to address this issue. For example, one newspaper report fired salvos while describing how '[e]very year the report on the working of mines in India contains a solemn paragraph regarding the employment of women in mines. We believe that the paragraph has been kept in type for years at the Government printing press and that it slipped into its appropriate place in each yearly report.'³⁹ It critiqued the fact that, while the recruitment of women to work underground was always criticised in the yearly government reports, no particular measures were adopted to put an end to the practice. The issue had become merely a formality, necessary to fill the pages of the official reports. The success of some of the major coal-producing nations in implementing the ban while the Government of India was still discussing the issue added to the critics' consternation: 'It has been accepted in nearly all the civilised countries and there are no sufficient reasons for continuing in India the practice generally abandoned elsewhere.'⁴⁰ Furthermore, the growing public opinion in India in favour of excluding women from the underground made it imperative that the government come up with some kind of concrete proposal. As one 1925 newspaper report noted, 'Public opinion in India, apart from those interested, is strongly in

³⁸ The ban had been imposed years and decades back in leading coal industries of other countries. In case of Britain, the ban was imposed through the Mines (Regulation) Act of 1842. The context was, however, different from that in Indian case. This imposition was viewed more as 'an apparently uncontroversially patriarchal instance' of the male miners of Britain to have an upper hand over their female counterparts. Jane Mark-Lawson and Anne Witz were of this opinion in their essay titled 'From 'family labour' to 'family wage'? The case of women's labour in nineteenth-century coalmining', *Social History*, vol. 1, no. 2: Gender and Employment, May 1988, pp. 151-174.

The prohibition on the employment of women in underground work in the USSR was introduced by the Bolshevik Party in 1918. However, the ban was never effectively enforced as women miners were found to be working in underground in interwar period. Melanie Ilic, 'Women Workers in the Soviet Mining Industry: A Case-Study of Labour Protection', *Europe-Asia Studies*, Vol. 48, No. 8, December 1996, pp. 1387-1401.

³⁹ 'Women in Mines', *The Times of India*, 29 July, 1925, p. 8.

⁴⁰ *Ibid.*

favour of the exclusion of women on the principle that women are not to be allowed to work underground in mines for a long time.’⁴¹

2.2. Implementing the Ban:

After years of dithering, the Government of India finally came up with a detailed proposal for the prohibition of the employment of women miners in June, 1928, in the form of a notification.⁴² One major proposal was that the ban should be implemented gradually rather than immediately exclude women from working underground. A reduction of 10% of the women miners working underground per year was suggested, completing the full ban by 1 April 1939. This process was supposed to be initiated from 1 July 1928, but was later modified and pushed back to 1 April 1929.⁴³ The initial plan to complete the ban within 7 years was later extended to 10 years. The Government of India’s growing concerns about the logistics of the ban’s implementation were further intensified by the mounting pressure to conform to international standards.

The irony was that miners in general were not aware or made aware of these developments. The ban therefore caught the women miners on the wrong foot; like their male colleagues, many of them were completely oblivious of the government’s plan. Some had a faint idea thanks to the informal exchange of experiences and information among themselves, but very few were well informed about this crucial issue that would be life-changing for many of them. While interviewed by the Royal Commission, Sabodhi, a female miner in the Loyabad Colliery, professed complete ignorance of the proposal to exclude women from underground

⁴¹ Ibid.

⁴² ‘Prohibition of the Employment of Women in Mines: Detailed Proposals of Government’, *The Times of India*, 26 June, 1928, p. 11. The notification number was 1055.

⁴³ Ibid.

mines.⁴⁴ When Mokshada, another woman worker in the Loyabad Colliery, Jharia, was examined by the commission, she made the following statement: ‘I do not know that women will be prohibited from working underground after a period of two or three years...’⁴⁵

In May 1929, amidst this scenario of widespread ignorance among the miners and continuing debate among the upper echelons of the mining industry, the Governor General in Council was reported to be framing regulations in favour of the prohibition. These regulations were expected to ‘result in the gradual elimination of employment of women, as coal getters or as earth workers at depths of more than 60 feet.’⁴⁶ Table 2.3 demonstrates the plan for the gradual decrease in the percentage of women employed underground.⁴⁷

Table 2.3: Proposed Decrease in the Percentage of Women Employed Underground (1929-39)

Year (1 July- 30 June)	Coal mines (%)
1929-30	29
1930-31	26
1931-32	23
1932-33	20
1933-34	17
1934-35	14
1935-36	11
1936-37	8
1937-38	5
1938-39	2

Source: International Labour Conference: Report VI, 1ST Discussion, 18th Session, Geneva-1934, *Employment of Women on Underground Work in Mines of All Kinds*, Sixth Item on the agenda, Geneva: ILO, 1933, p.16.

The prohibition was imposed on July 1, 1929.⁴⁸ In the initial years, one of the major complaints of mine owners and coal lobbies concerned the possible loss of labour and subsequent decline in production. However, as per the report of the Chief Inspector of Mines for the year 1929, i.e. the first year of the ban, recorded a total output of 22,308,174 tons of

⁴⁴ RCLI, vol. 4, no. 2, p. 127.

⁴⁵ Ibid. p. 126-127.

⁴⁶ ‘Underground Workers: Regulations to Prohibit Employment of Women’, *The Times of India*, 9 March, 1929, p. 11.

⁴⁷ International Labour Conference, Report VI, 1ST Discussion, 18TH Session, Geneva-1934, *Employment of Women on Underground Work in Mines of All Kinds*, Sixth Item on the agenda, Geneva, ILO, 1933, p. 16 (NAD).

⁴⁸ Ibid.

coal, which was ‘an increase of 792,378 tons over the figure of the previous year.’⁴⁹ The principal reasons for this increase were ascribed to ‘the increased demands for export and for use on Indian Railways.’⁵⁰ The dissent of the mine-owners was also said to fade away.

In subsequent years, the annual report of the Chief Inspector of Mines in India regularly reported that the ban was functioning smoothly. The report for the year 1932, for example, bore testimony to the unhindered functioning of the ban.⁵¹ The need for the ban became all the more understandable in the lead up to the 19th session of the International Labour Conference, scheduled to be held in 1935.⁵² The International Labour Organization was planning to adopt international regulations concerning women miners, and in fact adopted a draft convention seeking to speed up the process of the ban.⁵³ The Government of India extended its full support in favour of the proposed draft convention, with a promise to hasten the process of complete exclusion of women from underground. In 1935 Begum Shah Nawaz, Adviser to the Indian Government’s Delegation to the conference, stated, ‘The majority of the representatives...agreed that, so far as underground work in mines was concerned, women should be excluded from it altogether.’⁵⁴ The coal lobbies, too, lauded the ban. Ongoing economic hardships faced by the industry and the rising costs of labour caused by the incessant demand for new social legislation did not really create much opposition. On the contrary, coal merchant bodies like the Indian Mining Federation supported the ban. K.L. Dutt, the former chairman of the Indian Mining Federation and an adviser to the Indian Employers’ delegate in the conference in Geneva, held that employers favoured the swift and

⁴⁹ *RCIMI*, for the year ending 1929, p. 8.

⁵⁰ ‘Prosperous Indian Mine: Coal Record: Fewer Women Employed Underground’, *The Times of India*, 2 December, 1930, p. 5.

⁵¹ *RCIMI*, for the year ending 1932, p.12.

⁵² *Ibid.*

⁵³ ‘Employing Women in Mines: Prohibition Plea: Draft Convention Adopted by Conference’, *The Times of India*, 19 July, 1935, p. 11.

⁵⁴ *Ibid.*

complete exclusion of female labour from ‘underground work in mines of every description.’⁵⁵

2.3. Labour Shortage, Lifting of the Ban and Inevitable Criticisms:

Although the ban was generally declared effective by both the mining industry and the government, it had to be lifted for a period of 3 months in June 1937 as a counteractive measure to tide over low productivity.⁵⁶ The stated deadline for the complete exclusion of female labour from underground was therefore also revised and pushed back from July 1 to October 1, 1939. Just a year earlier i.e. in 1936, draft regulations had been published in the Gazette of India. It was dated 13 June and it called for a complete exclusion of women instead of the ongoing process of gradual exclusion. The suggestion was to debar the female miners not only from underground but also from any kind of mining activity.⁵⁷

The uninterrupted working of the ban was again disrupted in 1943, when coal was in high demand due to the Second World War.⁵⁸ The production in the coalfields of Bihar and Bengal had been low, and this downturn was ascribed to a shortage of labour. Although the gradual exclusion of female labour from the underground was regularly reported to be effective, the coal mining industry found it difficult to tackle the crisis caused by the war. Employers in the coal mining industry desperately appealed to the Government of India to lift the ban, if only on a ‘temporary’ basis. Representatives of the central and provincial governments called for

⁵⁵ Ibid.

⁵⁶ ‘Exclusion of Women from Underground Work in Coal Mines: Government of India Communique’, *ILO*, September 1937, p. 21. ‘Women Workers in Mines: Ban Suspended for Three Months’, *the Times of India*, 15 June, 1937, p. 10.

⁵⁷ ‘Supplementary Coal Mines (Temporary) Regulations, 1936’, *ILO*, June 1936, pp. 20-21.

⁵⁸ ‘Employment in Coal Mines: Ban goes in Bihar and Bengal’, *The Times of India*, 27 November, 1943, p. 5.

an urgent meeting with the colliery owners at New Delhi on 23 October, 1943.⁵⁹ Apart from putting forward their requests for the re-employment of women in underground work, some colliery owners also sought a safeguard to 'stop military contractors from recruiting labour in areas where colliery labour was usually recruited.'⁶⁰

One noteworthy feature of these requests was the reiteration of the gendered division of labour, a constant feature in the labour recruitment processes of the coal mining industry. The temporary re-introduction of women to the underground meant, according to these arguments that they 'will work on filling tubs, thus relieving a large number of men for the more arduous work of cutting coal.'⁶¹ As mentioned earlier, loading coal was by no means less gruelling than cutting it, but the whole premise of this gendered division rested on the idea that cutting was more skilful and physically intensive than loading. The indispensability of women's labour for loading and carrying had been stressed time and again, but the recognition of the skill or physical toil involved was conspicuously absent. This division was not confined to the colonial government or coal entrepreneurs; noted Indian leaders like B.R. Ambedkar subscribed to the same notion. While commenting on the emergency caused by the war and the necessity of employing women's labour in underground work, he assured that 'women would not be employed... as cutters. Cutting work would be confined exclusively to menfolk. Women would be only carrying the loads in baskets.'⁶²

To meet the ever-increasing demand for coal during the war years, in 1944 the *Colliery Control Order* was promulgated to ensure effective control of the production, distribution and

⁵⁹ 'Labour Conditions in Coal Mines: Meeting Convened by the Government of India', *ILO*, October, 1943, p. 40-A.

⁶⁰ *Ibid.*, p. 40-B.

⁶¹ *Ibid.*, p. 40-C.

⁶² 'Welfare of Coal Workers: Dr. Ambedkar on Plan to Increase output', *The Times of India*, 7 December, 1943, p. 4. True that Ambedkar was then part of the colonial government but this also brings in the contradictions within the national leadership itself.

pricing of coal. The other effective measure meted out to counter the crisis of labour shortage was to lift the ban on the employment of women underground, from 1943. B.R. Ambedkar, the Labour Member in 1944, extended his full support to the government's decision to withdraw the ban on a temporary basis and called the step a necessary one in view of the existing condition of the coal industry. He claimed that '[c]oal raisings had increased appreciably with the employment of women.'⁶³ Prohibition on women working underground in the coalfields of Bengal and Bihar was lifted by a notification dated 24 November, 1943.⁶⁴

This process of the imposition, withdrawal, and re-imposition of the same ban defined the fate of a measure that had been discussed and debated over decades. Severe criticism started pouring from different quarters, such as the Central Assembly's vocal opposition of the irregularity of this prohibition. Renuka Ray, a representative of the opposition, was said to snipe 'persistently at the Labour Member'⁶⁵ for his support for the continued employment of women in coalmines.⁶⁶ The criticism around the irregular implementation of the ban was not confined to the Indian assembly; it also found strong voices in the House of Commons in London in 1944.⁶⁷ Leo Amery⁶⁸ tried his best to justify the Government of India's decision to withdraw the ban on various occasions. His major defence was the shortage of labour, especially the shortage of male labour. Amery was severely criticised for his inability to provide a definitive answer to Edith Summerskill's⁶⁹ enquiry regarding the prohibition of the recruitment of pregnant women to work underground. The House of Commons was equally

⁶³ 'Women in Coal Mines: Government's Promise in Assembly', *The Times of India*, 21 November, 1944, p. 1.

⁶⁴ 'Drafting of Ban on Employment of Women Underground in Coal Mines in Bengal and Bihar', *ILO*, November 1943, p. 3.

⁶⁵ i.e. B.R. Ambedkar.

⁶⁶ 'Employment of Women Underground in Coal Mines: Government's Explanation for Lifting Ban', *ILO*, January 1944, p. 40.

⁶⁷ *The Times of India*, 21 November, 1944, p. 1.

⁶⁸ <http://www.oxforddnb.com/view/article/30401>: Leo Amery was a British politician and he was the Secretary of State for India then (13 May 1940- 26 July 1945).

⁶⁹ <http://archives.lse.ac.uk/Record.aspx?src=CalmView.Catalog&id=SUMMERSKILL>, Edith Summerskill was a Member of Parliament for Fulham West (1938- 26 May 1955).

vocal about the disparity in wages paid to the re-employed women miners. When Reginald Sorensen, a Member of the House, made a similar enquiry, Amery was again unable to present concrete facts and figures. As per a Government notification, '[e]very woman employed underground shall be paid wages at the same rate as a man employed underground on similar work.'⁷⁰ However, this phrase is quite tricky: the term 'similar work' is not further elaborated. Was working underground enough to place male and female miners on the same pedestal, or could the division between cutting and loading creep in and do away with any degree of similarity?

Flak also came from the trade union organisations.⁷¹ N.M. Joshi, the General Secretary of the All India Trade Union Congress, was enraged by the fact that the ban on women was lifted without consulting labour representatives.⁷² He criticised both the relentless complaints from the Government and Ambedkar about the shortage of labour and the possible remedies they suggested. Joshi believed that the real solution to attracting more miners was to improve their working conditions and raise their basic wages. Miners were shying away from coalmines because of the widening gap between their earnings and the cost of living.⁷³ Hence, the re-recruitment of female labour on the pretext of scarcity sounded unconvincing; Joshi considered this only a 'last resort'. There was ample evidence of miners leaving mining for other kinds of jobs. For example, Prabir Mallick, a trade union leader in the colliery belt, explained that miners were leaving to work on military construction projects, which were much better paid.⁷⁴ Mr. Butler, a government official, came up with another explanation:

⁷⁰ *ILO*, November 1943, p.3.

⁷¹ *Ibid.*, January 1944, p. 40.

⁷² *AITUC*, 'Labour Conditions in Coal Mines', the 21st Session at Madras, May 1943-December 1944 pp. 26-27 (Ajoy Bhavan, the Communist Party of India Office, New Delhi).

⁷³ *Ibid.*

⁷⁴ *AITUC* Subject File no. 319: Letter from Prabir Mullik to N.M. Joshi, dated 25 February, 1944, p. 135 (NMML).

miners could take their wives with them to work in military construction projects.⁷⁵ While this second explanation indicates the disadvantages of the ban on women, the argument seemed unacceptable: even women who had been excluded from the mine could stay with their husbands in *dhowrahs*. The actual reason, then, must have been the better wage structure for military construction work.

Amidst all of these criticisms, the administration decided to re-impose the ban from February 1, 1946.⁷⁶ A report in *The Times of India* claimed that the re-imposition of the ban marked the ‘end of an anomalous situation which was irritating to many and embarrassing to some...’⁷⁷ However, an important question that needs to be addressed is whether lifting the ban on more than one occasion actually increased the production of coal.

Table 2.4: Production Figures of Coal (1930-45)

YEAR	TOTAL PRODUCTION
1930	22683861
1931	20514597
1932	18719587
1933	18160681
1934	20243977
1935	21014469
1936	20583962
1937	22335528
1938	25276743
1939	24662788
1940	26130778
1941	26088573
1942	25949835
1943	22447494
1944	23487571
1945	26255210

Source: Annual Report of Chief Inspector of Mines, 1930-1945.

⁷⁵ Ibid.

⁷⁶ ‘Women not to Work in Mines: Ban Reimposed by Govt. of India’, *The Times of India*, 1 November, 1945, p. 1. I will discuss the possible reasons behind imposition of the ban later in the chapter. See pp. 90-100.

⁷⁷ Ibid., ‘Women in Mines’, November 2, 1945, p. 6.

As Table 2.4 demonstrates, the 3-month lifting of the ban in 1937 did result in an increase in production. Again, with the annulment of the ban in 1943, production increased for the next two years. There seems to be a direct correlation between prohibition and production.

A second pertinent question is whether the male miners were adequately compensated; did they see any rise in their wages after their wives or partners were excluded from the underground? This is difficult to say. Evidence suggests quite the opposite. Table 2.5 demonstrates that no category of male miners saw an appreciable rise in their wages in the years following the ban, and certainly not enough to offset the decrease in the family income.

Table 2.5: Wages of Male Miners (1930-38)

Miner (Male)	1930 As. p.	1931 As. p.	1932 As. p.	1933 As. p.	1934 As. p.	1935 As. p.	1936 As. p.	1937 As. p.	1938 As. p.
Underground	12.6	12.0	10.9	10.6	10.6	10.3	9.9	10.3	10.9
Open Working	11.6	11.0	10.0	8.0	7.3	7.3	6.6	8.3	8.9
Surface	12.9	11.9	10.9	10.0	9.3	9.6	9.3	10.0	10.6

Source: Annual Report of Chief Inspector of Mines, 1923-1939, Quoted in Seth, *Labour in Indian Coal Industry*, 1940, pp. 104-105.

From 16-19 October, 1937, the Indian Miners' Association led a strike of 3000 workers at Kustore colliery.⁷⁸ The stated reason was that the raising contractor of the colliery announced that wages would increase after the exclusion of women, but this raise was not implemented. Miners started demanding the promised increase, and during the course of this demonstration a miner was assaulted. The workers then decided to call for a strike.⁷⁹

⁷⁸ AITUC Bulletin, vol. 8, no. 7-9, September-November, 1937, p. 31 (Ajoy Bhavan).

⁷⁹ Ibid., p. 32.

2.4. Mechanisation, Changes in Demand of Coal, or Global Trends: Possible Explanation of the Imposition of the Ban:

What finally propelled the government to impose this ban on women working underground?

There are essentially three accepted explanations. First, there is the theory of mechanization, which insists that female labour was becoming less important in the mines. However, this strand can only partly explain the exclusion of women from underground since collieries in India were not as heavily mechanized. Second, the rising demand for coal during the Second World War that resulted in the repeated recruitment of women—proving that female labour was still indispensable. Third, the colonial government could not continue to overlook the growing international pressure from the ILO. Major coal producing nations had already imposed the ban. In this section, I test each of these theoretical strands to determine their viability as an explanation for the ban and its execution.

Did the introduction of new machinery render the employment of women miners redundant?

It has been argued that technological changes allowing the increasingly deeper excavation of mines lead to greater risks and a need for the colonial state to make interventions against these unsafe conditions. As Kuntala Lahiri-Dutt points out, women's 'roles in the resource extraction process were significant as long as the techniques remained basic and labour intensive, and collieries were surface-bound.'⁸⁰ Accepting that this was true, why did the colonial government and colliery managements suddenly become interested in ensuring women miners' safety? Or was it the advent of upgraded mining technology that foretold the eclipse of the women miners from the mining scene? Scholars have taken into consideration the exclusion of women from underground with much critical note. They have tried to find an

⁸⁰ Kuntala Lahiri-Dutt, 'From Gin Girls to Scavengers: Women in Raniganj Collieries', *Economic and Political Weekly*, vol. 36, no. 44, November 3, 2001, pp. 4213-4221, p. 4213.

answer to the suddenly found concern over danger to women while working underground in coal mines.

This theory of mechanisation leading to the gradually waning importance of women miners has been proposed by scholars like Rakhi Raychowdhury, who has highlighted the process of pseudo-mechanisation at the expense of women miners. However, she limits her analysis to the fact that, with the advent of deeper and more mechanised mining, the importance of women miners lessened with each passing day.⁸¹ Lahiri-Dutt stresses the gendered aspect of mining work itself and found the role of technology to be crucial in the exclusion of women from mines. She locates the seeds of exclusion much before the actual legislative measure was announced and recommends ‘a greater understanding of technology as a gendered process. The introduction of shafts to mine coal from underground restricted women to surface work, machines restricted them to unskilled work, and the process of mechanisation generally reduced their opportunities in coal mining.’⁸² Her emphasis on the gender-specific division of labour and the debate regarding the ban, and her discussion of larger themes like the nature of mining jobs and ideas about their masculinity and femininity have added new dimensions to the discussion. She considers the process of exclusion to be ‘elimination’ in the name of protection.⁸³ Lahiri-Dutt notes that excluded women miners became involved in work that was actually more arduous than underground mining after the imposition of the ban, thus defeating the stated purpose of ensuring their health and safety.⁸⁴ Moreover, most excluded women miners found it difficult to find any alternative job. As Nite puts it, ‘Only a small fraction of the redundant female *kamgars* could secure other work, as wagon loaders,

⁸¹ Rakhi Raychowdhury, *Gender and Labour in India: The Kamins of Eastern Coalmines, 1900-1940*, p. 110.

⁸² Kuntala Lahiri-Dutt, ‘Roles and Status of Women in Extractive Industries in India: Making a Place for a Gender Sensitive Mining Development’, *Social Change*, vol. 37, no. 4, December 2007, pp. 37-64, p. 57.

⁸³ Idem., ‘The Shifting Gender of Coal: Feminist Musings on Women’s Work in Indian Collieries’, *South Asia: Journal of South Asian Studies*, vol. 35, no. 2, 2011, pp. 1-21, p. 10.

⁸⁴ Ibid., p. 4.

midwives (*daies*), domestic servants, scavengers, and rice-huskers.’⁸⁵ On the mining jobs that remained available for women workers, he comments that ‘The women continued to do varied works on quarries (opencast mining) and pit surfaces; however, their number dwindled there as well.’⁸⁶ Referring to a similar case in the textile industry in Bombay, Raj Chandravarkar has considered technology to be only one of many factors behind the reduction of women’s labour:

the decline in the volume of female employment was the result of a number of factors, only some of which can be directly related to technological change. It was seriously affected by the reduction of reeling, as mills sold less of their yarn and required more of it to be wound for weaving.⁸⁷

I argue, however, that this theory of mechanisation debate places excessive emphasis on the lessening importance of female workers in mines. It is true that mechanisation was actively gaining ground from the 1920s, especially in the Raniganj-Jharia belt. Of the 93 coal-cutting machines used in the coalfields in 1925, 44 were in Raniganj and 42 in Jharia.⁸⁸ It is true that technological innovations intended to maximise profits reduced the importance of women workers, resulting in a cost-benefit calculation that led to women being barred from working underground. By 1944, as many as 19,321 women miners were working underground in coalmines in India. In 1945, the number rose to 22,517, which had a direct bearing on the annual output. In 1944 the output was 23,447,494 tons; in 1945, it registered a remarkable upswing with a staggering figure of 26,255,210 tons. However, if we are to believe the

⁸⁵ D.K. Nite, ‘Work and Culture in the Mines: Jharia Coalfields, 1890s-1970’, p. 272.

⁸⁶ Idem., ‘Wo/men Mineworkers and Family-oriented Labour: Indian Collieries (Jharia), 1895-1948’, p. 2.

⁸⁷ Rajnarayan Chandavarkar, *the Origins of Industrial Capitalism in India: Business Strategies and the Working Class in Bombay, 1900-1940*, Cambridge: Cambridge University Press, 1994, p. 388.

⁸⁸ ‘Indian Mining Progress: Use of Electricity: Coal-Cuting Machines Gain Favour’, *The Times of India*, 16 January 1925, p. 13.

mechanisation argument, women could not have contributed much to this growing output. Had mechanization been the principal reason behind the ban, the decision to recall the ban in 1943 might not have been taken. While the importance of mechanisation cannot be completely brushed aside, at the same time it cannot be singled out as the overarching factor behind the ban.

In fact, the use of coal cutting machines noticeably fluctuated between 1938 and 1944, when more were required to meet the higher demands of wartime. Moreover, the use of machines was full of discrepancies in terms of their consistent introduction, their application to local conditions, and also the provisions made for their repair. The uneven use of coal cutting machines was bound to add to the already-existing workload in the collieries.⁸⁹

Table 2.6: Coal Cutting Machines (1935-44)

Year	Jharia	Raniganj	Giridih	Karanpura	Bokaro	Central Provinces	Total
1935	28	59	-	2	-	6	95
1936	38	63	-	2	-	7	110
1937	46	78	1	5	1	9	140
1938	53	115	2	3	3	10	186
1939	56	130	1	2	2	12	203
1940	57	129	1	2	2	14	205
1941	49	119	1	2	2	14	187
1942	48	130	1	2	2	14	197
1943	45	128	1	2	2	14	192
1944	57	134	1	2	2	14	210

Source: S.R. Deshpande Report, 1946, p. 41

‘The influence of mechanisation and of increased productivity in reducing employment’ was illustrated in *World Coal-Mining History*: ‘by the fact that in a large colliery producing from 300 to 500 tons a day a coal-cutting machine can be attended by from three to six machine

⁸⁹ S.R. Deshpande, *Report on An Enquiry into Conditions of Labour in the Coal Mining Industry in India*, 1946, p. 41. One explanation for the fluctuation in the number of machines could be that during the war repair parts were not available.

drivers, whereas 50 hewers would be required to produce an equivalent tonnage.’⁹⁰ However, fluctuations in the number and use of the machines in the Indian context proved otherwise. In 1927, while commenting on the usage of ventilators in mines, the Indian Mining Federation asked for an increase in mechanical mining—proof that the widespread mechanisation of collieries, especially in smaller ones, had not yet made much progress.⁹¹

A major impediment to mechanisation in India was the availability of cheap labour and its relationship with profit-making opportunities for the mine owners. In a letter dated 23 July 1938, W. Butler (the superintendent of the Dhemu Colliery, P.O. Sitarampur, Burdwan) stated, ‘I imagined a lot more machine mining but of course did not visualize the type of labour. Actually I should imagine now, that hand working is much cheaper although the main output would be less.’⁹² Jagannath Sarkar, a noted trade union leader, explained that although machines produced more coal, they incurred less profit for the owners:

The output per head of an Indian miner was about the same as that of a British miner in 1926. By 1935, whereas the output of the British miner more than doubled, that of the Indian miner increased but slightly and in recent years it has even gone down to extreme malnutrition due to higher prices.’ Sarkar further added, ‘Though machines can double the production of coal, their use will reduce profits, because labour is so cheap and plentiful in the Indian coalfields.’⁹³

⁹⁰ International Labour Office, *The World Coal-Mining History*, vol. 2: Social Conditions, London: P.S. King and Son, 1938, p. 47.

⁹¹ Indian Mining Federation (hereafter *IMF*), *Report of the Indian Mining Federation for the Year 1927*, Calcutta: IMF, 1928, p. 271.

⁹² *Cork Collection*, File No. MSS 194/12 (BL): Correspondence relating to recruitment of colliery staff. Papers of Frederick Lawrence Cork, File no MSS 194/12, British Library. Papers of Frederick Lawrence Cork (1885-1980), colliery manager 1908-37, mining consultant 1937-46, employed by Macneill & Company, Calcutta, including colliery quarterly reports 1937-45, Cork’s inspection reports 1937-40, and colliery plans. 63 items 1907 – 1953.

⁹³ *AITUC* subject file no. 323, 1947-49, p. 336 (5) (NMML).

That these kinds of economic considerations must have played a crucial role is evident from the prevailing financial condition of the industry in the early 1920s, when the unsettled post-war international economic condition wreaked havoc. The price of coal dropped from Rs 6-1-0 to Rs 4-13-0. Production suffered as a result of the decrease in profitability. In his explanation of the background for the exclusion of women from the underground, Colin Simmons refers to the impact of the Great Depression on the Indian coal mining industry—or for that matter its impact on the Indian economy in general. In his opinion, the lack of mine owners or stake holders’ opposition to the government’s proposal was due to the hardships they were then experiencing because of the worldwide economic crisis. The worldwide economic depression of 1929 hit the coal industry hard. The total number of collieries in India reduced from 594 in 1930 to 494 in 1935. The exclusion of women had more to do with the insufficient demand and falling prices for coal combined with the possibility of rising costs due to social legislation like maternity benefits than any growing specialisation or intensive mechanisation of the coal mining industry. Table 2.7 demonstrates the fluctuating trends in the output of coal for the ten years after the end of the First World War.⁹⁴

Table 2.7: Output of Coal (1919-1929)

Year	Coal
1919	21,759,727
1920	17,082,711
1921	18,358,934
1922	18,168,988
1923	18,763,967
1924	20,256,034
1925	19,969,041
1926	20,093,034
1927	21,108,976
1928	21,515,798
1929	22,308,174

Source: Annual Report of the Chief Inspector of Mines, for the year ending 1929, Delhi, 1930, p. 108.

⁹⁴ *RCIMI*, for the year ending 1929, p. 108.

Although this table seems to indicate consistent production, it does not really speak for the stability of the Indian coal industry. For example, the industry demonstrated huge growth during the First World War, registering an output of 21,759,727 tons in 1919, but the very next year the production fell to only 17,082,711 tons.⁹⁵ It took the coal industry in India almost a decade to match the amount of production of the First World War. Correspondence between Le Mesurier⁹⁶ and J.A. Cattinson⁹⁷ refers to the depressing condition of the coal industry at that time. Cattinson further declared that the coal industry was in its worst position in 1925. Supply was far exceeding demand; the Indian Mining Federation noted that, whereas production had increased from 18.2 million in 1917 to 20.2 million in 1925, there had been no corresponding increase in demand during that period. The Federation lamented that the biggest consumer, namely Indian Railways, was curtailing its demand for commercial coal by substituting oil and electricity as the source of power.⁹⁸ In 1929, whereas 22,308,174 tons were raised from the Jharia fields, only 20,612,567 tons were despatched—leaving a surplus of 1,695,607 tons.⁹⁹ It just so happens that this was when the discussions about imposing the ban on women from working underground were in full swing. This trend can explain why the leading coal lobbies raised little resistance to the imposition of the ban on women despite losing a significant number of miners: they saw it as an easy way to cut costs.

Given the situation, the managements resorted to some stringent economic measures to cut down on the cost of production. Table 2.8 compares the price index and wage index of the

⁹⁵ Ibid, for the year ending 1920, p. 2.

⁹⁶ *Le Mesurier Papers*, MAA EUR/D1077/1 (BL), letter dated March 21st, 1925 (Papers of Sir Havilland Le Mesurier (1866-1931), Indian Civil Service 1886-1922; Chief Secretary to the Government of Bihar and Orissa 1912-16; member, Executive Council, Bihar & Orissa 1917-21; acting Governor of Bihar and Orissa 1921-22 (consisting chiefly of personal correspondence).

⁹⁷ J.A. Cattinson's position was unspecified. Going by his the type of correspondence he had with Le Mesurier, it seemed like he was working in the capacity of a mine manager. But as to which mines he was managing, I found no information in the above mentioned document which is preserved at the British Library.

⁹⁸ 'Coal Industry's Appeal: Demand Falling off', *The Times of India*, 20 June 1927, p. 5.

⁹⁹ 'Restricting Coal Output: Its Necessity', *The Times of India*, 4 October 1933, p. 7.

Jharia coalfields, taking 1926 as the base year. Profit increases substantially with the lower wage index.

Table 2.8: Price and Wage Index (1926-44)

YEAR	PRICE INDEX	WAGE INDEX
1926	100	100
1927	85	95
1928	77	90
1929	76	90
1930	78	90
1931	76	77
1932	68	65
1933	62	57
1934	57	53
1935	56	52
1936	56	50
1937	62	62
1938	73	63
1939	69	65
1940	70	63
1941	72	68
1942	85	73
1943	134	92
1944	200	105

Source: B.P. Guha, *Wage Rates in the Indian Coal Industry*, Simla: Priya, 1973, p. 52.

During years of loss and low profits, the government, with the active support of the coal lobby, decided to weed women out of the underground. The Indian Mining Association, for example, was very eloquent in its support of the provision as a convenient means of cost cutting. Although the restriction of production was mooted as an alternative, the Mining Association was of the view that this would be ‘impracticable’; a far more effective step would be to prohibit women from working in mines. This is the reason for its request that the Government withdraw women from mines and quarries from 1 April 1928.¹⁰⁰ The mine managers believed that, since women were involved in unskilled jobs, they would be able to save on production costs by phasing them out. Because mechanisation had made inroads into the mines, it was not possible to cut down on the men who comprised the ‘skilled component

¹⁰⁰ ‘Women in Mines: Government Proposals for Prohibition’, *The Times of India*, 11 July 1927, p. 5.

of the labour force'. The gradual process of exclusion started in the year 1929 which showed decrease in employment of female miners in the subsequent years.¹⁰¹

Table 2.9: Decrease in the Percentage of Female Miners Employed Underground (1929-37)

Year	Number of women miners employed underground in coal mines	Percentage of Female Workforce to Total Workforce
1929	29829	25.63
1930	23917	21.81
1931	21099	20.51
1932	16901	18.08
1933	14487	16.46
1934	12559	14.85
1935	10092	14.17
1936	9228	13.13
1937	3887	13.38

Source: Indian Coal Statistics, 1929-1937, quoted in Seth, *Labour in Indian Coal Industry*, 1940, p. 140.

The prevalent economic conditions helped the government to proceed with the ban without much opposition from the coal lobbies. After sitting on the issue for a while, the government had to succumb to the rising pressure both at home and abroad. The process was, however, gradual and full of inconsistencies. The logic behind the lengthy, gradual process was to not lose a significant number of labourers suddenly, which might cause a fall in production and make the situation all the more difficult for an already hard-hit industry. Again for economic factors, the ban was lifted during the times of high demand and profit, i.e. the Second World War.¹⁰² In spite of severe criticism, the government bowed to the coal lobbies and temporarily lifted the ban.

The third dimension to this debate is the international developments regarding female labour. From the mid 1920s, pro-ban sentiments gained ground within India due to mounting

¹⁰¹ *RCIMI*, for the year ending 1929, p. 3.

¹⁰² Indian Mining Association (hereafter *IMA*), *Report of the Indian Mining Association for the Year 1945*, Calcutta: IMA, 1946, p. 5.

international pressure, especially after the creation of international bodies like the International Labour Organization. In 1926, the Government of Bihar and Orissa stated: 'India cannot stand aside for ever from international labour and social movements...years' delay will make the inevitable adjustment more difficult.'¹⁰³ It was also predicted that 'trade jealousy' would not let that happen.¹⁰⁴ The statement pointed at the incessant rivalry and conflict of interests between leading coal lobbies of India. Women's labour in the underground parts of mines was banned all over the world except in three countries: India, the Soviet Union, and Japan.¹⁰⁵ It was reported in 1938:

There are three countries, however, in which an appreciable proportion of the workers are women, namely, India, Japan and the U.S.S.R. The latest particulars available show that about 14 per cent, in British India, 10 per cent, in Japan and over 22 per cent, in U.S.S.R. of the workers are women.¹⁰⁶ By the time most other mining nations had successfully restricted the employment of women underground,¹⁰⁷ India was still weighing the pros and the cons.

The exclusion of women from mines all over the world has drawn the attention of scholars. Peter Alexander has viewed the process of exclusion in India as part of a world design, in which regulations by the International Labour Organisation exerted pressure on the colonial

¹⁰³ 'Employment of Women in Mines', *Bulletins of Indian Industries and Labour*, no. 35, 1926, Calcutta: the Government of India, 1926, pp. 15-16.

¹⁰⁴ *Ibid.*

¹⁰⁵ As was noticed in the nineteenth session of the *International Labour Conference*, held at Geneva, 1935; While Britain achieved the feat in 1842, Germany managed to impose the ban on women miners underground in 1878. Russia succeeded to implement the measure in 1917. Hence the pressure from the international arena coupled with the pressure exerted by the newly formed ILO was noteworthy process of exclusion was however started in India by then. File No. M-1055, Government of India, Department of Industries and Labour, p. 5.

¹⁰⁶ International Labour Office, *The World Coal-Mining History*, vol. 2, p. 7.

¹⁰⁷ Peter Alexander, 'Women and Coal Mining in India and South Africa, c1900-1940', *African Studies*, vol. 66, nos. 2-3, August-December, 2007, pp. 201-222, p. 201.

state.¹⁰⁸ Dilip Simeon writes: ‘The exclusion of women from coal mining was a worldwide trend which accelerated under the aegis of the ILO.’¹⁰⁹ While commenting on the imposition of the ban on women miners in South Africa in 1898, Alexander refers to the influence that the leading engineers of the Rand mines exerted on the ZAR Act pertaining to the ban. The engineers, who hailed from the United States and Germany, were influenced by the bans that were already in vogue in those countries, Alexander claims.¹¹⁰ Although Raychowdhury observes ‘a sharp change in international attitude’¹¹¹ towards woman and child labour by the early 1920s, she places more emphasis on the pressures of the British coal lobby on the Government of India ‘to declare the ban on cheap female labour to be competitive with Indian Coal Industry in the World market.’¹¹² The discourse was part of a rising demand for labour welfare that, in turn, could be linked to developments in the concept of social welfare, both in India and abroad. The echo of this could be heard in Britain when Lord Stanley (Member of Parliament and under-Secretary of State for India) referred to the necessity of the promotion of Indian social welfare—including aspects like industrial labour.¹¹³ With pressure mounting from the international front, the colonial government had to try its hardest to display a humane face.

2.5. Exclusion, Mines Maternity Benefits and other ‘Welfare’ Concerns:

An examination of the connections between the exclusion of women and the *Mines Maternity Benefit Act, 1941* will provide more insight into safety measures implemented in coalmines in India. Questions about women miners’ safety in underground mines and concerns about their

¹⁰⁸ Ibid., p. 202.

¹⁰⁹ Dilip Simeon, ‘Work and Resistance in the Jharia Coalfield’, *Contributions to Indian Sociology*, vol. 33, no. 43, 1999, pp. 43-75, p. 61.

¹¹⁰ Peter Alexander ‘Women and Coal Mining in India and South Africa, c1900-1940’, p. 215.

¹¹¹ Raychowdhury, *Gender and Labour in India: The Kamins of Eastern Coalmines, 1900-1940*, p. 114.

¹¹² Ibid, p. 115.

¹¹³ ‘Social Welfare in India’, *The Times of India*, 13 April, 1938, p. 10.

health were by-products of a time of mounting international pressure and Indian public opinion about the necessity of complete exclusion of women from the underground. As Nite has explained, 'Local and international pressures eventually forced the colonial government to bring about a semblance of uniformity in labour standards in line with the wider International Labour Organization (ILO) trends.'¹¹⁴ In the major industrial sectors in India, women were systematically excluded over a period of many decades. Explaining the situation of the textile industry in India, Radha Kumar has commented, 'While from the early 1920s onwards (as the number of women decreased steadily) there were attempts to deny recognition of women as "workers"... it was only from the 1930s onwards that women began to be actually de-registered from the ranks of the "productive classes".'¹¹⁵

Explicit denial of the importance of women workers, however, was not expressed in the mining industry even in the early 1920s. Thanks to the legislative ban, the beginning of 1930s saw their disappearance from the workplace. In the late 1930s and the 1940s, everybody from the government to coal miners to coal lobbies appeared to subscribe to the language of 'labour welfare'. The Second World War and all of the exigencies associated with it induced the government and management alike to resort to the appearance of caring about welfare to meet the rising demand in coal. Numerous measures were adopted or planned for the improvement of workers' working and living conditions. More importantly, the parlance of 'welfare' gradually made inroads into the coal mining industry, resulting in a spate of labour welfare legislations. The same was the case with other industries, too. The elimination of women from underground work in mines was followed by the colonial state's attempts at their 'protection'. Not only was this language of welfare noteworthy, exploring the strategies

¹¹⁴ Dhiraj Kumar Nite, 'Familist Movement and Social Mobility: The Indian Colliers (Jharia) 1895-1970', p. 305.

¹¹⁵ Radha Kumar, 'Family and Factory: Women in the Bombay Cotton Textile Industry, 1919-1939', *The Indian Economic and Social History Review*, vol. 20, no. 1, January 1983, pp. 81-96, p. 96.

of 'welfare' is pertinent to this research. It is intriguing that the Mines Maternity Benefit Act was passed when the mining industry had already lost a huge number of women miners. P.C. Bose, a prominent trade union leader in the colliery belt, expressed his concern about this in a letter dated May 5, 1942: 'I do not know what classes of women workers will be benefited by the Act. You are aware no women are employed in mines now a day's except on the surface.'¹¹⁶

The discussion about the necessity of maternity benefits in mines had started long before the actual act was passed. The *Workmen's Compensation Act of 1923* devoted sections to maternity benefits for miners.¹¹⁷ Kamini Roy, for example, expressed that '[i]t would be our endeavour to make the conditions of labour...as favourable as possible for healthy maternity and moral life.'¹¹⁸ The Report of the Royal Commission on Labour in India also stressed the urgency of providing maternity benefits in the early 1930s,¹¹⁹ but it became law only in 1941, when the exclusion of women from underground work was in the process of completion.¹²⁰ The *Maternity Benefit Act* also found the support of the mine-owners, coal lobbies and others with direct stakes in the industry. As in the case of the exclusion of women from underground mines, these sections of the industry had previously advocated against the introduction of formal provisions for such benefits, due to the possibility of adding to the industry's existing hardships. Nevertheless, they finally submitted to the dominant parlance of their time, i.e. the 'welfare of labour'.

¹¹⁶ AITUC subject file no. 54. P.C. Bose was the Secretary of the Indian Miners' Association; he wrote the letter to Shanta Bhalerao, the Vice President of AITUC, p. 359 (NMML).

¹¹⁷ A.G. Clow, *The Indian Workmen's Compensation Act* (VIII of 1923), pp. 59-60.

¹¹⁸ Kamini Roy, 'Women Labour in Mines', p. 512.

¹¹⁹ *Report of the Royal Commission on Labour in India (RCLI)*, Calcutta: Government of India Central Publication Branch, 1931, pp. 282-284.

¹²⁰ The ban would temporarily be lifted in 1943 and again in 1946 to meet war exigencies and that was purely a temporary measure. But the fluctuation and interludes in working of the ban were noteworthy and thus testifying against the idea of smooth-functioning of the ban.

A discussion of the background of *Mines Maternity Benefit Act of 1941* will help locate the transition from the parlance of protection to that of welfare which, in turn, will lay bare the attempts of the colonial state to appear full of goodwill while effecting insignificant changes in the lives of miners. In a nutshell, the zeal for welfare hardly caused any improvement in the welfare of miners. Raychowdhury calls the colonial government's decision to impose the ban on the employment of women underground an 'untimely'¹²¹ step, but in retrospect it provided an opportunity for the state to appear protective without actually causing it much inconvenience.

In the International Labour Conference of 1919, in Washington, a number of conventions pertaining to the question of maternity benefits were passed.¹²² One of the major conventions was forbidding a woman to '300 to 500 tons of work six weeks before and six weeks after the confinement.'¹²³ It was also proposed that during her absence she should be paid 'benefits sufficient for the full and healthy maintenance of herself and her child.'¹²⁴ The representatives of the Indian government, however, were not adequately prepared to contribute to the discussion of these proposed conventions. They claimed to not be sufficiently informed to furnish the conference organisers with proper information about the prevailing labour conditions in India. Hence they decided to shy away from committing to these conventions.¹²⁵ Much like the question of the exclusion of women from underground, the question of maternity benefits was also successfully pushed back. This tendency did not, however, escape criticism. Kanji Dwarkadas, a member of the Labour Office (which was set up by the Government of Bombay in April 1921), was highly critical of the Government of India's casual approach towards the conventions and lamented, 'If any working woman in the

¹²¹ Raychowdhury, *Gender and Labour in India: The Kamins of Eastern Coalmines, 1900-1940*, p. 57.

¹²² 'Maternity Benefits: Need for Legislation', *The Times of India*, 28 August, 1923, p. 6.

¹²³ *Ibid.*

¹²⁴ *Ibid.*

¹²⁵ *Ibid.*

world was ever in need of protection at the hands of the State, then that woman is the working woman of India.’¹²⁶ Earlier still, in 1913, the British House of Commons was divided over how maternity benefits should be paid to workers. Mr. Roberts, one of the members of the House, was of the opinion that direct payment to the women instead of to their husbands would mean an insult to the men. In a scathing reply, Mr. Snowden, another member, responded, ‘[w]oman is still classed by such persons, whatever their politics, with the husband’s chattels.’¹²⁷

Returning to the context of the Indian coal mining industry, the leading coal lobbies did not seem convinced by the discussions about the maternity benefits that women workers deserved to receive. In fact, it took several years for the mining industry to introduce its first pan-India *Mines Maternity Benefit Act*, years after Bombay and the Central Provinces had passed their own maternity acts.¹²⁸ In 1929, Bombay became the first province to enact a *Maternity Benefit Act*,¹²⁹ followed by the Central Provinces in 1934.¹³⁰ The mining industry, however, was still mulling over the feasibility of enacting any such benefits for women miners. Stern opposition from the leading coal associations was one of the major reasons behind the delay on an all-India scale. In 1925, some members of the Indian Mining Federation met with Bhupendranath Mitra, a member of the Viceroy’s Executive Council, to discuss the Maternity Benefit Bill, which they thought was exerting extra pressure on the industry.¹³¹ The members did not hesitate to accept the fact that the payment of maternity benefits was an obligation on the part of the industry, but they also observed that ‘the Bill went too far in some respects.’¹³²

¹²⁶ Ibid.

¹²⁷ ‘The Weekly Press: The Maternity Benefit’, *The Times of India*, 4 September, 1913, p. 10.

¹²⁸ ‘National Labour Legislation: the C.P. Maternity Benefit Act, 1934’, *ILO*, May 1931, pp. 11-13.

¹²⁹ Ibid, ‘Bombay Maternity Benefit Act’, December 1930, pp. 41-42.

¹³⁰ Ibid, ‘National Labour Legislation: the C.P. Maternity Benefit Act, 1934’, May 1931, p. 11.

¹³¹ ‘Indian Coal Mines: Woman Labour Question: Mining Federation’s Appeal to Government’, *The Times of India*, 25 July, 1925, p. 9.

¹³² Ibid.

The Maternity Benefit Bill was first introduced in the Legislative Assembly in September 1924 by N.M. Joshi and was supposed to stick to conventions passed in the first International Labour Conference at Washington in 1919.¹³³ However, the Bill but did not find enough support from the members and consequently was not passed. Both the government and the associations of coal entrepreneurs instead opted for voluntary maternity benefit schemes on the part of the mine owners.¹³⁴

Even a decade later, the scenario had not changed much. In the late 1920s, the government was seeking the sympathy of business interest groups and thus did not support a compulsory maternity benefit scheme. In its final memorandum to the Royal Commission on Labour in India in 1931, the government of Bihar and Orissa found any legislation in the matter of maternity benefit would be 'inadvisable and impracticable' at that time.¹³⁵ The local government ruled out any possibility of compulsory benefits in the near future and stated that the '[w]elfare of women workers during and after the period of childbirth can only be the object of voluntary charitable systems organized by employers or, to some extent by local bodies.'¹³⁶

Voluntary schemes for maternity benefits did not exactly function smoothly, and discrepancies soon started surfacing. Disparities were discernible even in the payments provided in different collieries: some were believed to make regular payments, while others fell short on most occasions. Moreover, there was doubt about whether the amount paid to the miners was sufficient. The Royal Commission on Labour in India took into consideration some interviews with coal miners themselves, in addition to the input of labour

¹³³ Ibid.

¹³⁴ Ibid

¹³⁵ *RCLI* report, 1931, p. 47.

¹³⁶ Ibid

representatives, colliery management and entrepreneurs. Excerpts from these interviews shed some light on the working of voluntary maternity schemes. The main report of the Commission did not seek to achieve anything exceptional as far as living and working conditions were concerned, and followed the usual pattern of a Government report. The evidence reports of the Commission were, however, comprehensive and more inclusive. The workers' voice, in whatever form, was heard, published and, to some extent, taken into account. When Rolli, a woman worker who took her child with her to work, was examined, she made the following statement:

I work as a loader above ground; I load the railway trucks; I fill the basket and my husband carries the basket and loads the railway wagons. My child here is 3 years old; she has been ill. I have had no children since this one. I was one month of work before this child was born and one month after it was born. I got nothing from the Company when I was not working. When the baby was born I got nothing. I had the baby on the colliery premises. I had a dai to attend me and I had to pay the dai Rs. 4. I gave the dai rice every day she was with me; as long as she stayed in the house she got her meals with us with the family. The dai lives in lines No.5. I live in the lines. The contractor's baboo gives me my pay; I am a contractor's woman.¹³⁷

Lilmoni Manjhain (Santhal), a woman worker in the Jealgora Colliery in Dhanbad was disappointed when she did not receive a bonus for childbirth. She went on to explain: 'I had a dai from Bagdigi. I paid her Rs. 5 and & piece of both for the 7 to 9 days that she was with me. I did not go to the hospital when I was ill. The Doctor does not go round the lines. I

¹³⁷ *RCLI*, vol. 4, part 2, 1931, p. 138.

borrowed some money to pay for the dai.’¹³⁸ Very few colliery managements were reported to have paid even some maternity benefits; for example, a statement from 1940 claimed that only Custode Colliery was paying Maternity benefits at that time, and Jamadoba colliery had recently introduced a scheme. TATA at Jamshedpur was also reportedly paying some benefits to its workers.¹³⁹ These were the exceptions rather than the common trend.

Things started to change around 1936, when the Government of Bengal ‘sent a circular letter to industrial interests to elicit their views on the question of passing legislation in the province for the grant of Maternity to women factory workers.’¹⁴⁰ Although this was initially meant for factory workers, the necessity for comprehensive measures that would include miners received attention from different quarters. An example is the proceedings at the 10th session of the All India Women’s Conference held at Trivandrum from 12 December, 1935 to 2 January, 1936.¹⁴¹ One of the major recommendations from this conference was that the constituencies in the different provinces should begin ‘propaganda work for the passing of the Maternity Benefits Act in their own provinces, so that it may be possible to obtain an All India Maternity Act as soon as possible’ without delay.¹⁴² Iftikhar-ul-Awwal, while commenting on the question of maternity benefits, ascribed the turning point in the discussion to the coming of the popular ministries in the provinces in 1937-38 under the new constitution.¹⁴³ However, we should not overlook the stress on the economy during the acute economic depression from the late 1920s until the mid-1930s. This economic situation partly explains the delay in implementation of the measure, as seen in the case of Bengal:

¹³⁸ Ibid, p. 169

¹³⁹ *AITUC* subject file no. 262, Part II: ‘Papers on the Status of Women. ii) Memorandum Submitted to the League of Nations by All India Women’s Conference and Women’s Indian Association’, 1940, p. 166 (NMML).

¹⁴⁰ ‘National Labour Legislation: Maternity Benefits for Women Workers in Perennial Factories in Bengal: Government Proposal for Legislation’, *ILO*, January, 1936, p. 8.

¹⁴¹ ‘Women and Children: 10th All India Women’s Conference, Trivandrum: Text of Resolutions on Labour Subjects’, *ILO*, January 1936, p. 55.

¹⁴² Ibid, p. 56

¹⁴³ Iftikhar-ul-Awwal, ‘The Indian Mines Maternity Benefit Question 1919-1947’, p. 338.

The question of legislation in Bengal on the lines suggested by the Royal Commission on labour was examined by the Local Government in 1932-33, but action was deferred as it was thought, in view of the severe depression in trade, the time was inopportune for throwing an additional burden on industry. With the improvement in trading during the past two years or two, this question has again been taken up by the Local Government.¹⁴⁴

In the case of Bengal and other provinces, the mining industry was not among the first to obtain a Maternity Benefit Act. The Bengal Chamber of Commerce (BCC), in their proceedings for the months of January and February 1936, referred to the consent of the jute and engineering industries in favour of such legislation.¹⁴⁵ The BCC confirmed that there was 'a general consensus of opinion amongst employers in favour of the proposal.'¹⁴⁶

It was therefore only in 1941 that the Government of India expressed its intent to introduce a Bill in the October-November session of the Central Legislature to ensure maternity benefits in mines.¹⁴⁷ The bill was introduced in the Central Assembly on October 27, 1941 and passed on November 5, 1941. The Council of State passed the bill on November 13 and it received the assent of the Governor-General in Council on November 26 of the year. The Benefits Bill was moved by H.C. Prior, the Secretary for Labour. The Bill was subsequently discussed in the Legislative Assembly and passed. One of the major proposed benefits was the granting of

¹⁴⁴ *RCLI*, Evidence, vol. 4, part 2, 1931, p. 129.

¹⁴⁵ 'Conditions of labour: Maternity Benefit Legislation for Bengal: Views of Bengal Chamber of Commerce', *ILO*, April, 1936, p. 18. The Bengal Chamber of Commerce was founded in 1853 and this was one of the most influential lobby of British merchants. Set up in 1853 by the top-notch colonial business houses such as Andrew Yule, Gillanders Arbuthnot & Co Ltd and others, the chamber had a major influence on policy decisions of the colonial government. <http://www.thehindubusinessline.com/industry-and-economy/bengal-chamber-a-treasure-trove-for-history-hunters/article5117184.ece>.

¹⁴⁶ 'Maternity Benefit Legislation for Bengal: Government Decision to Enact Legislation', *ILO*, November, 1936, p. 13.

¹⁴⁷ *Ibid.*, 'Government of India: the Mines Maternity Benefit Act, 1941', November 1941, p. 1.

leave to women miners for four weeks before and after childbirth. This proposed provision, however, did not go unchallenged in the assembly. N.M. Joshi pleaded for an extension of the period of absence before childbirth from four to six weeks, but his proposition did not find many supporters in the assembly and was 'rejected without a division.'¹⁴⁸ Joshi and P.N. Sapr¹⁴⁹ made this case for the extension of benefits from 8 weeks to 12 weeks (in the Central Assembly and Council of State, respectively) based on the suggestion of the International Labour Convention on Childbirth.¹⁵⁰ However, the possibility of any such provision was ruled out on the grounds that '[t]he number of child-bearing women employed in mines was very small and considering the competition and cheapness of Labour in India, if the period of maternity was extended as suggested, mine-owners might altogether stop employing child-bearing women.'¹⁵¹ The Bill did demonstrate some goodwill gestures of the government, like allowing women miners to ask for a woman doctor and requiring employers to arrange for the same. On the other hand, dissenting voices regarding the payment of bonuses during childbirth were also heard. The European section of the coal lobbies objected to the payment of bonuses in cases where 'the employer provided the free services of a midwife or other trained person in accordance with arrangements approved by the central Government.'¹⁵² Any degree of guarantee or oversight by the government was also not assured. Leaving these responsibilities to the individual colliery managements without any sort of regulation had not borne results before, much like in the case of voluntary maternity benefits.

¹⁴⁸ Ibid.

¹⁴⁹ P.N. Sapr¹⁴⁹ was a renowned lawyer and a member of the Council of States (1934-47). <https://www.geni.com/people/Prakash-Narain-Sapr/6000000006425448196>.

¹⁵⁰ 'Government of India: the Mines Maternity Benefit Act, 1941', *ILO*, November 1941, p. 2.

¹⁵¹ Ibid.

¹⁵² Ibid.

The *Mines Maternity Benefit Act* was finally passed in November 1941, but came into effect only at the end of December 1942.¹⁵³ It provided maternity benefits to underground and surface workers at different rates. For underground workers, payment of maternity benefit was at the rate of Rs. -/6/- per week for 10 weeks before and 6 weeks after delivery. The rate of benefit for surface workers was fixed at 12 annas per day for a period of 16 weeks. The qualifying period for benefits was fixed at 90 days' attendance during a period not less than six months preceding the date of delivery. The Act was passed with a number of glaring loopholes, which quickly began to be identified and corrected; the act had to be amended in 1943, just two years later.¹⁵⁴ One of the major modifications concerned the payment of bonuses to women miners before delivery. This had been a matter of widely differing opinions both before and after the act came into effect. Section 5 of the act read that prior to childbirth every woman miner was liable to receive 8 annas 'every day on which she is absent from work owing to her confinement during the four weeks immediately preceding and including the day of delivery.'¹⁵⁵ The confusion arose about whether they should be paid for days when the mine remained closed. Thus the Mines Maternity Benefit (Amendment) Bill of 1943 sought to 'remove the existing doubtful position.'¹⁵⁶ The exigencies of the Second World War also induced the Government to make changes in the existing provisions to attract more women miners. As discussed in the earlier section, the ban on women working underground was lifted to meet the increasing demand due to the war. As a result, the government passed another Bill on 10 March 1945, to introduce further amendments and make changes in the provision that mainly concerned expectant women miners working underground.¹⁵⁷ The intention was to provide more pre-natal holidays, ostensibly to prohibit

¹⁵³ Iftikhar-ul-Awwal, 'The Indian Mines Maternity Benefit Question 1919-1947', p. 344.

¹⁵⁴ 'Government of India: the Mines Maternity Benefit (Amendment) Bill, 1943', *ILO*, July 1943, p. 1.

¹⁵⁵ *Ibid.*

¹⁵⁶ *Ibid.*

¹⁵⁷ *Ibid.*, 'More Pre-Natal Holidays for Women Miners: Bill further to Amend Mines Maternity Benefit Act, 1941: Reference to Select Committee', March 1945, pp. 1-2.

the involvement of women miners who were in an 'advanced' stage of pregnancy.¹⁵⁸ The proposal was to prohibit employment of women ten weeks before confinement; prohibition of women 4 weeks after confinement was already provided in the earlier version. Further, an enhanced rate of wages was offered to women working underground.¹⁵⁹ The government did not really hesitate to risk the lives of expectant women to meet the demands of the coal industry. Desperate measures during the War coincided with the parlance of protection and welfare, and the timing of the act casts doubts about the real motives of the government. Wartime dollops of assistance were meant to attract women back into the depths of the mines, regardless of whether they were pregnant at the time.

Opposition and criticism of the continued employment of women miners underground were rife in the Central Assembly. N.M. Joshi continued his fierce opposition while Renuka Ray, another member of the assembly, found this amendment unfortunate, terming it 'only a half measure'.¹⁶⁰ Regardless of these critiques, the act was amended and passed by the Central Legislative Assembly on 11 April 1945. One major addition to the provision was that the prohibition on the employment of women from working underground after childbirth was extended from 4 to 26 weeks.¹⁶¹ The maternity benefit prior to delivery was increased from 8 to 12 annas in 1945, but implemented in 1946.¹⁶² As shown earlier in this chapter, lifting the ban on the recruitment of women miners underground was considered a temporary measure due to war exigencies. But a provision or an amendment on the above line did not exactly indicate temporariness of the measure. On the other hand, fewer women workers in mines

¹⁵⁸ *Ibid.*

¹⁵⁹ Iftikhar-ul-Awwal, 'The Indian Mines Maternity Benefit Question', p. 342.

¹⁶⁰ ILO, March 1945, p. 2.

¹⁶¹ 'Mines Maternity Benefit (Amendment) Act, 1945: Women not to be Employed Underground during Ten Weeks Preceding and Twenty Six Weeks Following Confinement', *ILO*, April 1945, p. 1.

¹⁶² *AITUC* subject file no. 320, Letter dated 7 May, 1946, p. 50 (NMML).

helped the mining authorities and the government make way for the introduction of maternity benefits.

Discrepancies as to the payment of benefits continued to be brought to notice. Chapal Bhattacharya of Coal Workers' Union, Jharia wrote a letter to the Labour Welfare Adviser¹⁶³ reporting a malfunction in the payment of maternity benefits at a Giridih colliery. Some women miners who were already pregnant had been discharged without notice. In another letter dated 2 November 1944, Bhattacharya informed N.M. Joshi of irregularities regarding the payment of maternity benefits.¹⁶⁴ Moreover, the enforcement of the Maternity Benefit Act also varied in nature and effects, as revealed in Table 2.10.¹⁶⁵

Table 2.10: Distribution of Maternity Benefits in different Coalfields (1945)

Coalfields	No. of sampled mines	No. of mines to which the figures relate	No. of women workers in mines	No. of claims registered	No. of claims admitted	% of column 6 to 4
Jharia	106	96	14836	891	872	5.9
Giridih	2	2	2175	225	135	6.2
Bokaro	4	4	9259	269	269	2.9
Raniganj	68	22	4987	500	495	9.9
Central provinces	32	11	1625	168	168	10.4
Assam	6	4	341	53	53	15.5

Source: S.R. Deshpande, *Report on an Enquiry into Conditions of Labour in the Coal Mining Industry in India*, 1946, p. 112.

Identifying the connection between the dwindling number of women miners and the introduction of maternity benefits was unavoidable. Iftikhar-ul-Awwal observed the banning of women and the introduction of mines maternity benefits relating to the on-going question of miners' health, but he did not address the inevitable connection between them: 'more important than the inadequacy of maternity schemes and defects in its working, was the

¹⁶³ Ibid, p. 67: The letter was undated but it seemed to be written around the year 1944-45. The reason is that the letter is preserved in an AITUC file that has documents dated between 1943 and 1944.

¹⁶⁴ Ibid., p. 72.

¹⁶⁵ S.R. Deshpande, *Report on an Enquiry into Conditions of Labour in the Coal Mining Industry in India*, 1946, p. 112.

deliberate policy of the employers to reduce the number of women in coal mines ever since the question began to be discussed and debated seriously in India in the early 1920s.¹⁶⁶ But it could be the other way round, as was shown in my discussion of the exclusion of women miners from underground. It seems more plausible that enforcement of the compulsory maternity benefit scheme for mines was possible because of the declining number of women miners.

The next measure in the line of welfare was the framing of *The Mines Crèche Rules* in 1946.¹⁶⁷ Miners' children had always posed obstacles for the smooth functioning of production in coalmines, especially underground mining. In some mines, women miners would take their children underground with them, which was considered dangerous, and some even refused to go underground if they must then leave their children behind. A few colliery companies opened schools for miners' children, but the concept of a crèche was non-existent. Again, after a decade-long discussion and deliberation, the government managed to cast its benevolent glance at the maintenance of suitable rooms with prescribed amenities where women workers of the mine could leave their small children under the care of trained staff.¹⁶⁸ The irony is that the demand for crèches had been there for decades. The recommendations of various committees and provisions of different acts, starting from the *Indian Mines Act of 1923* and even earlier, could not induce the government to regularise the provision for crèches in mines. Lack of infrastructure, financial deficiencies, or the absence of initiative on the part of mine owners and managements had been the major barriers for such provision. The same fate awaited the coalmines pithead bath rules, which were framed in 1946 to provide well-equipped bathrooms at pitheads for use of mine workers.¹⁶⁹ Due to

¹⁶⁶ Iftikhar-ul-Awwal, 'The Indian Mines Maternity Benefit Question', p. 334.

¹⁶⁷ Government of India, *the Mines Crèche Rules, 1946*, New Delhi, 1946.

¹⁶⁸ *Ibid*, p. 210.

¹⁶⁹ Government of India, *the Coal Mines Pithead Bath Rules, 1946*, New Delhi, 1946, p. 211s.

the lack of proper pithead baths or any other bathing facilities, miners often resorted to washing off in the khadan (quarry) water-body.¹⁷⁰

The government and the coal lobbies had to implement the ban on women working underground because of mounting pressure both from international circuit and domestic arena. In case of the USSR, maternity benefits had been provided to its women workers a decade back i.e. in the early 1930s.¹⁷¹ The United Kingdom and the USA had succeeded in introducing maternity schemes for mine workers. Hence passing of the Mines Maternity Benefit Act seemed the next logical step for the state and industrial groups which were vociferous about the rhetoric of welfare (labour welfare in this case) in the 1940s.

2.6. Conclusion: When ‘Welfare’ was All Around...:

These legislative measures formed the basis of the state’s zealous pursuit of ‘welfare’ for the women labourers of the Indian mining industry. Both the government and the employers adopted a rhetoric of ‘welfare’ while dealing with any crisis or labour problems. However, as this chapter has demonstrated, ‘welfare’ was sucked into the vortex of economic considerations. The state’s handling of decades old problems and unsolved crises required new phrases and terms to conceal the actual scenario. On close examination, it becomes obvious that the dwindling number of women miners helped the colonial state come up with the *Mines Maternity Benefits Act of 1941*. The *Miners Crèche Rules* were formulated around the same time, when it was no longer necessary for women miners to leave their children while they were busy underground. It must be noted that these goodwill measures conveniently targeted a small section of a workforce that was in dire need of protection,

¹⁷⁰ Shailajananda Mukhopadhyay, *Sunirbachito Kailakuthi Golposongroho*, p. 39. See Appendix 1.

¹⁷¹ Melanie Ilic, ‘Women Workers in the Soviet Mining Industry: A Case-Study of Labour Protection’, *Europe-Asia Studies*, vol. 48, no. 8, December 1996, pp. 1387-1401, p. 1389.

leaving major questions about workplace safety and workers' welfare unanswered. This tendency holds true for other kinds of legislative measures; even more interesting, this tendency was successfully carried forward into the post-colonial era. A number of general welfare measures for the mining population were enacted, but the actual effectiveness of those measures cannot go unquestioned. The idea of welfare turned out to be more a tool of legitimacy rather than a blueprint for remedial plans. Thus a measure curbing the liberty of labourers was conveniently termed 'welfare' to suit the demand of the situation. Retrenchment in times of crisis was guised as a safety measure. Safety, in its turn, was not given much attention. The exclusion of women paved the way for the successful and timely introduction of maternity benefits for a section of workers that was rapidly going extinct. The larger welfare paradigm absorbed safety concerns, churning out labour-friendly social legislation but neglecting basic standards of safety in coalmines. The extent to which this language of welfare was translated into reality remains to be seen, and is the crux of the discussion in the following chapters.

Chapter 3: Accidents, Efficiency and Security: Coal Mines of Raniganj and Jharia (1890s- Early 1950s)

In the first two chapters, I have considered legislation related to the safety of children and women in mines, which in turn led to a discussion of broader issues like the education of miners' children and the growing use of 'welfare'-related arguments. In both chapters, I mentioned accidents as one way to gauge the effectiveness of safety measures. This chapter explores workplace accidents in Indian mines in detail—their probable causes, their impact, and the discourse about their prevention—between the late 1890s and 1950s. Probing into mining accidents opens up multiple ways to examine the evolution of the coal mining industry in India, and more specifically how the perception of accidents changed with the growth of the industry.

The initial discussion of mine accidents during the early 1890s reveals a marked tendency to deny how common accidents were. This was followed by a phase in which accidents were both recognised and categorised at the dawn of the twentieth century. This phase emphasised the importance of human factors, primarily the supposed ignorance of 'inefficient' miners, which was blamed for many accidents. This discourse concerning the inefficiency of coal miners leads to questions about the skills of the miners and, more importantly, the methods in which they acquired those skills. More than training the miners, however, a bigger issue is the availability of training for the mine officials who were in charge of safety, i.e. the engineers who were recruited from abroad, especially from the United Kingdom. Despite constant complaints about the scarcity of qualified engineers from abroad, training engineers in India or hiring Indian engineers was not encouraged.

However, the blame for mining accidents cannot be limited to miners or engineers. Throughout the history of Indian coalmining, there were constant discoveries of faults in the way coal was being worked and extracted. Hence, the issue of the usage and conservation of coal also comes under the purview of this chapter. Although the logistics of ensuring the safety of the mineral were discussed for decades, the possibility that the health of the miner and that of the mineral could be linked was only raised in 1952. The fact that the technology that prevented the exhaustion of coal could also ensure miners' safety from subsidence or an accident was first noted in the *Safety (Stowing) Act of 1952*. The final part of this chapter highlights how the separate treatment of these two interlinked factors i.e. exhaustion of human as well as mineral resources became important in delaying and sometimes deterring provisions for mine safety in general.

3.1. Initial Denial and Subsequent Recognition of High Frequency of Accidents:

The discussion of regulating mining accidents and mine safety in general was initiated in the late 1880s and early 1890s. All of the major coalmining countries had already introduced prohibitive/protective legislation to improve mine safety. The Berlin Conference of the early 1890s played a decisive role in drawing the attention of the leading mining countries to the need to provide their workforce with adequate safety provisions.¹ This provided the entry point for the debate in official circles about how to prevent accidents in Indian mines. However, the frequency of accidents in collieries was widely questioned, attracting varying opinions from different quarters. Mine owners and managers were not ready to accept that the number of accidents in collieries was something to worry about or that needed legislative regulations. In 1886, Mr. Ness, who had been the manager of the Warora colliery (in present-

¹ James Grundy, *RIMI*, for the year ending the 30 June, 1894, p. 65. The International Conference took place in Berlin in 1890. It came up with a number of recommendations pertaining to 'the mode of working of mines in India with regard to the safety thereof, and with regard to the conditions under which the labour worked.'

day Maharashtra) until the early 1880s, for example, claimed that several certified colliery managers in that district thought that '[t]he miner in this country works under unusually favourable circumstances, and that collieries here are safer and better ventilated than in England.'² They ardently believed that any kind of legal intervention would stall the growth of an industry that was still in a nascent stage. Similar claims were made even four decades later. While responding to recommendations regarding the prevention of industrial accidents from the in 1933 International Labour Conference held in Geneva, the Bihar and Orissa Chamber of Commerce claimed that 'Indian industry as a whole is rather in an infant stage, and that as much interference with it in the shape of legislation by the state in the near future would hamper its natural growth.'³ Frequency of accidents was usually linked to prevailing working conditions; the claim was that Indian mines were relatively free from danger compared to those in the United Kingdom.

In 1895, while representing a royal family in Raniganj, Kumar Dakshineswar Malia⁴ chose one colliery at Jamari in Burdwan district in Bengal to demonstrate that the colliery had had few accidents over the 40 years of its existence since 1895. He went on to apply this observation about a particular colliery to the general condition of the Indian coalmines, concluding, 'There has been such a small number of accidents and the number of lives lost so small too.'⁵ However, this information did not corroborate the reports of James Grundy, the Inspector of Mines in India. As per his report, there were 44 deaths in workplace accidents in

² 'Indian Mines' Regulation', *The Times of India*, 21 April, 1886, p. 5.

³ 'Recommendation re. Prevention of Industrial Accidents: Views of Bengal and Bihar Chamber of Commerce', *ILO*, March 1933, pp. 7-8.

⁴ He was representing Searsole 'Rajbati' or Rajbari (literally translating, a family with royal lineage) which was located in Raniganj of Burdwan district and the family had stakes in some of the coal mines in Bengal.

⁵ Department of Revenue and Agriculture, *Papers Regarding Legislation for the Regulation and Sanitation of Mines in India*, 1895; Malia was presenting his note of dissent to the report of the committee appointed by the Government of India in May 1895 to consider and advise upon the regulation by the Government of Mines in India (page 2 of his note of dissent).

the coalmines of Bengal in 1895.⁶ In that year, explosions of firedamp led to the loss of 13 lives and serious injuries to 6 workers. The Inspector of Mines thought that the rate of this type of accident was quite high, 'with only 174 coal mines and a total of about 25678 persons employed at them.' He went so far as to comment: '[i]t appears that those persons who have hitherto believed that accidents at Indian mines were few, have been living in blissful ignorance of the facts.'⁷

This tendency to deny the frequency of accidents in Indian coal mines was closely linked to the attempt to demonstrate how safe Indian coal mines were, especially in comparison with their counterparts in the United Kingdom. Malia found absolutely no discrepancy in the condition of seams, depth of working, or ventilation systems, among many other issues prevalent in Indian mines. He believed that the thick seams and relatively shallow mines in India were much safer than the deep mines in England.⁸ As Malia put it, '[t]he close situation of Indian mines gives free access to ventilation and hence the rarity of accidents, the absence of unhealthiness and abnormal mortality.'⁹ He was referring to the underground situation in India, which he claimed was much more conducive to the purpose of ventilation than the deeper mines in the UK. Contrary to such statements, James Grundy commented that '[t]he numbers [of accidents] look very bad indeed on paper when placed side by side with comparative numbers for the whole of the United Kingdom.'¹⁰ However, like Malia the Inspector did claim that due to thickness of the seams in Indian coalmines, roofs did not fall as frequently as in the UK. Despite such statements, accidents due to the fall of roofs and sides would turn out to be the most rampant form of mine accident in the years to come.

⁶ James Grundy, *RIMI*, for the year ending 1895, p. 151.

⁷ *Ibid.*

⁸ *Papers Regarding Legislation for the Regulation and Sanitation of Mines in India*; Kumar Dakshineshwar Malia's note of dissent, 1896, p. 3.

⁹ *Ibid.*

¹⁰ *RIMI*, for the year ending 1895, p. 149.

Scholars working on mine accidents in India have generally accepted this discourse about the relative safety of Indian mines without taking into account the ground reality of actual workplace mishaps. While commenting on working conditions in the underground of Indian coal mines, for example, Rakhi Raychowdhury accepts this perception that Indian mines were safer than their British or European counterparts¹¹—a perception vindicated by the official colonial literature even before the passage of the *Indian Mines Act of 1901*. Scholars like C.P. Simmons tread the same path: '[n]ature has been relatively kind to the Indian coal miners. The geo-physical conditions which they encounter are considerably less hostile than which their brother workers in Europe and Japan are forced to contend.'¹²

The types of accidents over the years, however, present a different picture than the one presented by some stakeholders of mining industry in India, representatives of the colonial government and present day scholars. The argument that thick seams reduced risks is proven wrong by the data: accidents caused by the fall of roofs and sides accounted for the majority of accidents. The annual report of the Chief Inspector for the year ending 1904 still claimed that no deep coal was being worked in Indian mines. The Inspector thought that the seams were made of strong sandstone, and that the sudden crash of the roof, an everyday feature in English mines, was 'uncommon in India'.¹³ However, explosions due to firedamp became quite common as the coal mining industry progressed. In his annual report for the year 1910, the Chief Inspector of Mines in India argued against the prevalent perception that there was no firedamp in Indian coal mines: 'Up to now there has been an almost universally prevalent idea that Bengal coal mines are immune from explosions of firedamp except on a minute

¹¹ Rakhi Raychowdhury, *Gender and labour in India: The Kamins of Eastern Coalmines, 1900-1940*, p. 118.

¹² Colin Simmons, 'Working Conditions, Accidents and 'Protective' Labour Legislation in the Indian Coal Mining Industry in the Pre-Independence Period', *Bengal Past and Present*, Part 1, 1976, pp. 184-200, p. 185.

¹³ *RCIMI*, for the year ending 1904, p. 6.

scale. This idea however must now be abandoned.’¹⁴ The reason for this statement was a major explosion from firedamp at Equitable Coal Company’s Dishergarh coal mine in Raniganj. 11 miners died in that accident. Another major accident due to the ignition of firedamp occurred on 12 April 1911 at Bengal Iron and Steel Company’s Ramnagar mine in Kulti, Bengal.¹⁵ The mine management could not detect the existence of firedamp in that colliery and did not provide an artificial system of ventilation, required to keep firedamp under control. As a consequence, the accident caused a huge loss of life and simultaneously negated the claim that the mines in Bengal in particular and in India in general had a ready and natural access to ventilation.¹⁶ The notion that Indian mining works were not very deep did not take into consideration the introduction of deeper tunnels with each passing year, especially during the First World War. Nite has demonstrated that deeper coal mining was making strong headway during the course of the First World War, entailing greater loss of life and heavy injuries for the miners.¹⁷ The increasing rate of accidents is shown in Table 3.1.

Table 3.1: Rising Accidents in Coal Mines (1909-1945)

YEAR	NO. OF ACCIDENTS
1909	119
1918	138
1930	217
1940	233
1945	256

Source: *Annual Report of the Chief Inspector of Mines* for the respective years.

But colonial discourse overlooked the actual occurrence and the possibility of occurrence of such accidents since information was sieved through the filter of safety and eventually, when recognised, through miners’ responsibilities. Starting from the First World War, this tendency

¹⁴ Ibid., for the year ending 1910, p. 5.

¹⁵ Ibid., for the year ending 1911, p. 7.

¹⁶ Ibid., p.8

¹⁷ Dhiraj Kumar Nite, *Work and Culture in the Mines: Jharia Coalfields, 1890s-1970*, p. 28-29.

to declare Indian mines safer served another purpose: stakeholders and the colonial government were now able to place greater emphasis on human factors, especially the responsibility of miners, rather than on errors emanating from strategic mismanagement or failures of the prevailing system. In other words, when the attempt to prove that Indian mines were safer, less risky and immune to many types of accidents failed, efforts were made to divert the blame onto the miners themselves.

3.2. Changes in the Typologies of Accidents: Identification of the Human Element and Alleged Inefficiency of Miners:

The human element became the overarching tone in the colonial discourse on mine accidents from the second decade of the twentieth century. A convincing construction of this discourse would mean glossing over managerial faults and the seeds of this effort were sown way back in the 1890s when it was claimed that most of the accidents in 1894 did not take place due to reasons which could be termed technical e.g. fall of roof, insufficient ventilation, explosion, the lack of safety lamps, or even ‘defective safeguards and defective machinery’ i.e. reasons which could be traced back to lapses in managing mines.¹⁸ Some of these accidents were considered to have taken place ‘due to drunkenness, to deliberate disobedience of orders, carelessness.’¹⁹ The Chief Inspector of Mines in India regarded the ‘lamentable neglect of discipline’ among workers as the prime factor behind high frequency of accidents.²⁰ However, even then the general trend of blaming the miners which gained ground from the twentieth century, was largely absent in the last decade of the nineteenth century when miners’ ability and skills were often appreciated. In this context, it might be worthwhile to analyze, through the official lens, how miners and their mining skills were perceived over the

¹⁸ *Papers Regarding Legislation for the Regulation and Sanitation of Mines in India*, 1896; Kumar Dakshineswar Malia’s note of dissent, p. 2.

¹⁹ *Ibid.*

²⁰ *RCIMI*, for the year ending 1912, p. 4.

years which began to draw more criticism than admiration. The trend of passing judgements on miner's ability had not always been the same throughout the history of mining in India. It underwent various phases depending on the then prevalent situation and the persons involved. In the 1890s, not everyone questioned the miners' ability to adapt to mining techniques. Some showed high hopes about the miners' efficiency in honing their skills: 'The Indian Miners have shown themselves quite capable of managing the machines.'²¹ That was how the Chief Inspector was praising Indian miners' knowledge of machines in his annual report although his prime motive was to defend the availability of cheap labour as against the necessity of introduction of new and expensive machinery.²² In the same vein women miners found special mention in one of the reports where they were applauded for being more disciplined than their male counterparts and they were said to have sometimes outsmarted the latter in certain mining jobs.²³

The propensity to put the blame on miners was given a concrete shape in 1912 when new categories of accidents were introduced in the annual report of the Chief Inspector of Mines. It was not that the statistical methods used to collate data were fool-proof. Questions regarding the way the statistical records of mines were compiled were raised from different quarters all over the world.²⁴ The final report of the 'Royal Commission on Coal Supplies' in England, which was published on 7 June, 1905, found the English mining statistics 'inadequate and sometimes misleading'. Similar allegations were levelled against the data compiled for the coal mines in India and other colonies because in those places the English pattern was being implemented. Back in 1889, Sir Clement Le Neve Foster raised his voice in favour of 'an international agreement' as to the mining statistics at an International Mining

²¹ *RCIMI*, for the year ending 1904, p. 9.

²² *Ibid*, p. 10.

²³ *Ibid*.

²⁴ *RCIMI*, for the year ending 1904, p. 1.

Congress.²⁵ As far as categories of accidents in Indian mines were concerned, the standards set by the Indian Mines Act of 1901 were followed. Accordingly, workplace accidents in mines were categorised as accidents due to explosions of fire damp, falls of roof and sides, haulage accidents, shaft accidents, and surface accidents among others. But in the report of 1912 the typology of accidents was changed to accidents due to ‘misadventure’, due to the ‘fault of the deceased’ and due to the ‘fault of the fellow workmen’, i.e. the burden of accidents being shifted to the miners’ shoulders. The reasons behind other accidents were ascribed to the fault of the subordinate officials and to the fault of the management.²⁶ Among the 133 fatal accidents 49 and 37 were respectively attributed to misadventure and to the faults of the deceased. Only 31 accidents were considered to have been due to managerial faults. Thus the discourse of inexperience and ignorance of miners that had remained at the subterranean level during the last decade of the nineteenth century came to the surface and became formalised in the early decades of the twentieth century resulting in the creation of these new formal categories. Between 1915 and 1919, the causal effects of the accidents were deemed to be the ‘callousness’ of the miners as is evident from the following table:

Table 3.2: Causes and Percentage of Mine Accidents:

CAUSES	PERCENTAGE
Misadventure	49.73
Fault of deceased	30.78
Fault of fellow workman	6.07
Fault of subordinate official	3.94
Fault of management	9.48

Source: R.R. Simpson, ‘Accidents in Indian Mines, and Mining Legislation’ in *Transactions of the Mining and Geological Institute of India*, Vol. 16, July 1921, p. 31.

Miners were thus declared ignorant of the dangers of their work: ‘The Indian miner, in every part of India, is to a great extent ignorant of the dangerous conditions under which he works,

²⁵Ibid., p. 2; Sir Clement Le Neve Foster was a famous British Mineralogist and Geologist. He had books like *the Elements of Mining and Quarrying* (1903) to his credit. <https://archive.org/details/elementsmininga00fostgoog>.

²⁶ *RCIMI*, for the year ending 1904, p. 8.

and... there were many cases of what can be called foolhardiness and deliberate disobedience of orders.²⁷ The agricultural backgrounds of most miners provided ample scope for the mine authorities and colonial administrators to question their knowledge and ability to adapt to the environment and work of mines. The image of the ignorant miner and how he and his fellow workmen were responsible for mishaps, injuries and deaths in mines became a recurrent theme:

It is impossible to foresee the endless danger that may arise through ignorance and foolhardiness... The illiteracy and ignorance of the miners made it impossible for them to perceive the danger to which they were exposed by sleeping in the shadow between the railway tracks, or in the vicinity of tram lines, or sheltering in the drums of the winding engine, or entering fenced off areas, mishandling explosives, riding on running tubs, greasing and oiling machinery in motion, returning to working places before all the charges are exploded, crossing the bottom of the shafts instead of the bye-passes where provided, drying gunpowder over the open fire, lighting the match in prohibited gassy areas.²⁸

Even the Chief Inspector of Mines turned sarcastic when he took a dig at the miners' agricultural background in 1906:

In handicraft and manual labour the Indian's method of handling tool is, as a rule, the reverse of that of western races. He prefers the pull to the thrust. The Indian adze-like spade is a good illustration of a tool made to suit the instincts of the user. That the Indian can be induced to abandon the tools of his forefathers, is seen in most Indian

²⁷ Ibid., for the year ending 1912, p. 4.

²⁸ B.R. Seth, *Labour in the Indian Coal Industry*, 1940, p. 287.

collieries where English shovels are commonly used, and where the pointed crow bar has been replaced by double pointed picks.²⁹

In this quotation, the Chief Inspector draws upon the differences between the tools used in Indian agriculture and those used in the mines to cast aspersions on the workers' ability to acquire proper mining techniques.

In the 1930s, the attitude of the colonial authority vis-à-vis the miners reversed again, to some extent. At a time when trade union activities were reaching alarming heights, the mine managements were apprehensive that the miners would be swayed by the charisma of some trade union leaders. This is when the colonial discourse again started to appreciate the newfound intelligence of the Indian miners. While their ability to handle mining equipment or prevent mine accidents continued to be questioned, they were praised for being aware of their own needs and demands. Miners were lauded for not falling prey to the ill will and conspiring attitude of trade union leaders. When asked by the Royal Commission about the necessity of trade union activities in collieries, J. Thomas, one of the three representatives of the Indian Mining Association replied, 'The Association considers that the introduction of intermediaries between employers and employed might quite possibly create grievances, or wants, that at present do not exist.'³⁰ More importantly, when asked about the literacy level among the miners, he stated, 'Some of them [miners] are very sharp.'³¹

However, the discourse continued to revolve around the ineptness of the miners. Miners' knowledge of mining principles and their skills of 'production and protection' came under the scanner on a number of occasions. It would be wrong to assume that this habit of blaming the

²⁹ *RCIMI*, for the year ending 1906, p. 3.

³⁰ *RCLI*, vol. 4, part 2, Bihar and Orissa with Coalfields: Oral Evidence, 1931, p. 326.

³¹ *Ibid.*

worker was only targeted at miners. Managers often shifted the responsibility for an accident onto their inferiors, particularly mine *sirdars* and others under their immediate supervision. In 1910, at Bengal Coal Company's Murulidih coal mine, an accident occurred due to the 'irruption' of water into working areas.³² Under normal circumstances, preventive measures like boring a hole would have been adopted once signs of eruption became evident. However, in this case the manager did not pay attention in time; it was found that no holes had been bored, as required by the rules. The manager, however, transferred the entire responsibility for the accident to his assistant. *Sirdars* or the subordinate officials in coalmines were also made scapegoats by the mine authorities, and government officials tended to side with the managers in these disputes. In 1910, 71% of the colliery accidents in India took place in Bengal; the cause, as stated by the Chief Inspector, was the 'want of supervision', specifically by the lower managers including the subordinate officials or *sirdars*.³³ Ironically, by 1912 the Chief Inspector of Mines would relocate his lost faith in the *sirdars*, as he pronounced: 'They are often sufficiently well-trained to detect dangers but they lack the power to enforce their orders. Discipline cannot be expected from miners if the *Sirdars* are not disciplined.'³⁴ Despite finding fault in the *sirdars*' disciplinary habits, the Inspector seemed quite happy with whatever training the *sirdars* had. The next year, there was a concerted effort to train *sirdars* in mine work and safety. The preparatory classes under the supervision of colliery managers were meant for *sirdars* and 'important workmen'.³⁵ It was, however, not specified who these 'important workmen' were.

In this whole blame game, the 'unskilled' and 'illiterate' mine workers were found to be at fault more than people from any other category. The important question is whether, under the

³² *RCIMI*, for the year ending 1910, p. 18.

³³ *Ibid.*, for the year ending 1910, p. 4.

³⁴ *Ibid.*, for the year ending 1910, p. 13.

³⁵ *Ibid.*, for the year ending 1911, p. 28.

circumstances, the workers were ever provided with systematic training for a job they had no prior experience in: whether an uninitiated cultivator was given at least the rudiments of training that could make him adept and eventually skilled at his job.

Handling a miner's tool was more of a matter of skill than was generally supposed, and at that point of time the Indian coal miner was a raw recruit and clumsy with his weapons; but when doing work to which he and his forefathers had been accustomed [e.g. loading or carrying material] he was capable of showing good results.³⁶

3.3. 'Ignorant Miners' and the Training and Education Available to Them:

The need to train miners in the efficient working and extracting of coal had been stressed from the introduction of deeper mining in India. In 1907, the Chief Inspector of Mines stated that '[t]he material at hand is very unformed; labour is not applied to the best advantage; the miner in his working place tears off the coal by sheer force, whereas he might be trained to considerably increase his output by the exercise of skill.'³⁷ Although the necessity of training was thus articulated, it failed to translate into reality. This is evident from the volumes of the Royal Commission, in which a range of oral and written evidence, from representatives of the provincial governments to various personnel associated with mines, were collated. The volume noted,

The incidence of accident is closely related to the character and skill of the labour employed... For instance, in Indian mines the untrained cultivator may be allowed to work at the face on his first day underground and, in the best of mines, the worker's

³⁶ *RCIMI*, for the year ending 1905, p. 2.

³⁷ *RCIMI*, for the year ending 1907, p. 2.

illiteracy increases the difficulty of protecting him against danger. A large staff of trained men is maintained at most mines to look after the safety of miners, but conditions at the face change quickly and safety depends to a great extent on the skill and experience of the miner himself.³⁸

Arikshan Sinha, a representative of the Bihar Provincial Kisan Sabha of Muzaffarpur district, observed in 1931 that ‘There is no arrangement for Industrial and Vocational training for workers. Of course, there is Mining Institute at Dhanbad, but that is for training of educated men and for employment as officers in mines.’³⁹ The Indian Colliery Employees’ Association had a similar opinion: ‘So far as the miners are concerned there is no arrangement for their training or education of any kind. They are wholly ignorant of the scientific aspect of mining. Their practical experience is the sole guide to their work.’⁴⁰ From most of the written and oral evidence presented to the Royal Commission, it is evident that any kind of training excluded the miners themselves, with the *sirdars* or sub-ordinate officials instead forming the core of the trainees. Educated miners had to gain experience in practical mining for at least three years, after which they could appear for the examination to receive a *sirdar*’s certificate. If the miners had access to the acquisition of higher mining skills, they could even be appointed as overmen. Before attaining the status of *sirdar* or overman, however, they had no access to any kind of training. J.R. Dain, representative of the Government of Bihar and Orissa to the Royal Commission, lamented, ‘No facilities are given for training workmen to obtain the position of over-man but the training required is largely practical and obtained by aspirants in the course of their ordinary duties in the mine.’⁴¹ Dain referred to the annual report of the Chief Inspector of Mines in India, which explained the general state of miners’ training:

³⁸ *RCLI* report, p. 131.

³⁹ *RCLI*, vol. 4, part 2: Oral Evidence, p. 92.

⁴⁰ *Ibid.*, p. 182.

⁴¹ *RCLI*, vol. 4, part 1: Written Evidence, p. 18.

‘According to the Chief Inspector, inspection shows that in any given year the bulk of Tata's accidents are the inevitable consequence of carrying on a heavy and inherently dangerous industry with a personnel that is, judged by common industrial standards, greatly lacking in carefulness, discipline, intelligence and training.’⁴² Although the Commission urged mine owners and managers to ensure that ‘the newcomer [will] not [be] started at work except under skilled supervision’, it abstained from suggesting any statutory regulation to improve the training of miners in Indian collieries.⁴³

The case of uneducated miners was even worse: they could only appear for an oral examination to obtain a *sirdar*'s certificate. The irony was that there was no provision for training, even for miners who were recruited for skilled jobs. Mine owners, managers and agents complained about the workers' lack of skill, but practical provisions for skill development were virtually absent: ‘There are no arrangements for the theoretical training of such skilled labour as winding engine men, haulage engine men, pump men, boiler firemen, fitters etc., who are mostly illiterate.’⁴⁴ In a number of collieries, there were arrangements for regular lectures targeting the group of *sirdars*: ‘Lectures in vernacular on mining are given in the coalfields for training of *sirdars* who are however still drawn from experienced miners.’⁴⁵ However, the miners themselves were conspicuously deprived of such facilities.

Coherent efforts at training miners have remained notably absent throughout the history of coal mining in India, especially in the colonial era. The importance of educating miners themselves in mining skills rather than educating just the superior personnel or those

⁴² Ibid., p. 44.

⁴³ Ibid.

⁴⁴ *RCIMI*, for the year ending 1910, p. 23.

⁴⁵ *RCIMI*, for the year ending 1911, p. 28.

responsible for the miners' safety has never been adequately considered as a way to ensure miners' safety in the workplace. As D.K. Nite has observed:

The lack of constant, efficient expert safety supervision was an expression of both the colliery's dependence on the mining *sirdar* and his employees responsible for accident control, and reliance on the collier's practical skills of production and protection, which were regarded as more cost effective than any investment in training.⁴⁶

The first cogent attempt at imparting technical education to miners was made in independent India, when the Industrial Committee on Coal Mining met in Dhanbad on 23 and 24 January 1948.⁴⁷ After decades of dithering, the state was not only complaining about miners' lack of training: but it also came up with a tangible proposal for improvement. 'Initially men will be trained as electrical and mechanical fitters and later on in operating underground machinery.'⁴⁸ Among other issues, such as deciding on weekly working hours for miners, the Committee approved of a scheme for the establishment of a training school intended to 'improve the skill and efficiency of the worker in handling machinery.'⁴⁹ In 1953, however, the President of the Indian Mine Managers' Association, AB Guha,⁵⁰ expressed the opinion that labour training in India was still unsatisfactory and insisted that 'Labour should be educated in regard to the correct and proper use of machinery.'⁵¹

⁴⁶ Dhiraj Kumar Nite, 'Slaughter Mining and the 'Yielding Collier': The Politics of Safety in the Jharia Coalfields 1895–1950', in Kuntala Lahiri-Dutt (ed.), *the Coal Nation Histories, Ecologies and Politics of Coal in India*, Surrey, Ashgate Publishing Limited, 2014, p. 108.

⁴⁷ 'First Meeting of Industrial Committee in Coal Mining, Dhanbad, 23 and 24 January, 1948', *ILO*, February 1948, pp. 83-84.

⁴⁸ *Ibid.*, p. 84.

⁴⁹ *Ibid.*

⁵⁰ A.B. Guha, 'The Indian Manager', *Indian Mining Journal*, vol. 1, nos. 4-5, April-May, 1953, pp.11-13, p.11.

⁵¹ *Ibid.*, p.12.

3.4. Educating the Mine Sirdars:

Lectures and instruction in mining areas mostly catered to the mining *sirdars* and their superiors. Correspondence between the Indian Mining Association (IMA) and the Mining Education Advisory Board (MEAB) proves that the evening vernacular classes on mining were mainly meant for the sirdars who, they claimed, were falling short in attendance. The common workers were, as usual, left out of these classes.⁵² However, the future of these classes was never certain due to financial problems. In 1925, the Indian Mining Federation (IMF) informed the local governments that they would be unable to continue making contributions to the mining education classes, since they had only wanted to contribute for three years.⁵³ The MEAB pursued the IMF to pay Rs. 1500 per year until the 1927-28 fiscal year.⁵⁴ Again in 1925, the IMA agreed to contribute Rs. 8,000 annually for the improvement of mining education in Bengal and Bihar and Orissa,⁵⁵ but in 1927, the IMA informed the MEAB that they would be unable to do so beyond the 1929-30 fiscal year due to ‘the depressed state of the coal industry’.⁵⁶ The IMA argued against the IMF’s proposal to discontinue their payment and demanded that IMF also continue paying their share, or Rs. 3000.⁵⁷ They also argued that apart from the coal merchant bodies like them and the Federation, local governments should be entrusted with providing funds for mining education.⁵⁸

The mining classes run by the collieries came under government scrutiny. In 1932, the government of Bengal informed the IMA that it was not happy with the lecturing fees paid to

⁵² *Indian Mining Association* (hereafter *IMA*) annual report for 1930, p. 172.

⁵³ *Indian Mining Federation* (hereafter *IMF*) annual report for 1925, p. 29.

⁵⁴ *Ibid.*, p. 30.

⁵⁵ *IMA*, annual report for 1927, p. 54.

⁵⁶ *Ibid.*

⁵⁷ *Ibid.*

⁵⁸ *IMA*, annual report for 1927, p. 203.

colliery managers for teaching vernacular mining classes. The fees were not considered. The IMA repeated their earlier argument and demanded that the cost of these classes should not fall on the mining industry alone and sought to pass the burden on the local governments.⁵⁹ The 1933 reports for both mining industry organisations⁶⁰ stated that the Government of Bengal was planning to close down vernacular mining classes.⁶¹ The Mining Education Advisory Board thought this would be a ‘very retrograde step’ and instead suggested a reduction in the number of classes and hence in expenditures. The government agreed, but insisted on adequate payments to lecturers.⁶²

3.5. The Personnel Responsible for Mine Safety: Training Mine Engineers:

Mine safety or reducing the risk of accidents was not only contingent on providing adequate training to the miners or sub-ordinate officials, but also on the abilities of the personnel who were supposed to be well-versed in the technicalities of coal mining—the engineers, managers, and other mining personnel who played a crucial role in scrutinising and making decisions pertaining to the safety and prevention of accidents in mines. Although D.K. Nite mentions the ‘practical skills’ of mines’ safety⁶³ and managerial staff,⁶⁴ the role of mining engineers is missing in his work. This research intends to intervene in this unexplored area.

The Indian mining industry witnessed a regular inflow of mining engineers, managers, and consultants from abroad, particularly from the United Kingdom. Appointed by reputed managing agency houses like Macneill and Co., these managers and engineers played a

⁵⁹ Ibid., annual report for 1932, p. 30.

⁶⁰ *IMF*, annual report for 1933, pp. 139-143.

⁶¹ Ibid., p. 56.

⁶² Ibid.

⁶³ Dhiraj Kumar Nite, ‘Reproduction Preferences and Wages: The Mineworker in Jharia Coalfields, 1895-1970’, *Studies in History*, 2014, vol. 30, no. 1, pp. 55-87, p. 108.

⁶⁴ Ibid., p. 111.

significant role in different aspects of coal mining, especially in the context of mine safety.⁶⁵

As noted by E.H. Robertson, Professor of Mining Engineering at Civil Engineering College, Sibpur (later renamed the Bengal Engineering College),

There is probably no profession that requires such a varied and all-round education in the allied sciences, as well as a very special knowledge of the subject itself, as mining; and for a mining engineer to reach the top of the tree, he must not only have a thorough practical and theoretical knowledge of mining, geology, and mineralogy, but should also possess a great deal more than a smattering of such sciences as mathematics, physics, chemistry, mechanical, civil, and electrical engineering, and in many cases, metallurgy.⁶⁶

Given the requirement for possession of such vast knowledge, in the following section I explore the training and recruitment of mining engineers, as well as the importance given to mine engineers recruited from abroad.

The possibility that managers and engineers would be imported from abroad was predicted in 1895 by a committee appointed by the Government of India to study the regulation of Indian mines. General rules were framed in such a way that the Committee claimed that most of the mine managers and engineers holding Indian certificates would be disqualified and ‘the

⁶⁵ Trevor Boyns and Judith Wale, ‘The Development of Management Information Systems in the British Coal Industry, c. 1880-1947’, *Business History*, vol. 38, no. 2, 1996, pp. 55-77, p. 76. They fleshed out the link between management structure and decision making in British coal mines. Due to dearth of such literature in case of India coal mines; this work is crucial for my research; Alan Burns, Martin Newby and Jonathan Winterton, ‘The restructuring of the British coal industry’, *Cambridge Journal of Economics*, vol. 9, 1985, pp. 93-110. Engineers’ role in system engineering or in plan or design of coal mining is explored in this work.

⁶⁶ E.H. Robertson, ‘The Mining Department of Civil Engineering College, Sibpur’, *Transactions of the Mining and Geological Institute of India*, vol. 4, 1910, pp. 45-69, p. 45.

importance of foreign element into service will become a necessity'.⁶⁷ The payment of high salaries to these personnel from abroad was highlighted and the government was urged to make provisions for 'training men in the mining service'.⁶⁸ James Grundy, however, placed complete trust in 'Europeans' for handling the crisis situations that arise in mines. While commenting on accidents caused by the ignition of firedamp, he was of the opinion that '[a]t present only Europeans and possibly a few natives with experience, can safely deal with fire damp and at present they are the only persons who should be allowed to deal with it.'⁶⁹

Mine managements' preference for hiring engineers from abroad did not induce them to provide for adequate training in mine engineering in India or for aspiring Indian candidates. In a Report on Industrial Education from 1902, there is a list of technical schools in Bengal, most of which covered carpentry and blacksmithing. Mining found no place in the curriculum of the technical school in Burdwan.⁷⁰ In his comments on the state of technical education in Bengal, the Principal of the Shibpur Engineering College, J.S. Slater, did not mention any technical education relating to mines or the coal industry in Bengal.⁷¹ Furthermore, what technical instruction was available was extremely limited in its scope, as evident from a note in the same volume titled 'Scheme of Industrial Instruction' by A. Pedler, the Director of Public Instruction of Bengal. He claimed that the scheme only managed to reach the fringes of the industrial masses.⁷² In 1908, the Bengal Chamber of Commerce observed that the mining industry was a lucrative opening for young students.⁷³ H.H. Mcleod, the Superintendent of the Bengal Coal Company was of the same opinion, but did not mention

⁶⁷ *Papers Regarding Legislation for the Regulation and Sanitation of Mines in India*, 1896, p. 3 of the note of dissent.

⁶⁸ *Ibid.*

⁶⁹ *RIMI*, for the year ending 1895, p. 150.

⁷⁰ J. Clibborn, C.A. Radice, R.E. Enthoven and F. Westcott, *Report of the Industrial Education, Part III: Proceedings of Conferences*, Calcutta: Government of India Publication, 1902, p. 1.

⁷¹ *Ibid.*, p. 10. The paper was titled 'Note on the State of Technical Education in Bengal'.

⁷² *Ibid.*, p. 21.

⁷³ J.G. Cumming, *Review of the Industrial Prospects and Position in Bengal in 1908 with Special Reference to the Industrial Survey of 1890: Part II of Special Report*, Calcutta: Bengal Secretariat Book Depot, 1908, p. 35.

any details about the recruitment of students. His prediction was that, with the development of the system of mechanical shifting in mines, mechanical engineers would soon be required.⁷⁴ The author's suggestion to the government was to approve more expenditure for central institutions like the Sibpur Engineering College, which could provide the training for these future jobs.⁷⁵

The Civil Engineering College at Sibpur, Howrah, established in 1856, was the first engineering college in India to frame a course for a diploma in mining engineering. A mining department was added to the Sibpur Engineering College in November 1905.⁷⁶ From 1906 onwards students were admitted in two categories with certain eligibility criteria attached:

(1) Special students.—Persons resident in Bengal, who have been employed upon mines, admitted under the conditions:

(a) that they have completed at least two years' practical work upon a mine ; and

(b) that they have passed (i) the B. Final Examination; (ii) the Matriculation or Entrance Examination of any Indian University ; or (iii) any test equivalent to the Middle School Examination of the Code for European schools.

(2) Regular students (diploma)—Qualified for admission by passing the Sub-Overseer Examination of the C.E. College, or an equivalent test of some other college. Age limit at the time of admission, should be between 17 and 19.⁷⁷

Classes were designed to offer theoretical training in the general principles of mining, to prepare students for positions of responsibility in coal or metal mines and, in the case of

⁷⁴ Ibid., p. 36.

⁷⁵ Ibid., p. 46.

⁷⁶ R.P. Sinha (the then Principal of the Indian School of mines), 'The Indian School of Mines-its role and significance', *Indian Mining Journal*, vol. 1, no. 3, March 1953, Kolkata, pp.4-7, p. 4.

⁷⁷ E.H. Robertson, 'The Mining Department of Civil Engineering College, Sibpur', 1910, p. 41.

students attending instructional lectures in coal-mining, to qualify them to appear for the examinations for mine managers, as required by the *Indian Mines Act of 1901*. The full course for diploma students at the College extended over four years, the first two focused on passing the ‘Sub-Overseer’ Examination. Candidates for the diploma of B.E. in Mining took the special course during the last two years of the course, as prescribed in the Calcutta University calendar. A diploma in the principles of mining was granted to successful students and recognised by the Government of India while also remitting a portion of the time required to be spent in practical work by candidates for mine managers' certificates. A degree (Bachelor of Engineering in Mining) course under the University of Calcutta was also on the anvil.⁷⁸ The following table gives an idea of the number of graduates each year from the program’s inception till 1929:

Table: 3.3: The Number of Mining Students Graduated from Sibpur, 1909-1929:

YEAR	NUMBER OF GRADUATES
1909	9
1910	6
1911	4
1912	5
1913	2
1914	2
1915	3
1916	2
1917	5
1918	7
1919	11
1920	10
1921	12
1922	11
1923	14
1924	7
1925	9
1926	14
1927	13
1928	3
1929	3

Source: Collated from *B.E. College Centenary Souvenir*, Calcutta, 1956.

The next major stride in mining education in India was taken in 1926, with the opening of the Indian School of Mines at Dhanbad, based on the Royal School of Mines in London. The

⁷⁸ *Ibid.*, pp. 44-45.

Indian School of Mines spearheaded mining education in India and batches of successful students passed out each year. The formation of the Indian School of Mines was long delayed; in the early 1900s, the Indian National Congress had demanded that a mining engineering college be established.⁷⁹ The McPherson Committee of 1913-14 also recommended the establishment of a mining college in Dhanbad, but the idea was put aside until 1918-19 when the Mining Education Advisory Board, the Industrial Commission and the Calcutta University Commission stated their support of the McPherson Committee recommendation. They agreed that the need to import foreign technicians was acute and expensive. Hence, the cost of an institution to train engineers in India made sense. Again, however, no concrete action was taken.⁸⁰ In 1921, the Government of India intended to set up the Indian School of Mines, but it was again delayed. In the meantime, Banaras Hindu University started a mining department in 1923.⁸¹

On September 28, 1922, the Government of Bengal, Agriculture and Industries Department in Darjeeling proposed the establishment of the Indian School of Mines.⁸² A tentative syllabus was also proposed (see Table 3.4).

Table: 3.4: Proposed Syllabus of the Indian School of Mines

First year course	1. Mathematics- Arithmetic and Algebra. Mensuration and Use of Squared Paper Trigonometry 2. Elementary Science- physics and Chemistry
Second Year Course	1. Elementary Mechanics 2. Mechanical Drawing

⁷⁹ Ibid., p. 2.

⁸⁰ Ibid, p. 5.

⁸¹ Ibid.

⁸² *IMF*, annual report for 1925, p. 256.

	3. Elementary Mining and Surveying
Third Year Course	1. Mining and Geology 2. Mechanical and Electrical Engineering

Source: *IMF*, annual report for 1925, p.257-258.

The Indian School of Mines was finally inaugurated on December 9, 1926.⁸³ In 1938, the courses offered by the Indian School of Mines were as follows: a three-year course in Coal Mining; a three-year course in Metalliferous Mining; a four-year combined course in Mining Engineering; and a four-year course in Geology.⁸⁴ ‘At the end of each 3 years’ course, a certificate is awarded, and that at the end of each 4 years’ course a Diploma of Associateship is awarded.’⁸⁵ ‘The school is well-equipped and staffed for the teaching of Mining Engineering and Geology. Employment in Metal Mining, Coal Mining, Mine Surveying, and Geology can reasonably be expected.’⁸⁶ Recruitment of these students to mining jobs was given priority, but were their degrees able to compete with those of their western compatriots? Did they play any significant role in determining technical decisions or ensuring safety in mines?

3.6. Recruitment of Indian Students and the Status of The Indian Degree:

Although a mining department was added to Sibpur Engineering College in November 1905, the College’s main focus was on other types of engineering. Furthermore, mining graduates could not find employment in the European-dominated collieries.⁸⁷ Professor EH Robertson, the first Professor of mining in India, claimed that he started his class at Sibpur in 1906 with

⁸³ R.P. Sinha, ‘The Indian School of Mines-its role and significance’, p. 5.

⁸⁴ Government of Bengal, Department of Industries, *Opportunities for an Industrial Career for Young Men of Bengal*, sixth edition, Alipore: Superintendent, Government Printing, Bengal Government Press, 1938, p. 26.

⁸⁵ *Ibid.*, p.26-27.

⁸⁶ *Ibid.*, p. 27.

⁸⁷ R.P. Sinha, ‘The Indian School of Mines- its role and significance’, p. 4.

13 students, but the number quickly reduced to 5 or 6.⁸⁸ In a letter dated September 19, 1921,⁸⁹ the Director of Industries, Bihar and Orissa, informed the Indian Mining Association about theoretical instruction that available for mechanical and electrical engineering apprentices at the Kumardubi Engineering Company's works in the Dhanbad region and proposed to establish a similar program in the Jharia coalfield because the instruction was 'limited to Anglo-Indians' at Kumardubi.⁹⁰ The Indian Mining Association, however, thought this scheme was premature.⁹¹ The Association claimed that the collieries did not employ apprentices, except mining students who had no desire to become engineers and were happy to remain managers.⁹²

On May 8, 1929, the Principal of the Indian School of Mines wrote a letter to the Indian Mining Association informing them that the School's first batch of students would receive certificates that year and urging the mining industry to give jobs to the students who had specialized in coal mining.⁹³ The Association, however, replied that they would take only a limited number of qualified students.⁹⁴ By 1930, only two students from this batch had found employment in the coal industry. The Indian Mining Association categorically stated that the coal industry had only a limited capacity to absorb students from the Indian School of Mining.⁹⁵ This did not, however, prevent the Association from boasting that this mining education had been fruitful in a letter to the Mining Education Advisory Board dated February 8, 1930.⁹⁶ In 1931, the Indian Mining Federation placed four graduates of the Indian School of Mining as salaried apprentices among their member collieries but they could not

⁸⁸ Ibid, p. 5.

⁸⁹ *IMA*, annual report for 1921, p. 253.

⁹⁰ Ibid., p. 254.

⁹¹ Ibid., p. 256.

⁹² Ibid. 1921, p. 257

⁹³ Ibid., for 1929, p. 205.

⁹⁴ Ibid., p.207.

⁹⁵ *IMA*, annual report for 1930, p. 27.

⁹⁶ Ibid., p. 171.

accommodate more.⁹⁷ In a letter dated November 6, 1931, the Principal of the School urged the Indian Mining Federation to employ the newly trained students.⁹⁸ However, the Federation replied that they could not take any more students due to the economic depression.⁹⁹

Examples of the non-recognition or refusal of certificates issued in India were plenty. Managers' certificates granted under the Indian Coal Mines Regulations were not recognised by the British Mining Examination Boards, even though under Regulation 43(1) 'persons holding managers' certifications granted under the British Coal Mines Act or any other Act for the of mines in any other part of His Majesty's dominions can be granted without exam a certificate of similar class under the regulations.'¹⁰⁰ In reply, the Chief Inspector of Mines sent a letter on 21 February, 1930 to explain one exception by referring to Section 10(2):

The Secretary of State may deliver such a certificate without exam to the applicant who is the holder of a certificate granted in any British possession or foreign country, if the Board report that the standard of training and exam required for the grant of such a certificate is equivalent to that required for the grant of a corresponding certificate under this Act.¹⁰¹

The standard of training and examination required for the Indian certificate was lower than that required in Great Britain. Hence, the Board of Examiners in Great Britain did not think it fit to grant British certificates in lieu of Indian certificates. But the Inspector insisted: 'The

⁹⁷ *IMF*, annual report for 1931, p. 34.

⁹⁸ *Ibid.*, 1931, p. 136.

⁹⁹ *Ibid.*, p. 137. The letter was dated 4 December, 1931.

¹⁰⁰ *Non-acceptance in the Great Britain of the Certificate of Competency as Mine Manager*, issued under the Indian coal mines regulations, 1926, Department of Industries and Labour, Geology & Minerals Branch, File no. M-1055, collection no. 78, 1930, Serial no. 392 and 396 (NAI).

¹⁰¹ *Ibid.*

British standard being higher than the Indian standard it is reasonable that Indian certificates should be granted in lieu of British certificates. Refusal to grant such certificates would cut off a supply of highly trained managers which the more important mine-owners consider to be essential for the proper working of their mines.¹⁰² His remark was not really heeded, however, as we come across a letter from SK Banerjee, who was the then Assistant Secretary to the Government of India and the letter was addresses to the Secretary of the Indian Mining Federation, dated 29 March, 1930. In his response to the subject pertaining to non-acceptance of the certificate of competency as mine manager, issued under the Indian Coal Mines Regulations, 1926, he explained,

The Government of India understands that the British Board for Mining Examinations do not regard the standard of training and exam required for the grant of Managers' Certificates under the Indian Coal Mines Regulations as being equivalent to that required for the grant of the corresponding British certificates.¹⁰³

Earlier the Indian Mining Federation had sent a letter to the Department of Industries and Labour, dated January 30, 1930 opposing the lack of acceptance for Indian Managers' Certificates of Competency in Great Britain.¹⁰⁴ In a letter dated March 29, 1930, the Government of India explained that the standard of managerial training in India was not considered equivalent to the British one.¹⁰⁵ The Federation protested in a letter dated May 2, 1930, pointing out that that a similar certificate from the UK was readily accepted in India but not vice versa.¹⁰⁶ The Federation even drew attention to the issue of unemployment

¹⁰² Ibid

¹⁰³ Government of India, Department of Industries and Labour: Geology & Minerals Branch, File no. M-1055, collection no. 78, 1930, Letter dated, 29 March, 1930.

¹⁰⁴ *IMF*, annual report for 1930, p. 69.

¹⁰⁵ *Ibid.*, 1930, p. 97.

¹⁰⁶ *IMF*, annual report for 1930, p. 98.

among Indian managers, which they thought was mainly due to the influx of British-trained managers into India.¹⁰⁷ On August 1, 1930, the government replied that mining operations in India were much simpler than in the UK, hence the Indian certificate could not be accepted in the UK.¹⁰⁸ In a letter dated August 22, 1930, the Federation demanded that British certificate holders be required to pass a test under the Indian coalmines regulations to work in Indian mines.¹⁰⁹ The Government of turned down this suggestion.¹¹⁰ The Indian Mines Association, on the other hand, had a different take on this issue. In a letter to the Bengal Chamber of Commerce dated May 22, 1933, they asked for the protection of the rights of British colliery managers in India.¹¹¹ The Association opposed a clause (no. 43 of the Indian Coal Mines Regulations of 1926) that might refuse a British manager his degree from the UK in India.¹¹² Thus, the Federation and Association were arguing opposite points of view: the former for recognition of the Indian degree, and the latter for the protection of the benefits that British degree-holders already had.

In a nutshell, the dependence on foreign mining personnel continued while attempts to promote Indian job candidates were conspicuously missing. Although some students were sent abroad on scholarships to receive higher training, when it came to recruiting them to work in Indian mines, the picture was not very promising. Most of the appointed engineers and managers hailed from the United Kingdom, a trend that continued even when the Supply Department of the Government of India was planning to train the Indian colliery staff in the use and maintenance of coal mining machinery and even proposing to send them to the Mines

¹⁰⁷ *Ibid.*, 1930, p. 99.

¹⁰⁸ *Ibid.*, 1930, p. 100.

¹⁰⁹ *Ibid.*, 1930, p. 101.

¹¹⁰ *Ibid.*, 1930, p. 102.

¹¹¹ *IMA*, annual report for 1933, p. 253.

¹¹² *Ibid.*, p. 254.

Mechanisation Centre in Sheffield for training.¹¹³ The Association was fine with the proposal, as they were opposed to the idea of opening a training centre in India due to the high costs of establishing an institution and the long distance between the proposed institute site and the collieries.¹¹⁴ The inadequate resources of the Indian institutions and lack of recruitment of Indian mining students combined to further the preference for managers and engineers with certificates from abroad. Sometimes, mine managements resorted to the relaxation of required qualifications or advertised additional perks along with lucrative salaries to draw the attention of deserving candidates. In the next section, I examine the qualifications of these foreign engineers and the manner in which they were recruited.

3.7. The Process of Recruitment: Engineers from Abroad:

Combining information from advertisements for the recruitment of engineers and discussions held among responsible officials, certain facts about the background of these engineers come to light. It was believed that engineers with such extraordinary qualifications would prefer to work in their own country. It was quite difficult to find engineers with remarkable track records who were willing to be posted in an Indian coal mine, at least until the nationalisation of the British coal industry. This lack of skilled workers was widely discussed in official correspondence, such as a draft advertisement dated May 30, 1938 sent by Macneill and Co., of India to Duncan Macneill, London. This advertisement called for the appointment of a colliery manager for four years, with a starting salary around Rs. 550 per month, which could go up to Rs. 625.¹¹⁵ The most important feature of this advertisement was that it called for engineers who were adept in both mechanical and electrical mining. One of the primary pre-conditions was that the applicant must have passed the examination of the Association of

¹¹³ *IMA*, annual report for 1944, p. 40.

¹¹⁴ *Ibid.*, p. 41.

¹¹⁵ *Cork Collection*, File No. MSS 194/12 (BL): Correspondence relating to recruitment of colliery staff (BL).

Mining Electrical Engineers. The trouble, as expressed by those tasked with hiring said person, was whether engineers with these qualifications would readily agree to pursue a career in India.

In a letter dated June 23, 1938, Edward Cork wrote to Duncan Macneill to confirm the relentless search for a young engineer ready to go to India.¹¹⁶ This anxiety was further vindicated by an advertisement in *Iron and Coal Trades Review*, dated June 1, 1938, ‘Wanted a competent practical Engineer, aged about 30 years, capable of taking charge of the electrical and mechanical departments of a large colliery in India, both surface and underground.’¹¹⁷ The salary package, fixed at Rs. 650 per month, with an annual increase of Rs. 50 per month, was lucrative enough to draw skilled hands from overseas. The perks of the job were equally rewarding —the payment of one month’s salary per annum as bonus for satisfactory work, as well as free furnished quarters and free passage to and from India. Nevertheless, these offers did not prove to be enough to attract engineers with the required set of skills and qualifications. One can get a fair idea of the applicants from some descriptions in a letter from Cork to Duncan Macneill dated 27 September 1938.¹¹⁸ A certain Mr. Paterson, for example, spent three years as a coal cutting machine man. This implied that he had no experience in electrical mining. Even more importantly, he was working as a fitter at a textile works when he decided to apply for the post of a manager at an Indian coal mine. Another was a mechanical engineer and not a member of the institute of mining for electrical engineers. The majority of the applicants did not have the requisite qualifications.

¹¹⁶ Ibid.

¹¹⁷ Ibid.

¹¹⁸ Ibid.

This lack of deserving candidates persisted and Cork had to confess, ‘There is definitely a shortage of trained colliery engineers’ (in a letter to Duncan Macneill dated October 20 1938). As a solution, he proposed:

in view of a continuance of such conditions, I am inclined to think it would be advisable to get hold of one or 2 young fellows 20 to 23 years of age, who have had some practical training on a colliery or attended a technical college in England and send them out as ‘Assistant Engineers’ with the idea, that at the end of stay the third year of their agreement and after obtaining the Government ‘Supervisor's Certificate’ they be promoted to a Colliery Engineer's post.¹¹⁹

This was a decisive statement, especially where the responsibility to ensure safe working conditions in the mines rested upon these new recruits.

This lack of supply of competent candidates was not a temporary problem: well into the mid-1940s, it was still a concern for the management. September 1945, Cork wrote a letter to Duncan Macneill about the appointment of a British engineer to the post of Chief Engineer at a colliery in Jharia, India.¹²⁰ This was a time when the British coal industry was passing through a transitional phase marked by incessant demands for nationalisation from different quarters. Cork continued to lament the dearth of engineers with experience in both mechanical and electrical mining. One candidate, a ‘Mr. Nurdin is 34 years of age, married, and has been employed on the engineering side of collieries up till 1940.’ Nurdin’s references in mining were valid up to 1935, and the last position he held was as a Foreman Fitter. Moreover, ‘[h]e is not a member of the Mining Electrical Engineers Association nor has he

¹¹⁹ Ibid.

¹²⁰ Ibid., File no. MSS 194/21 (BL): Recruitment and training of colliery staff.

any certificate as an expert electrician.¹²¹ Cork advocated advertising again to get 'hold of a good man, who may not be inclined to continue his services in this country under the proposed nationalised coal industry.'¹²² A later correspondence from November 15, 1945, throws light on Nurdin's recruitment:¹²³ he was considered for the post of Colliery Engineer rather than Chief Engineer, which he accepted gladly. The matter, however, did not end there. Much to the frustration of the managing agency responsible for his recruitment, Duncan and Macneill found out that the Ministry of Fuel and Power would not release Nurdin, who was still in their employment.¹²⁴ On 30 October 1945, a similar case arose: a certain Mr. Robins, who was supposedly an eligible candidate for the prescribed post, had not been released by the War Office. Apparently, he was a soldier with two more years to serve and hence was not released.¹²⁵

The failure of these recruitment procedures indicates a number of related issues. First, it remained difficult to find qualified British engineers who were interested in working in an Indian coal mine. Thus, recruiters were still forced to make compromises in the quality of the chosen candidate due to a lack of suitable workers. Second, the appointment or proposed appointment of available candidates to less important posts than those advertised became almost the order of the day. For example, after prolonged deliberation over recruitment for the post of chief engineer, Duncan and Macneill informed Cork:

the position in respect of the Chief Engineer's post is that the present incumbent is expected to serve for another ten or twelve years... Any young engineer we may

¹²¹ Ibid., 23 September, 1945.

¹²² Ibid.

¹²³ Ibid.

¹²⁴ Ibid.

¹²⁵ Ibid. The letter was dated 30 October, 1945.

engage now will therefore have to serve as Colliery or Group engineer for about 15 years before he could secure the Chief Engineer's appointment.¹²⁶

Cork gave his consent to this suggestion and asked the advertisement to be redrafted accordingly. Once again, the chasm between requirements and availability, and the consequent compromise with quality, was evident. Third, even those 'eligible' candidates who were found after much searching were often engaged elsewhere and hence unable to take up the job.

Cork's remarks pertaining to the nationalisation of the UK's mining industry and the consequent increased availability of qualified engineers for mine engineering jobs in India raise a number of questions, which need to be addressed briefly. He sounded quite hopeful that the supply of eligible engineers eager to migrate to India would increase due to the hardships that might be caused by the prospect of nationalisation. However, this connection between nationalisation and limitations on mining engineers in Britain must be questioned, since it was the engineers themselves championing the demand for nationalisation.¹²⁷ They played a major role in the Reid Committee, which was instrumental in bringing an end to the private ownership of British coal mines. Some of the representatives of the committee also happened to be engineers.¹²⁸ Hence, Cork's rationalisation that a greater supply of eligible engineers would be available following nationalisation in the United Kingdom does not seem convincing.

¹²⁶ Ibid.

¹²⁷ Robert Millward, 'The 1940s Nationalizations in Britain: Means to an End or the means of production?', *Economic History Review*, vol. 40, no. 2, 1997, pp. 209-234, p. 221. Millward referred to electrical engineers who were voicing in favour of nationalization while they were still working for private companies.

¹²⁸ Ibid., p. 224.

This desperate hunt for efficient engineers constantly beset the Indian mining industry in the early twentieth century. The result was that there were occasional compromises in the expected quality of new recruits. These cases of compromise are crucial for understanding mine safety at that time, which was dependent on these foreign engineers and other professionals to a large extent.

3.8. Role of Mine Engineers in Accidents and Overall Mine Safety:

This section highlights the role that these professionals played in matters of mine safety, particularly in the upgrading of mining equipment. First, decisions about the purchase of new mining equipment, for either production or safety reasons, were largely influenced by these engineers and managers from abroad. The colonial government and the entrepreneurial class might have been at loggerheads regarding the introduction or purchase of mine machinery,¹²⁹ but the recommendations of engineers or consultants on the basis of their visits to important collieries in the United Kingdom or elsewhere abroad were usually taken seriously by the government and mining companies alike. A few letters can be cited as examples. In a letter dated March 31, 1937 to Duncan Macneill and Co., London, Edward Cork referred to his visits to English collieries, in which he learned about the usage and upkeep of electric safety lamps so that he could make plausible recommendations for their use in the Indian context.¹³⁰ Insufficient light was one of the major hazards in India's mining industry: very few mines used electricity, so the only light source was open lamps. Miners used *kupis*¹³¹ with kerosene or castor oil while working on coalfaces, which gave insufficient light and also emitted a foul

¹³⁰ *Cork Collection*, File No. MSS 194/9 (1937): General; handover notes on collieries prior to retirement; colliery equipment; recruitment of staff; colliery quarterly reports and Cork's commission thereon, Nov 1936-June 1937 (BL).

¹³¹ *Kupis* were naked lights which were often frequently used in underground mine areas and often proved to be unsafe.

odour. Cork visited some collieries in England, including Littleton, Grassmoor, Poorly Hall, and West Camock, to inspect lamps installed by companies like Ceag, Wolf, Concordia and Oldhams. He was entrusted with the responsibility of inspecting both lead and acid battery lamps and alkaline battery lamps, of which he preferred the latter because it was cheaper in upkeep and renewals and supposed to last longer. Cork wrote that he was 'inclined to think that the alkaline electric safety lamp is a much cheaper proposition for general colliery use than the oil safety lamp.'¹³² Although the initial cost was high, in the long run

the actual maintenance cost and labour for cleaning and attention is certainly less than for oil lamps, when one considers the number of glasses broken per day, gauzes requiring replacement, washers and daily issues of oil at a normal Indian colliery. Under Indian conditions of 3 shifts working it would mean at least double the number of lamps or a set of spare batteries. Batteries are now made integral with the lamp casing... alkaline batteries require 8-9 hour charge after 9 hours of use.¹³³

These colliery visits also doubled as inspection tours. When Cork became a mine consultant for Duncan and Macneill and was mainly operating from England, the managements of Indian collieries invited him to inspect the methods used in their mines. These visits often led to tension between the officials and different sections of mining industry. In one letter, W.D. Robb, an agent of the Equitable Coal Company¹³⁴ (Jharia, Manbhum) was informed that

Mr. Cork will visit and inspect collieries under your charge and report to us in due course. There is no question of these inspections being carried out in any spirit of

¹³² Ibid, 31 March, 1937.

¹³³ Ibid.

¹³⁴ As per an anecdote, mentioned in a literary work, miners could not pronounce the name 'Equitable' properly and used to call it Ekush-double. Eksuh means twenty one in Bengali. Mentioned in, Shantimoy Bandyopadhyay, *Asansol Parikrama* (History of Asansol Sub Division about Five Hundred Years), p. 44.

destructive criticism. Their whole object is to secure co-operation of everyone connected with the companies towards getting the very best out of our mineral holdings.¹³⁵

Second, these engineers had specific responsibilities in the case of an accident, especially dealing with their aftermath. Instances of these engineers-turned-managers playing a crucial role in courts of enquiry to particular and usually major accidents were plenty. They often furnished reports of accidents, highlighting the principal causes of mishaps. The managers had the managing agencies to answer to in cases of major accidents.

Third, correspondence among agents, managers or other officials related to accidents and other issues in the coal industry often led to major tiffs and controversies. These debates either became very vocal or were carefully hushed up. In any case, these differences of opinions among officials pointed to larger issues facing the Indian coal industry. Cork, for example, became entangled in a debate between F.W. Manley, a superintendent of a colliery in Jharia, and the Chief Inspector of Mines in India. The debate concerned a technical aspect of mining, i.e. whether every working place and every road or part of a road that was accessible within 600 feet of any place in which coal was being extracted from a mine should be watered down or stone-dusted. This was supposed to be a precaution to keep flammable gas levels in check at mines. In a letter to Cork, Manley accused the Chief Inspector of having a strong bias toward stone-dusting. On the other hand, Manley's suggestion was to water down wet mines and dust dry ones. Cork, on the other hand, opined that the 'continuous watering of roof, floor and sides, with safety zones created by the equivalent of

¹³⁵ *Cork Collection*, File No. MSS 194/10: General; Colliery Quarterly Reports n Cork's Comments thereon; Colliery Inspection Reports by Cork (BL).

shower baths, continuous over a predetermined length of gallery, would be better than relying on stone dust, which because of humidity and other causes may not rise in a cloud of emergency.’¹³⁶ In this example, a simple but crucial precaution for mine safety drew markedly divergent opinions and demonstrated the importance that these officials demanded in such contexts. The technical competence of these officials was merely a part of their job profile; the clash of opinions between people in different positions and the collision of divergent interests could stand in the way of ensuring safe working conditions in the mines.

Mine officials often engaged in bitter fights over the probable cause of accidents, especially those with major impacts, such as the Ranipur colliery explosion on April 15, 1940. Four miners were killed in this accident and a fierce debate ensued regarding the types of explosives used in a number of coalmines. Methods of shot firing were also questioned by sections of the mine personnel.¹³⁷ While discussing the cause of this accident, a representative of Macneill & Co. complained to Cork about the Mines Department’s procedure of inspection into the accident. Cork held that faulty shot firing¹³⁸ was responsible for the explosion. He explained that blown out shots led to such disasters. W. Kirby (the Chief Inspector Mines in India), on the other hand, ascribed the explosion to ignition of brattice cloth, a material generally used for air ventilation. Cork ruled this factor out and stuck with his theory of defective explosives—which the management of the colliery was not ready to accept.¹³⁹ Interestingly, in September 1940, the same representative of Macneill & Co. wrote to Cork to explain what he claimed to be the real cause of the accident:

¹³⁶ *Ibid.*, File No. MSS 194/9 (1937): General; handover notes on collieries prior to retirement; colliery equipment; recruitment of staff; colliery quarterly reports and Cork’s commission thereon, Nov 1936-June 1937. The correspondence took place in the month of February, 1937 (BL).

¹³⁷ *ARCIMI*, for the year ending 31 December, 1940, pp. 5-14.

¹³⁸ <http://arlweb.msha.gov/century/rescue/rstart.asp>. A shot was sort of a ‘charge of some kind of explosive, in regular mining placed in a hole drilled in the coal, the purpose being to break down the coal. A shot firer was a ‘man whose special duty is to fire shots or blasts, especially in coal mines.’ The shot-firing that Cork was referring to, was apparently misdirected, resulting in the accident.

¹³⁹ *Cork Collection*, File no. MSS 194/15. The letter was dated 6 June, 1940.

a fall on top of a trailing cable, which caught fire. The place in which the fire took place had been undercut, the machine shifted into an adjacent gallery where it was making a cut, but part of the trailing cable was still in the first gallery. Shots were fired there and coal fell on the trailing cable, and it went on fire. The fire should have been put out and there shouldn't have been any explosion.¹⁴⁰

Interestingly enough, he requested Cork not to pass this information to Manley and Burch, who were in charge of the concerned colliery. He found no reason for 'flogging the matter further'. Somehow, the debate among engineers, agents and other officials about the cause of accidents actually led to compromises in mine safety and reduced the accident's impact to the level of a professional dispute.¹⁴¹ It is also clear that hushing up the matter entirely was a viable option, and independent inquiries were not encouraged. This example indicates how the real issues behind an accident could take a backseat to the competitiveness and complications plaguing the hierarchy of the coal industry. Any real concern for mine safety is evidently compromised when the actual cause of a mine accident is covered up.

3.9. The Exhaustion and Preservation of Coal:

On the one hand, colonial literature held miners and subordinate officials responsible for the ever increasing accidents and resultant injuries and deaths in the workplace, despite the obvious lack of qualified personnel accountable for mine safety; on the other hand, the loss of a huge amount of coal and the consequent exhaustion of mineral resources led the colonial government to delve deep into the matter of mine safety. Discussions about the need to

¹⁴⁰ Ibid., September 19, 1940.

¹⁴¹ Ibid., The letter was dated 19 September 1940.

conserve coal had been in vogue for decades, but actual measures only started to be adopted after the First World War—a phase which turned out to be a game changer as far as the productivity of coalmines was concerned. The War was followed by appointment of various committees by the Government of India to find solutions to further loss of coal

Higher demand for coal often induced the owners or the miners' immediate supervisors to impose the pressing and sometimes impossible demand of producing more and more output in less time. For example, from the passing of the *Indian Mines Act, 1901* and the organisation of statistics in India, the coal miners had always been accused of pillar-robbing.¹⁴² The First World War added to the miners' woes when the demand for coal reached its zenith, along with the increasing practice of pillar-robbing. Incessant demand from higher echelons often prompted the manager, *sirdar* and other immediate supervisors of the miners to allow them to cut and extract coal from fenced-off places without any instructions from above. Cutting coal from these fenced-off areas for the sake of immediate profit would, however, lead to the significant loss of coal in the long run. It soon became difficult to discern whether cutting coal from prohibited places was authorised or unauthorised, and the responsibility and subsequent blame for such activities was often placed directly on the miners involved in the work.

In 1919, three miners at the Dishergarh coal mine of Equitable Coal Company Limited (in Raniganj region) were prosecuted under Rules 7, 13, and 21 under Section 22(3)(e) of the *Indian Mines Act of 1901* for passing through a fence into a prohibited area and cutting coal from a pillar without 'authority'. They were fined 20 rupees each; if they failed to pay this

¹⁴² i.e. cutting and extracting coal from prohibited, fenced off areas which were important for the maintenance of mines. The same areas could be dangerous without effective supervision. For details and definition, see S.D. Punekar and R. Varickayil (eds.), *Labour Movement in India: Documents: 1850-1890*, vol. 1: Mines and Plantations, New Delhi: Indian Council of Historical Research, p. 97.

penalty, they would face one month of imprisonment. Similarly, the Agent and Manager of Banerjee Santan's Jotejanaki coal mine were prosecuted under Rules 3, 4, and 19 and Section 22(3)(a) and (3)(c) of the same Act for permitting miners to cut coal beneath the dangerous vertical side of a quarry and for not fencing the sides of the quarry. The Agent was fined Rs. 50 and the Manager Rs. 15.¹⁴³ Ironically, the miners were fined more than a manager for the same kind of misdemeanour. While it is true that no fatal or serious accidents occurred, the permission to enter the prohibited areas was the fault of the manager, and this was under-punished.

3.10. Exhaustion of Coal: Reasons and Responsibility:

The government and the leading coal lobbies engaged in a prolonged debate about the necessity, possibility and means of preserving coal. Both parties dragged railways into the debate. Several layers of this debate are discernible. First, the mainstay of the debate was to point out the factors responsible for the excessive exhaustion of the coal. The government found that wasteful methods of mining caused a large-scale loss. The coal lobbies, on the other hand, argued that fierce competition from the railway collieries coupled with the continued demand for more output from the state forced them to resort to undesirable means of extracting. They accused the government of showing undue favour to the railways, leaving the private coal companies unprotected. A second layer of the debate concerned the means of preserving coal once all parties agreed to put a stop to the further loss of coal. The Coalfields Committee of 1919 suggested the use of stowing for the purpose of conserving coal, but this was ruled out. An output restriction scheme was then debated but not adopted. The government and business interest groups then agreed to use sand stowing, but the logistics of its implementation were subject to prolonged debate before the *Safety Act of 1939* was

¹⁴³ *RCIMI*, for the year ending 1919, pp. 16-17.

passed. And here lies the third dimension of the debate regarding the preservation of coal: whether the stowing process was only meant to improve mine safety or also to conserve coal. As per the act of 1939, the only purpose was safety, i.e. to prevent further subsidence or outbreak of fires and thereby protect the health of the miner. The mine-owners' association critiqued this on the grounds that stowing should also be used to ensure the 'safety of the mineral', a purpose that was achieved only with the act's amendment in 1952. In the following sections, I explore each of these three layers of the debate regarding safety and conservation of coal in more detail.

The government was of the opinion that the exhaustion of coal was caused by using flawed methods of working and extracting coal. Government-appointed committees after World War I were of the same opinion. 1920 saw the formation of a Coalfields Committee by the Government of India under the Chairmanship of B. Foley, the then-Commissioner of the Chhota Nagpur division. The purpose of this committee was categorically stated in Resolution no. 625-D, dated 28 January 1920: it was 'to devise means of reducing the large avoidable waste of coal...in the Raniganj and Jharia coalfields, due mainly to deficient methods of extraction...'¹⁴⁴ The committee worked on the basis of some recommendations in a 1919 report by R.I. Treharne Rees, who was a partner in the well-known firm of Messrs. Forster Brown & Rees of London and Cardiff.¹⁴⁵ The Foley committee submitted its report in 1920 seeking 'more efficient' methods of extracting coal.¹⁴⁶

In a letter dated May 23, 1921, the Government of India informed the Indian Mining Association that the methods followed by colliery companies were wasteful and made a

¹⁴⁴ B. Foley, *Report of the Coalfields Committee*, Government of India, Calcutta: Superintendent Government Printing, India, 1920.

¹⁴⁵ T.R. Rees, *Report of the Committee on the Methods of Coal Mining in India* (R.I. Treharne Rees), New Delhi: Government of India, 1919.

¹⁴⁶ *Ibid*, p. 1.

strong case in favour of the coal conservation policy 'in the public interest'.¹⁴⁷ It was claimed by the government that, although the coal reserve would last for another 100 years, high-grade coal was exhausted due to over-consumption.¹⁴⁸ The Indian Mining Association was referring to the annual report of the Chief Inspector of Mines for the year 1925, which stated that in Jharia alone, '[i]n seams of first class quality, over 120,000,000 tons of coal were standing on pillars at the end of 1925, not to mention many million tons of coal in pillars in seams of second class quality.' This was the result of the unplanned working of seams, which were then not supported efficiently enough to allow extraction at later dates.¹⁴⁹

Even some voices from within the coal lobbies were questioning the main ways in which coal was being extracted. In the annual general meeting of the Indian Mining Federation on March 31, 1931, M.C. Raisurana of Empire Trading Company drew his peers' attention to the fact that 'The better and scientific utilization of coal by research is a crying need of the coal industry... (t)here is much waste which can be avoided and which will be conservation of the national resources of the country.'¹⁵⁰ He hoped that the Federation would take up this matter. In 1934, the Government of India pinned down two major points related to the conservation of coal. One was the inability to adopt improved methods of extraction; the other, a tendency to confine production to seams of the best quality coal.¹⁵¹ The Association and the Federation had an interview with the Governor of Bengal on 19 July 1934,¹⁵² who believed that the fierce competition between the companies was stripping mines of 'the best and easily won coal'.¹⁵³ In a letter to the Association dated July 7, 1938, the Government of India wrote that '[i]n the Jharia and Raniganj coalfields, a stage has been reached at which continued

¹⁴⁷ *IMA*, annual report for 1921, p. 117.

¹⁴⁸ *Ibid.*, p. 118.

¹⁴⁹ *Ibid.*, annual report for 1926, p. 7.

¹⁵⁰ *IMF*, annual report for 1930, p. 58.

¹⁵¹ *Ibid.*, annual report for 1934, p. 48.

¹⁵² *Ibid.*, p. 180.

¹⁵³ *Ibid.*, p. 182.

extraction of coal from pillars by ordinary methods is impossible in some cases and would involve in other cases serious danger to those engaged in the work and the likelihood of a great waste of coal.’¹⁵⁴

3.11. Exhaustion due to Competition: the Mine-Owners’ Perspective:

While the government held inefficient mining methods responsible for the exhaustion of coal, the mine-owners’ associations considered the competition from railway collieries to be the principal factor. In his presidential address to the Federation in 1929, Amritlal Ojha¹⁵⁵ pointed out that the Eastern Indian Railway and the Bengal Nagpur Railway were both under-purchasing from looking to enhance the production of their own collieries.¹⁵⁶ The Federation complained to the Chief Mining Engineer about the low amounts that the railway purchased from privately owned collieries.¹⁵⁷ Also in 1929, M.N. Mukherjee, the Chairman of the Indian Mining Federation, regretted how the development of railway collieries was proving detrimental to the growth of Federation-owned collieries.¹⁵⁸ In support of this argument, he stated that the output of railway collieries had risen from 16 lakh tons in 1921-22 to 31 lakh tons in 1930 while the railway’s purchase of commercial coal from privately owned collieries dropped from 5 million to 3.5 million tons. The Federation was accusing the government of supporting the development of railway collieries.¹⁵⁹ In a similar vein, the Federation accused the government of buying good quality coal for the railways at cheap prices from privately

¹⁵⁴ *IMA*, annual report for 1938, p. 105.

¹⁵⁵ Ojha was a famous businessman and a successful coal entrepreneur. He owned collieries and was associated with the Indian Mining Federation. Live Mint, <http://www.livemint.com/Home-Page/SiuOMVUTsu3bpxHE0sdedM/Breaking-open-a-repository-of-forgotten-legacies.html>, 12 March, 2011.

¹⁵⁶ *IMF*, annual report for 1926-28, p. 13.

¹⁵⁷ *Ibid.*, p.17. He and railway board conceded to their request and instructed the Eastern Indian Railway to restrict the output of their own collieries. The IMF was also proposing a coke committee to promote soft coke as a domestic fuel as other avenues of consumption was getting limited.

¹⁵⁸ *IMF*, annual report for 1929, p. 2.

¹⁵⁹ *Ibid.*

owned collieries.¹⁶⁰ According to their account, catering to the government's demand was the sole reason they were competing; to meet the required supply, they were resorting to wasteful methods. Thus the Federation was trying to pass the blame back to the government, which had been grilling them about using uneconomical methods to work coal and thereby incurring losses.¹⁶¹

Thus, the Association and Federation not only held the railway responsible for under-purchasing coal from their collieries, they also blamed the railways and the government for over-using good quality coal while second class coal remained under-used. In this, they took their cue from the Government of India, which placed the blame for the exhaustion of first-grade coal on the wider mining industry. In response, the coal lobbies requested that the government implement an output restriction scheme to protect privately-owned collieries from the allegedly unhindered and undesirable growth of the railway collieries.

By requesting that the railway consume more lower grade coal, especially for shunting purposes, the Federation was directly referring to the report of the Coalfields Committee. It claimed that 'the better quality of coal resources of the country should be carefully consumed.'¹⁶² DD Thacker of Central Alkusa Colliery Company at Kusunda, Dhanbad, pointed out that there was almost no demand for second class coal.¹⁶³ He and most of the member collieries of the Association supported the Federation's appeal for a soft coke cess committee to popularize lower grade coal. However, the government was not willing to form such a committee.¹⁶⁴ In March 1932, the Chairman of the Federation again stated that he was

¹⁶⁰ Ibid., annual report for 1935, p. 64.

¹⁶¹ Ibid., p. 64.

¹⁶² Ibid., 1928, p. 23.

¹⁶³ IMA, annual report for 1929, p. 7.

¹⁶⁴ Ibid., p. 9.

in favour of conserving the better coal¹⁶⁵ and requested that the government buy more second-class coal for the railways.¹⁶⁶ On 27 March 1935, A.C. Banerjee, the Chairman, stressed the need to conserve coking coal resources.¹⁶⁷ He was referring to the Coalfield Committee's or the Rees report of 1919 and its suggestion that consumers needed to be drawn to other grades of coal than the best one. The IMF put forward the suggestion that the Railways should use inferior coal for shunting purposes as the coking coal deposit would last for another 50 years.¹⁶⁸

The underlying message of the leading coal lobbies was to reduce the use of good quality coal in order to preserve the supply. However, when their appeals to increase the consumption of second-class coal went unheeded, they turned their attention to another scheme: the restriction of output. They believed that this would prevent further loss of good quality coal and again they appealed to the government to check the increasing production of the railway collieries. Accordingly, the Indian Mining Federation mooted the Coal Output Restriction Scheme in 1933 and followed it up in 1934.¹⁶⁹ The government, however, was not ready to include railway collieries in this scheme. The collieries of the Central Provinces were also left out on the ground that they were newly developed properties. The Federation wanted both the railway collieries and the collieries of the Central Provinces to be placed under the scheme.¹⁷⁰ In January 1935, the restriction scheme as put forward by the leading coal lobbies was rejected by the Government of India.¹⁷¹ The Government of India was of the opinion that this restriction scheme would not remedy the 'unsound methods of working' that

¹⁶⁵ Mentioned in *IMF*, annual report for 1931, p. 46.

¹⁶⁶ *Ibid.*, p. 48.

¹⁶⁷ *Ibid.*, 1934, p. 56.

¹⁶⁸ *Ibid.*, p. 57.

¹⁶⁹ *Ibid.*, p. 24.

¹⁷⁰ *Ibid.*, p. 3.

¹⁷¹ *IMF*, annual report for 1935, p. 12.

it considered to be the true cause of the loss of coal.¹⁷² The Government therefore found it better to directly control the method of coal production through legislation rather than controlling the output. Rejection of this restriction scheme led to widespread discussion of the necessity of stowing in coal mines in India, which will be discussed in the next section.

3.12. Sand Stowing as the Means of Preservation:

The Government felt that stowing was the only means to conserve good quality coal, but opposed the imposition of a compulsory scheme.¹⁷³ It explained that some collieries did not need stowing, as it was meant for the prevention of wasteful seams only.¹⁷⁴ The Government of Bengal also informed the Indian Mining Federation that it was in no position to undertake coal conservation measures anytime soon.¹⁷⁵ The Indian Mining Association also did not think the time had come for the implementation of compulsory sand stowing.¹⁷⁶ They also expected the government to help colliery owners get sand without difficulty.¹⁷⁷ The Association wanted special legislation rather than an amendment to the *Land Acquisition Act* to get sand from the actual owner of the colliery land. In a letter dated April 14, 1923,¹⁷⁸ the government of Bengal stated that it was not in favour of compulsory sand stowing and wanted to leave the decision about implementing such a procedure to the mine owners.¹⁷⁹ It also informed the mining industry that sand did not belong to the government, but rather to the owner of the riverbank. The Government claimed that the implementation of legislation to get sand might meet with strong opposition from those owners.¹⁸⁰ At a sand stowing

¹⁷² *Ibid.*, p. 33.

¹⁷³ *IMA*, annual report for 1921, p. 128.

¹⁷⁴ *Ibid.*, p. 130.

¹⁷⁵ *IMF*, annual report for 1923, p. 202.

¹⁷⁶ *IMA*, annual report for 1923, p. 12.

¹⁷⁷ *Ibid.*, p. 13.

¹⁷⁸ *Ibid.*, p. 210.

¹⁷⁹ *Ibid.*, p. 211.

¹⁸⁰ *Ibid.*

conference on December 21, 1923, the Government of Bengal opined that it was not so difficult for the mining companies to get sand after all; hence the Government of India was not going for any special legislation in the Council Legislature.¹⁸¹ The discussion of stowing was therefore put to rest for a time, before being revived in the late 1930s.

The Indian Mining Association named both 1936 and 1937 the 'coal conservation year',¹⁸² since the Burrows, or Coal Mining, Committee was appointed on October 19, 1936 and issued its report on April 10, 1937.¹⁸³ The proposal to form this new committee had few takers among the colliery owners' associations. The Indian Colliery Owners' Association (ICOA) saw no particular reason for further government interference into mining methods. Moreover, it rejected the idea of compulsory sand stowing as 'impracticable and uneconomical', since sand stowing itself would be costly for the mine owners and mining companies.¹⁸⁴ To meet the expenses associated with sand stowing, the Coal Mining Committee proposed the formation of a 'compensation fund'.¹⁸⁵ The Indian Mining Association warned the government that this entailed too much interference with 'the private rights of mine-owners and royalty receivers'.¹⁸⁶

The biggest opposition from the coal lobbies concerned the government's proposal to impose a cess on coal despatches by the railways to ensure the smooth functioning of stowing operations in the coalfields. The ICOA found this proposal economically untenable. Nevertheless, if the cess must be imposed, the ICOA insisted that it be imposed on all kinds

¹⁸¹ Ibid., annual report for 1924, p. 37.

¹⁸² Ibid., annual report for 1937, p. 4.

¹⁸³ Ibid.

¹⁸⁴ 'Coal Mining Methods: Give Fair Trial to Present Rules', *The Times of India*, 6 August, 1936, p. 7.

¹⁸⁵ Ibid.

¹⁸⁶ 'Conservation of India's Coal: Expert Enquiry Plea: Mining Association on Price Question', *The Times of India*, 19 August, 1936, p. 4.

of coal and coke despatched by railway companies.¹⁸⁷ Battle-lines were drawn when the leading coal associations consisting of both Indian and European entrepreneurs (i.e. the Indian Mining Association, the Indian Mining Federation and the Indian Colliery Owners' Association) refused to send their representatives as witnesses before the Coal Mining Committee.¹⁸⁸ The coal lobbies claimed that the Committee was addressing issues for which 'any unanimity of opinion cannot be expected'.¹⁸⁹ The tussle between the government of India and the entrepreneurial class had been brewing for some time, but this gesture of absolute abstinence from the associations and a hint of direct confrontation from the Government was undoubtedly the first of its kind. The Government of India criticised both the Indian Mining Association and the Indian Mining Federation for not replying to the Committee's general questionnaire.¹⁹⁰

The report of the Coal Mining Committee was published in May 1937.¹⁹¹ The Committee's reaction to existing problems like the exhaustion of coal from wasteful methods of extraction was to form of a statutory authority that would implement wider use of stowing for conservation of the mineral. The Committee suggested that the authority should have complete control over the working of seams, depillaring, new leases, measures to extinguish fires in mines, and most importantly, the implementation of stowing for the conservation of coal.¹⁹²

¹⁸⁷ 'Coal Mining Methods: 'Give Fair Trial to Present Rules', *The Times of India*.

¹⁸⁸ L.B. Burrows, *Report of the Coal Mining Committee, Volume I*, Delhi: Manager of Publications, 1937, p. 1.

¹⁸⁹ *Ibid.*, p. 6.

¹⁹⁰ *IMA*, annual report for 1937, p. 19.

¹⁹¹ L.B. Burrows, *Report of the Coal Mining Committee, Volume I*, 1937, p. 1.

¹⁹² *Ibid.*, p. 142.

The mining industry reacted negatively to this proposed statutory authority. The National Association of Colliery Managers (NACM) opined against such an authority.¹⁹³ The General Secretary of the Indian Labour Union, for example, said: 'I have no objection of having such statutory authority being formed, provided it is not too officialised and does not become a miniature Government Department.'¹⁹⁴ He demanded that trade union officials with knowledge in mining practices be represented in the statutory authority. On the contrary, Macneill and Co., the managing agents of Equitable Coal Company did not extend their support to the measure, explaining that '[t]he powers already vested in the Chief Inspector of Mines are so comprehensive as to make any statutory authority wholly unnecessary.'¹⁹⁵ In a similar manner, C.W.G. Hindley, the acting Chief Mining Engineer and a managing agent of Andrew Yule and Co.'s collieries opined, 'I do not consider such an authority necessary as the Mines Department already possess adequate powers subject to appeal.'¹⁹⁶ The Indian Mining Association also opposed the intervention of a statutory authority, reasoning that the reserves of inferior coal were unlimited and could substitute for superior kinds of coal. The Government of India, however, stressed the need for a statutory intervention.¹⁹⁷ The government's argument was: 'The extensive employment of wasteful methods of extraction resulted in prices which made it very difficult for those who wished to conserve their resources to sell coal.'¹⁹⁸ By eliminating this competition, it sought to maintain reasonable market prices for coal.

There were differences of opinion regarding the manner in which stowing would be implemented and more importantly the financing of the proposed measure. The Committee

¹⁹³ *Evidence Given before the Coal Mining Committee, Volume 2*, Delhi: Manager of Publications, 1937, p. 9.

¹⁹⁴ *Ibid.*, p. 27.

¹⁹⁵ *Ibid.*, p. 56.

¹⁹⁶ *Ibid.*, p. 85.

¹⁹⁷ *IMA*, annual report for 1938, p. 108.

¹⁹⁸ *Ibid.*, p. 109.

claimed that their suggestion was in tune with most of the witnesses they interviewed and went on to state

the necessary money should be obtained from a general cess on all coal (including soft coke and hard coke unless the coal from which it has been made has paid the cess already) despatched by rail in and into British India. This cess would be collected by the railways as a surcharge on railway freight from the party paying that freight, and would be credited with the Statutory Authority under the same procedure as is now followed under the Indian Soft Coke Cess Act VIII of 1929.¹⁹⁹

The Indian Mining Association and other coal lobbies were also opposing a cess that the government had decided to impose only on the coalmines in Raniganj and Jharia. They thought that any cess should be imposed on all coal of British India including, that from the Central Provinces.²⁰⁰ The cess question was taken up further with the passage of the first major legislation regarding stowing in coalmines of India, i.e. the *Coal Mines Safety (Stowing) Act* in 1939 or *Act XIX of 1939*, which was created as a direct result of the committee's report.

3.13. The *Coal Mines Safety (Stowing) Act of 1939* and its Aftermath:

An important provision of the *Coal Mines Safety (Stowing) Act, 1939* was the imposition of a cess to meet the expenses of stowing procedures in Indian collieries. As to the implementation of this excise duty, the provision stipulated

¹⁹⁹ Ibid., p. 133.

²⁰⁰ Ibid., p. 21.

There shall be levied and collected on all coal raised and despatched, and on all soft coke manufactured and despatched, from collieries in British India a duty of excise as may, by notification in the official Gazette, be fixed from time to time by the Central Government, subject to a maximum rate of three annas per ton; similarly there shall be levied and collected on such descriptions of hard coke as may be prescribed a duty of excise as may, by notification in the official Gazette, be fixed from time to time by the Central Government, subject to a maximum rate of one and a half times the rate of excise duty for the time being in force in respect of coal and soft coke.²⁰¹

The cess was imposed primarily to allow the implementation of stowing to control fires, the collapse of workings, and surface subsidence.²⁰²

Needless to say, the *Mines Safety (Stowing) Act, 1939* did not cater to the demands or expectations of all sections of the Indian coal mining industry. Manu Subedar (Indian Merchants' Chamber and Bureau: Indian Commerce) was vocally against the government placing charges/cesses for the maintenance of this fund and strongly opposed the imposition of import duty on coal coming from Indian states to British India—he considered this to be against the principle of federation often championed by the Government.²⁰³ However, the major debate centred round the extent of the act: was its scope confined to mine safety, or did it go beyond the limit of safety to address the issue of conservation, too. While the name (i.e. *Safety (Stowing) Act*) of the act itself sounded quite limiting to certain sections of coal industry, others insisted that the act had wider significance. Trade Union leader N.M. Joshi believed the Coal Mines Committee's recommendations and the subsequent provisions in the

²⁰¹ Government of India, *A Collection of the Acts of the Indian Legislature and of the Governor General for the year 1939*, Delhi, the Manager of Publications, 1939, p. 3.

²⁰² *Ibid.*, *The Coal Mines Safety (Stowing) Act, 1939*, Delhi: the Manager of Publications, 1941, p. 219.

²⁰³ *Legislative Assembly debates*, Government of India: Revenue and Statistics Department, vol. 2, no. 12, 9 March, 1939 (BL).

Stowing Bill not only attached prime importance to safety issues, but also paid equal attention to the necessity of conservation. However, he thought that the subsequent act limited itself to sand stowing for the purpose of safety only.²⁰⁴ This debate pointed to the wider issues at work: the purpose of stowing and the connection between human safety and the conservation of coal.

3.14. The Technicalities of Sand-Stowing and its Impact on Productivity and Conservation:

Along with the logistical side of sand stowing, its technical implementation also drew flak from the coal lobbies. The Indian Mining Association critiqued the government for not focusing on the technical side of sand-stowing, complaining that the Coal Mining Committee did not explain how to properly implement sand stowing.²⁰⁵ They also explained why hand packing and pneumatic stowing were not practicable in Indian mines: the thickness of Indian would not allow hand packing to work out. Pneumatic stowing only would work in some gassy mines. It was claimed that mechanical stowing was suitable to open up virgin areas, but not suitable for old workings. Of the options, they thought hydraulic stowing was the most suitable method, although as the supply of sand was yet to be sorted out it also had its share of difficulties.²⁰⁶ Hydraulic stowing was a pretty complicated procedure, involving four stages of operations: getting sand, stocking/loading/transporting it, its conveyance to colliery bunkers, and flushing the sand-water mixture from the underground.²⁰⁷ The first two stages were supported by the state; the last two depended on the individual collieries.²⁰⁸ The Indian Mining Association stated that, although considerable stowing work had been done in

²⁰⁴ Ibid.

²⁰⁵ IMA, annual report for 1938, p. 124.

²⁰⁶ Ibid., p. 125.

²⁰⁷ S. Mukherjee, 'Sand Getting for Coal Conservation in Indian Coalfield', *Indian Mining Journal*, vol. 1, nos. 6-7, June-July, 1953, pp. 31-38, p. 31.

²⁰⁸ Ibid., p. 32.

Germany, sand stowing in deep mining was still in an experimental stage throughout the world.²⁰⁹

3.15. Purpose of Sand Stowing: Safety or Conservation?

Earlier, while commenting on the Coal Mining Committee's proposal regarding safety issues, the government pointed out that it 'draws a distinction between safety of life and safety of workings....'²¹⁰ The government was of the opinion that the Act was not created for the 'sole purpose of saving coal', clarifying that the department did not need to secure conservation with 'no considerations for human safety'.²¹¹ Although the government seemed to place higher value on the safety of the miners, the discussion mostly focused on the coal that was being lost due to unplanned extraction. There were fleeting attempts to connect this discussion to the frequent mining accidents. In May 1922, for example, the Mining and Geological Institute of India appointed a committee to enquire into the causes of subsidence, with one of the principal considerations being the extent and effects of subsidence resulting from the continual extraction of pillars.²¹²

The connection between safety and conservation had been highlighted in the early 1920s. The importance of the Coalfields Committee of 1920 lay in its ability to accept that safety-related issues had so far meted out separate treatment for the safety of the miner and the safety of the mineral. To put it more concretely, the safety of the mineral denoted the necessity of preventing the exhaustion of coal while the safety of the miner pointed to the protection of human resources, i.e. miners. These two issues were supposed to be two sides of the same

²⁰⁹ *IMA*, annual report for 1938, p. 126.

²¹⁰ *Ibid.*, p. 107.

²¹¹ *Ibid.*

²¹² *Ibid.*, annual report for 1929, p. 225.

coin: comprehensive attention to both would complete the idea of mine safety. They could go hand in hand, even as their separate treatment often pitted them against one another, thus adding further confusion to the idea of mine safety. The Coalfields Committee recommended amendment of the *Land Acquisition Act* to include more provisions to effectively conserve coal. While explaining the purpose of this proposed legislation, the committee stated that:

The Indian Mines Act and rules framed under it are concerned with the safety of the miner; the legislation we propose will be concerned with the safety of the mineral. The two subjects are closely correlated, and we anticipate no greater difficulty in applying the proposed control than has been experienced in administering the Mines Act.²¹³

This statement sums up the treatment meted out to safety issues in all the years of coalmines in British India. The safety of the miners and that of the mineral was always treated separately, even though this committee accepts that ‘the two subjects are closely correlated.’ This interdependence did not feature much in the policies pertaining to safety issues in coalmines. Nor did it find takers among the different actors involved in mining (the colonial government, mine owners, managers, agents, and engineers). The safety of the miner and that of the mineral was never actually strung together. For example, a safety technology meant for the systematic extraction of coal would also save a miner’s energy and strength. On the other hand, precautions for miner’s safety like safety lamps not only ensure safer working conditions but also lessen the chances of unnecessary loss of coal. The use of naked lights and the gas emitted by them had led to a number of accidents as a result sudden ignition; the use of safety lamps would significantly lessen this danger. These kinds of accidents led to the

²¹³ Ibid., p. 7. Several committees, their subsequent reports and various government measures had so far shied away from an integral approach to conservation of coal and preservation of human resources i.e. miners. Here we find at least recognition of a possible connection between these two basic issues of mining.

significant loss of coal as well as the death and injury of the coal miners. Hence, the use of effective machinery would ensure the safety of both the miner and the mineral.

Coal dust was always a potential source of danger to both the mines and the miners. In the early 1920s it began to get the colonial government's attention. The concern of the government about the explosive nature of coal dust was evident when it appointed a committee 'to enquire into the danger of explosions of coal-dust in Indian coal mines.'²¹⁴ The Coal Dust Committee, however, refused to deem coal dust a major threat to safety and conservation. In its first report, the committee stated that 'The available evidence as to the explosibility of coal-dust in Indian mines is meagre.'²¹⁵ This was reiterated in its final report: 'In our opinion the number of coal mines in India in which there is any appreciable danger of an explosion of coal-dust is few.'²¹⁶ However, major explosions like the one at the Diserghar seam of the Parabelia colliery in Raniganj on January 4, 1923²¹⁷ indicated that coal dust was the principal source of danger toward the conservation of coal.

The urgency of conservation was summed up in a newspaper article in 1936, which explained that the problem of conservation extended 'far beyond safety regulations and the handling of fires after outbreaks, covering the more intricate subjects of better mining methods and the actual prevention of fires.'²¹⁸ The article referred to a series of explosions in collieries that had forced the government to come up with some crucial coal mine regulations in quick succession, but significant time had elapsed before the new regulations could be enforced.

²¹⁴ R.R. Simpson, *First Report of the Coal Dust Committee*, Simla: Government of India Press, 1924, p. 1 (the Committee was appointed to investigate the dangers arising from coal-dust in Indian Mines By the Government of India, Department of Industries and Labour, in Resolution No. M.-498, dated 24th July 1923).

²¹⁵ *Ibid.*, p. 5. However, the evidences suggested otherwise. See Appendix 2

²¹⁶ Simpson, *Third and Final Report of the Committee appointed to investigate the Dangers arising from Coal-Dust in Indian Mines*, Calcutta: Government of India, Central Publication Branch, 1932, p. 14.

²¹⁷ Simpson, *First Report of the Coal Dust Committee*, 1924, p. 1.

²¹⁸ 'Safety Measures in Coalfields: Proposed Legislation: Views of Mining Association', *The Times of India*, 25 May, 1936, p. 6.

The correspondent linked this delay to the larger picture of the enforcement of safety measures in general in Indian mines: '[t]he question arises as to why these very necessary safeguards for human life and prevention of fires, adopted years ago in other countries, were not universally enforced in Indian coal mines.'²¹⁹ Barring attempts such as this article, the discussion remained confined to the preservation of coal; not even the *Stowing Act of 1939* addressed this issue in a comprehensive way.

Critical attacks from different sections of the Indian coal industry made it imperative for legislators to modify several provisions of the existing *Coal Mines Safety (Stowing) Act, 1939*. Moreover, the relentless demand for state-sponsored welfare measures during the late-colonial rule of the 1940s and the urgency of measures of national importance in the initial phase of the post-independence era paved the way for further amendment to the act. In 1950, a Symposium of the National Institute of Sciences on the scientific utilization of coal recommended complete sand stowing.²²⁰ The Coalfields Committee or the K.C. Mahindra Committee had been formed by resolution No. 119(1) dated December 4, 1945 of the Supply Department.²²¹ The committee was responsible for reviewing the coal industry-related committees of the past decades and commenting on the extent the recommendations of those committees had been implemented. The Committee critiqued those who were waiting for the advancement of science for the conservation of coal rather than implementing what was already available.²²²

²¹⁹ 'India's Dwindling Coal Resources: Government of India to Appoint Committee of Enquiry', *ILO*, May 1936, p. 32-33.

²²⁰ N.N. Chatterjee, 'Conservation of Metallurgical Coal', *Indian Mining Journal*, vol. 1, no. 2, February 1953, pp. 11-16, p. 12.

²²¹ *IMA*, annual report for 1945, p. 9.

²²² N.N. Chatterjee, 'Conservation of Metallurgical Coal', p. 13.

3.16. Conclusion: The Amended Act of 1952 Finally Linked Safety and Conservation:

By the early 1950s, it had become quite evident that safety legislation could not ensure effective handling of the need for coal conservation. The prevention of accidents could not put a stop to careless methods of mining and the unchecked extraction of coal, which led to the coal's exhaustion. As a result, the government was forced to consider an all-encompassing legislative measure that would cover both the safety of the miner and the safety of the mineral. The end result was the 1952 amendment to the *Sand Stowing Act of 1939*. The *Coal Mines (Conservation and Safety) Ordinance 1951* was issued in January 1952²²³ which foresaw the coming together of safety and conservation issues in the subsequent *The Coal Mines (Conservation and Safety) Act of 1951*. For the first time in the history of the coal mining industry in India, the safety of both the miner and the mineral was dealt with within the same rubric. The integral connection between the two was at last recognised by the post-colonial state and the industrial community alike. By this act, the Government of India extended its assistance for stowing for conservation purposes, in addition to safety reasons.²²⁴

This chapter has shown how the intertwined issues of safety for humans and natural resources were not connected in the history of legislation pertaining to safety in Indian coalmines over several decades. The idea was that the conservation of coal would not only put an end to its exhaustion, but also lessen the possibility of its abuse and the likelihood of different kinds of accidents. However, the execution of this idea was conspicuously neglected when it came to the formation of different committees or legislation on safety measures. Every stakeholder,

²²³ 'Conservation of Coal in Mines: Delhi Issues Ordinances', *The Times of India*, 9 January, 1952, p. 7.

²²⁴ W.H.S. Michelmore, 'Coal Conservation and Economics of Mining', *Indian Mining Journal*, vol. 1, no. 3, March 1953, pp. 17-24, p. 18. Michelmore was the Chairman of the Indian Mining Association, 1952-53.

from the government to the coal lobbies to trade union leaders, failed to fathom this integral connection. This complete absence of any sort of understanding of their complementary nature continued to plague the industry for fifty years after passage of the first major legislation relating to the mining industry in India (the *Indian Mines Act of 1901*). The regulation of human safety ran in one direction while that of mine safety in another. While the first two decades after the *Indian Mines Act of 1901* saw debates over working conditions and the safety of workers, especially in response to frequent accidents, the effects of unplanned working and the resultant loss of coal were hardly explored. The early 1920s witnessed increased attention to the conservation of coal while the necessity of connecting conservation to the issue of safety was conspicuously missing. The efflorescence of both welfare measures and the zeal for conservation started to germinate in the 1930s, but the improvement of technological facilities was still not considered an integral part of ensuring human safety. The Indian Coalfields Committee of 1946 and the Metallurgical Coal Conservation Committee of 1949 both were in favour of including both conservation and safety aspects, but the Government of India found it 'fit to extend stowing for safety only and not also for conservation.'²²⁵ The two finally met with the act of 1952. The recognition came albeit late. Its aftermath and development in the following years if there was any could form the crux of an interesting research. However, in 1952, stowing operations were still limited, with 85 collieries producing coking coals but only 0.8 million tons extracted with the help of stowing.²²⁶ The appeal for the complete use of stowing started to surface from various quarters in the early 1950s.²²⁷

²²⁵ A.B. Dutt, 'Sand-stowing', vol. 16, no. 6, November-December, 1950, pp. 513-520, p. 516. The name of the journal was not clearly mentioned but it was a publication from the *Geological Survey of India*. The author was a geologist with the organization. I downloaded the article from the internet a couple of years back. It is not available anymore. But another article from the same volume can be found here: http://www.insa.nic.in/writereaddata/UpLoadedFiles/PINSA/Vol16_1950_6_Art13.pdf.

²²⁶ N.N. Chatterjee, 'Conservation of Metallurgical Coal', 1953, p. 13.

²²⁷ S. Mukherjee, 'Sand Getting for Coal Conservation in Indian Coalfield', 1953, p. 31.

Chapter 4: Maladies and Migration: Occupational Hazards and Coal Miners in Eastern India, 1890s-1950s

The previous chapters have dealt with occupational accidents, their impact on mine workers, and the larger debate concerning workplace safety, mine technology and the exhaustion of coal. This chapter addresses the industrial or occupational diseases that affected the lives of miners or other personnel associated with the mining industry, focusing on their prevention. Studying diseases and accidents separately provides wider scope to transcend the spatial boundaries of the workplace and explore the space beyond it. Focusing on the diseases themselves emphasises the debates about them, beyond just their identification and prevention. Of these, the most important concerned whether occupational diseases could be identified at all. Some that had immediate impacts on a worker's productivity were recognised; even so, colliery managements and the colonial government usually considered miners' residences to be the place of origin of these diseases, thus laying the blame squarely on the sufferers. Assuming that their residences were the problem, did the colonial government and mine managements provide better living facilities? And if so, were such alternative living arrangements effective in eliminating or at least reducing the onset of diseases?

The miners, on their part, devised their own responses to these situations, mostly in the form of migration. They were known to divide their time between the mines and their home villages, which has been considered a response to seasonal agricultural requirements. Because this oscillation between the villages and the mines had effects on production, mine managements came up with various strategies to build a settled workforce. Providing workers' housing was one such strategy. However, this accommodation did not prove lucrative enough to tie them to a particular mine throughout the year, or to convert them into

dedicated miners. From a different angle, returning to their villages could also be perceived as a temporary escape from the strenuous mining operations, or an opportunity for recuperation and healing after accidents, during pregnancy and after childbirth, or in cases of sickness. Their ability to return home provided the miners with negotiating power with the mine authority, especially in connection to disease-related issues.

4.1. The ‘Absence’ of Industrial Disease in Indian Coal Mines:

In the 1890s, discussions about industrial diseases were altogether absent. Fever was considered to be the major disease afflicting the miners, but this was delinked from mine work in the official parlance: ‘Fever is the principal disease and women have it less than the men. If women were prohibited from workings in the mines, they would in various ways suffer more than at present.’¹ The possibility of ankylostomiasis, or hookworm infections, in Indian mines was discussed by the Chief Inspector of Mines in his annual report of 1904 in comparison with European mines: ‘For the past few years, this disease has been very troublesome in European mines, especially in Germany and Hungary.... The disease has given the English and German governments the most serious concern.’² While explaining the Indian situation, he highlighted the possibility that hookworms could also exist in Indian coalmines, ‘Indian coal mines are as a rule hot and damp and of course no daylight can reach the workplaces. Such environments are ideal for the development of the larvae and as Ankylostomiasis is endemic in India, it will be surprising if some of the mines are not already infected.’³ This concern was, however, limited to discussion of the possibility of the disease, not the actual occurrence. Detecting this disease in the mines would be difficult; as he

¹ *RICMI*, for the year ending 1894, p. 24.

² *RCIMI*, for the year ending 1904, p. 10.

³ *Ibid.*

claimed, 'No information about this is at present available.'⁴ The Inspector's fears regarding the existence of hookworm were well founded; in 1906 it was reported that '[a]ll the Europeans in the camp and nearly all the coolies were infected with the worm' in a number of gold mines in Dharwad (now in Karnataka).⁵ Although the existence of hookworms in mines was acknowledged, albeit to a limited extent, the deleterious effect they could have on the miners' health was not regarded as an accepted truth.

This perception that the disease was not serious gained currency with the Royal Commission on Labour in India's 1931 report. The percentage of hookworm-infected miners seemed alarming:

over 90% of the adult labourers in this area are infected, although illness is produced only in a very small proportion of cases. An investigation in the Asansol area showed that 83% of the mines examined were infected with hookworm larvae, that 73% of the male underground workers were infected as compared with 54% of the surface labourers....⁶

However, this rate of infection was not considered to be hazardous; it was claimed that '[a]lthough hookworm infection is widespread in the collieries, hookworm disease is apparently altogether absent. It is evident that many of the mines are constantly being contaminated and that the sanitary conditions underground call for improvement.'⁷ Hence, the prevalence of hookworm infection in mining areas was accepted, but the officials remained sceptical that this would actually cause disease.

⁴ Ibid.

⁵ *RCIMI*, for the year ending 1906, p.15.

⁶ *RCLI* report, 1931, p.115 (the findings were from the mining regions in Jharia).

⁷ Ibid.

In the early 1930s, the Chairman of the Jharia Mines Board of Health of Dhanbad⁸ stated, ‘It is agreed that probably over 90 per cent of the adult labourers are infected, but owing to some cause which is not absolutely clear, though it is probably the virulent nature of the local strain of hookworm, illness (even slight illness) is produced only in a very small proportion of cases.’⁹ Earlier, however, he had referred to G.W. Thompson, a medical officer with the Jharia Mines Board of Health. Between 1921 and 1923, Thompson had carried out an investigation into the impact of hookworm in Jharia mining settlements. Among the 15,000 people examined, over 70 per cent were found to be infected with hookworm. Bhagwat Prasad Jayaswal, a representative of the Bihar and Orissa Chamber of Commerce, stated that ‘Malaria and hookworm together are the main causes of the relative inefficiency of Indian labour.’¹⁰ The existence of the disease persisted, nonetheless, beyond any recognition. In the early 1930s, J.H. Lang, the Officiating Chief Inspector of Mines in India, also discussed the relative absence of hookworm disease in Indian mines. According to his statement, some doctors had stated that there were only 21 cases of hookworm disease in the Raniganj and Jharia mining settlements.¹¹

This unwillingness to recognise occupational diseases further vindicated what Arthur McIvor and Ronald Johnston called the ‘stoical acceptance’ of health risks in mines.¹² As D.K. Nite observed, ‘Indeed, colliery employers came out with a concept of “Natural Death” that allowed the mining authority to brush aside a number of fatalities whose causes were in the mining environment.’¹³ In their attempts to convince the miners of the inevitability of death

⁸ *RCLI*, vol. 4, part 1, Bihar and Orissa with Coalfields: Written Evidence, pp. 201-202. Two Mines Boards of Health were formed in Jharia and Raniganj and they were given the responsibility to take care of health matters (mainly epidemics) and miners’ housing.

⁹ *Ibid.*, p. 199 (evidence by the Chairman, Jharia Mines Board of Health, Dhanbad).

¹⁰ *Ibid.*, vol. 4, part 2: Oral Evidence, p. 58.

¹¹ *Ibid.*, vol. 4, part 1, p. 224.

¹² Arthur McIvor and Ronald Johnston, *Miners’ Lung: A Short History of Dust Disease in British Coal Mining*, Aldershot: Ashgate Publishing Ltd, 2007, p. 19.

¹³ Dhiraj Kumar Nite, *Work and Culture in the Mines: Jharia Coalfields, 1890s-1970*, p. 113.

at work, colliery managements found it easier to turn a blind eye to occupational diseases for decades.

4.2. Recognition of Some Diseases, Denial of Others: Managing the Recognised Diseases:

The first attempt at recognising industrial diseases was made when the *Indian Workmen's Compensation Act of 1923* stated, 'There is a special type of injury that has not yet been considered; this is the contracting of diseases.'¹⁴ The term 'special types of diseases' was further explained,

These special diseases are occupational diseases, i.e., they are diseases to which men engaged in particular occupations are especially liable. And in every case in which an occupational disease is mentioned, the corresponding occupation is specified. For a workman to come under the provisions of sub-section (2), he must show not merely that he has got the disease, but also that he was engaged in the particular occupation mentioned. Further, unless the disease is anthrax, he must prove that he entered the service of his employer at least six months before, and that he has worked for no other employer during these six months. These provisions are inserted because occupational diseases (other than anthrax, which is very sudden in its onset) are almost always contracted gradually.¹⁵

Disease, in the general sense of the term, could not be classified with injuries because they did not usually appear suddenly, but would develop gradually. Nevertheless, some diseases

¹⁴ A.G. Clow, *The Indian Workmen's Compensation Act (VIII of 1923)* (hereafter IWCA), p. 60.

¹⁵ *Ibid.*, p. 61.

were given the status of occupational diseases under this Act.¹⁶ Compensation could be claimed under the Act, and was deemed payable in the event of contracting such diseases. The Act, however, left ample room for evasion: ‘If his [worker’s] occupation resulted in his developing any disease gradually, e.g., if he got consumption through working in a dusty room, or rheumatism through working in a damp place, compensation would not be payable, for no accident would have occurred.’¹⁷ In the case of coalmines, miners were exposed to the hazards caused by coal dust throughout their working lives, and the effects continued afterwards. This provision therefore made it difficult for miners to claim compensation in the cases of diseases caused by coal dust.

As the 1930s approached, this discussion acquired a more specific dimension: would the diseases incurred by miners recognised by the mine authorities as stemming from the workplace, i.e. occupational diseases? In response to a demand from the Commission to enumerate the diseases afflicting a mining area, the Indian Mining Federation presented a table to the Royal Commission that demonstrated the rate of death from various diseases (Table 4.1).

Table 4.1: Diseases and number of deaths in mining areas

Diseases	Number of Deaths	Rate per 1000 of Population
Cholera	120	0.36
Small pox	72	0.21
Plague	0	---
Fever	848	2.57
Dysentery and Diarrhoea	103	0.31
Respiratory diseases	985	2.98
Other causes	3348	10.15

Source: *RCLI*, Volume 4, Part 1, 1931, Written Evidence, p. 219

¹⁶ *Ibid.*, p. 62.

¹⁷ *Ibid.*, p. 64.

While not all categories of industrial diseases found their way onto this list, the number of deaths due to ‘other causes’ was much higher than the ‘named’ diseases. While 3348 deaths were ascribed to deaths due to ‘other causes’, the number of the so called ‘identified diseases’ taken together was 2128. These ‘other causes’ were not identified, but were left open-ended. Even more noteworthy, of the ‘identified diseases’, respiratory diseases resulted in the highest percentage of deaths. This indicates that respiratory or lung diseases affected coal miners the most. Working in mines could lead to health problems caused by continuous exposure to coal dust, but these illnesses were not accorded due importance and were not considered to be occupational diseases. As the report of the Royal Commission summed up, ‘We have no evidence to indicate that the miners suffer from the industrial disease and disabilities met with in other countries.’¹⁸

Not only were industrial diseases like ankylostomiasis said to be absent, but diseases specifically associated with mining like silicosis were not recognised by the mining authorities.¹⁹ Miners’ nystagmus was also considered to be absent; only one or two mines were said to be affected by this disease. It was claimed that pneumonia and asthma were rampant due to the nature of working underground,²⁰ but the occurrences of these diseases were not mentioned in major official reports during the time of the Royal Commission. In this context, it might be pertinent to quote from Deshpande’s report of 1946: ‘[d]iseases might not have been diagnosed due to lack of necessary apparatus.’²¹ The infrastructure required to detect major diseases was still inadequate in 1946. The prevention of these diseases thus remained beyond the abilities of the mining managements. The verdict of Deshpande’s report

¹⁸ *RCLI Report*, 1931, p. 115.

¹⁹ S.R. Deshpande, *Report on an Enquiry into Conditions of Labour in the Coal Mining Industry in India, Cost of Living index scheme*, 1946, p. 95.

²⁰ *Ibid.*

²¹ *Ibid.*

was, therefore predictable in a sense when it claimed: 'Indian mines are fortunately free from industrial diseases.'²²

Important diseases of other kinds were also left out. Though the effects of venereal diseases in mining areas were noticeable, the problem was not duly discussed. While these could not be considered typical industrial diseases, the toll they took on miners' health and productive capacities did affect the industrial production process. The prevalence of these diseases can be inferred from Table 4.2, which depicts the occurrence of gonorrhoea and syphilis in mining areas in 1925-1929.

Table 4.2: Gonorrhoea and Syphilis from 1925-29 in mining areas

Year	Gonorrhoea	Syphilis
1925	256	167
1926	287	118
1927	337	136
1928	216	150
1929	243	110

Source: *RCLI* vol. 4, part 2, Oral Evidence, 1931 p. 190.

Among the recognised diseases, cholera, smallpox and malaria received the most attention from the colonial government and mine managements. Table 4.3, presented to the Royal Commission by the Chairman of the Health Board of Jharia, had no place to record any industrial disease:

²² *Ibid.*, p. 96.

Table 4.3: Extent of Cholera and Smallpox

Year	Cholera		Smallpox	
	Cases	Deaths	Cases	Deaths
1924	1411	555	480	20
1925	945	361	698	52
1926	677	158	1133	65
1927	385	82	1479	57
1928	663	200	1526	56

Source: *RCLI*, vol. 4, part 1, Written Evidence, p. 201 (Chairman, Jharia Mines Board of Health, Dhanbad).

These recognised diseases differed from what are now known as ‘industrial diseases’ in two ways. First, their impact on the productivity of mines²³ was immediate and noticeable, unlike the gradual development of most industrial diseases. They were therefore given utmost attention by the management, while the much slower-onset diseases that did not have an immediate impact on profits remained outside the domain of disease-management. The second is the source of the disease: cholera, smallpox, and other ‘recognised diseases’ were usually traced back to the allegedly unhygienic lifestyle of the miners. This discourse of the unhygienic miner and his equally unhygienic habitat somehow side-tracked the workplace as a potential source of disease, placing the blame for illnesses on the miners themselves.

The colonial Government entrusted the responsibility of controlling epidemics—and thus ensuring smooth production—to health boards. I have already referred to the Jharia Mines Board of Health and its counterpart in Raniganj. These outfits came into being in 1912 and 1913, respectively, as an offshoot of the *Bengal Mining Settlement Act of 1912*.²⁴ The principal purpose behind the formation of these boards was to keep epidemics under control

²³ Catherine Mills, *Regulating Health and Safety in British Mining Industries, 1800-1914*, p. 3. In case of British mines, Mills has demonstrated the importance that was attached to some diseases which she termed as ‘Constitutional diseases’. She was referring to the diseases that were less widespread. In case of Indian coal mines, however, the diseases which received the state’s recognition were directly linked to the process of production.

²⁴ *RCIMI*, for the year ending 1913, p. 17.

and prevent the consequent decreases in production. Industrial diseases were not part of their purview. However, the lack of effectiveness of the boards in tackling labour crises in times of epidemics is apparent from the following statement of N.P. Thadani, the chairman of the Jharia Mines Board of Health:

until 1914 or 1915 the industry encountered great difficulties largely due to scarcity of labour and intermittent epidemics. Labour would not stay in sufficient numbers; conditions were very bad in the beginning. The Labour would get frightened, and if two or three deaths occurred at a colliery, two or three hundred workers would leave over-night quietly without permission. The consequence was that the industry was in a state of dissolution.²⁵

By 1928, however, the success of the health boards was lauded:

The health of the remaining settlements in Jharia and Raniganj coalfields continued to be good. There was a marked decrease in the number of small pox and cholera cases due largely to the activities of the Boards of Health of the Asansol and Jharia mines and the Jharia Water Board.²⁶

This success was, however, questioned by many associated with the coal industry. In 1937 Edward Cork wrote a letter to the Secretary of the Indian Mining Association lamenting the continued increase in the number of cases of malarial fever in the Jharia coalfield: the disease 'has become a matter of the utmost seriousness, and the output from the collieries in the field

²⁵ *RCLI*, vol. 4, part 2, p. 179.

²⁶ 'Output of Coal in India: Largest since 1919', *The Times of India*, 28 September, 1928, p. 7.

is affected very badly.²⁷ He was evidently unhappy with the boards' attempts to keep the disease in check.

Table 4.4 demonstrates the increase of malaria in coal mining districts—a pointer to the ineffectiveness of the Mines Boards of Health in dealing with the crisis.²⁸

Table 4.4: Malaria in coal mining districts

Year	Jharia: No. of malaria cases/ % of malaria cases of total labour force	Raniganj: No. of malaria cases/% of malaria cases of total labour force
1939	32859/ ----	13186/ ----
1940	20699/24.7	16967/30.7
1941	18323/21.1	23732/ 43.4
1942	17093/20.7	28169/ 53.6
1943	36724/45.3	37468/ 69.6

Source: S.R. Deshpande Report, 1946, pp.90-91

Although the Boards carried on anti-malarial measures until the end of 1943, this table indicates that they did not yield the desired result.²⁹ In 1944, a proposal for more stringent anti-malaria schemes was mooted. It was accepted that the outbreak of malaria in the coalfields was very serious and that it was partly responsible for the fall in production. As a first step, the advanced schemes were recommended to be undertaken in the Bengal, Bihar, Pench Valley, Korea (in Chhattisgarh) and Margherita coalfields under the general direction of the Director of the Malaria Institute of India. Due to a lack of civil staff, the responsibility for implementation of these schemes was entrusted to military anti-malaria units.³⁰ Industrial

²⁷ *Cork Collection*: Papers of Frederick Lawrence Cork, British Library, File No. MSS 194/10: General: colliery quarterly reports and cork's comments thereon; colliery inspection reports by cork (BL).

²⁸ S.R. Deshpande, *Report on an Enquiry into Conditions of Labour in the Coal Mining Industry in India, Cost of Living index scheme*, 1946, pp. 90-91.

²⁹ *Ibid.*

³⁰ *Coal Mines Rescue Rules, 1939, as modified up to May 9th, 1944*, Government of India: Ministry of Labour, Delhi: Manager of Publications, 1944, p. 7.

diseases remained absent from the disease management policies of the government, which concentrated on tackling common diseases that were more or less remote from occupational hazards.

The scenario did not change in Independent India. Jagjivan Ram, the Labour Minister of newly Independent India, for example, highlighted women's welfare, the construction of regional hospitals, and anti-malaria measures while addressing the Constituent Assembly of India on February 11, 1948 about health conditions in the Indian coalfields. Unfortunately, he did not account for problems caused by workplace diseases or the effects on mining settlements caused by these diseases.³¹ As Nite has noticed:

The mining regime took almost six decades, as in the Jharia coalfields, to recognise the presence of occupational (industrial) diseases afflicting colliers. At first, the Mines Act, 1952 recognised the eruption of some diseases like pneumoconiosis and silicosis as emerging from certain mining occupations and causing lung disabilities.³²

4.3. A 'Squalid' Mud Hut or a 'Clean and Comfortable Dwelling': Miners' Housing in Colliery Districts:

This section discusses how mine authorities identified the sources of diseases, and how workplace issues were ignored in favour of blaming the miners' housing. Throughout the history of mining in India, miners were criticised for their allegedly low sanitary standards and unhygienic lifestyles.³³ For mine owners and managers, creating and maintaining a stable

³¹ 'Welfare and Workers' Leisure', *ILO*, February 1948, p. 45.

³² D.K. Nite, 'Work and Culture in the Mines: Jharia Coalfields, 1890s-1970', p. 112.

³³ Carolyn A. Brown, 'Nigerian Coal Miners, Protest and Gender, 1914-1949: the Iva Valley Mining Community', in Stefan Berger, Andy Croll and Norman Laporte (eds.), *Towards a Comparative History of Coalfield Societies*, Aldershot: Ashgate, 2005, pp. 127-145, p. 133. Carolyn Brown talks about 'sanitation

and settled workforce was much more important than educating miners about sanitary and hygienic household habits. To achieve this end, the management decided on a policy to provide the miners with alternative, ‘sanitised’ and ‘hygienic’, accommodation in 1908. The mines Inspector hoped that, under the guidance of the managers, the miners would learn to appreciate the difference between a ‘squalid hut’—their original habitat—and the ‘clean and comfortable dwelling’—provided by the authorities.³⁴

While miners’ mud huts were deemed to be the source of all sorts of discomfort and health hazards, it is essential to examine whether the alternative, brick *dhowrahs*,³⁵ achieved the stated goals of heightening the sanitary standards of the miners and consequently improving their well being. Erecting miners’ huts was complicated by logistical problems and strategic difficulties. More often than not, colliery companies did not have proprietary rights over the land surface, which was usually owned by Zaminders or other landholders. Hence, there were limited locations available for the construction of *dhowrahs*. Most importantly, the districts around mines were not considered part of the mining area until the second decade of the twentieth century. In 1908, the Chief Inspector of Mines expressed this concern: ‘It would appear that only a complete district scheme of...control of sanitation would meet the needs of areas like the Jharia coalfield.’³⁶ It was further suggested, ‘If the law does not allow local authorities to insist upon adequate provision being made in this matter, then...the Government should amend the Mines Act to the extent of including in the word “mine” the

syndrome’ and consequent clash of the perceptions of sanitation between the workers’ preference and the colonial alternative in Enugu colliery in Nigeria. Same held true in case of Indian colliery surroundings. Enugu was the contested space with the colonial intrusion in collier’s household which often resulted in altering its essential character. Adoption of the nuclear family model with a male breadwinner gave way to the erstwhile household structure of the Enugu miners’ i.e polygynous familial structure. In Indian context, the concept of single male breadwinner was forged once the ban on women workers underground was imposed in 1929. As many women workers were out of work and a change in the structure of mining families was noticed. This has been discussed in detail in chapter II of this thesis.

³⁴ *RCIMI*, for the year ending 1908, p. 1.

³⁵ *Dhowrahs* were the one room tenements which the miners were provided with by coal mines’ authority.

³⁶ *Ibid.*, p. 16.

adjacent “dhowrahs” and villages depending on the mine.’³⁷ The committee appointed by the Bihar and Orissa government to ascertain the housing situation for labourers in the coalfields suggested in a 1917 report that legislation should be implemented to enable mine-owners to acquire surface rights for colliery purposes at a reasonable amount.³⁸ In 1918, the Indian Industrial Commission stated that the government should acquire land to provide fresh sites for industrial dwellings based on the recommendation of local bodies. The Coalfields Committee went a step further and recommended that

Every facility should be afforded to a colliery company or proprietor to acquire land under the Land Acquisition Act [1894] for the housing of labour. It is only necessary that the district authorities should be satisfied that there is no objection to the acquisition and the mineral rights are not involved. No landlord should in our opinion be able to prevent the erection of labourers’ dwellings by demanding an exorbitant price for the land required.³⁹

At the same time, the Royal Commission pointed out the difficulties involved in the implementation of its recommendations: ‘The difficulty of obtaining sites with a solid foundation is a handicap to substantial housing schemes. Subsidence caused by underground workings are constantly encroaching on suitable sites and have resulted in damage to existing accommodation.’⁴⁰

In spite of these legal hurdles, the construction of miners’ dwellings under the aegis of the mine authorities started. In Giridih, the mine authorities adopted participatory approach. The

³⁷ Ibid.

³⁸ B. Foley, *Report of the Coalfields Committee*, 1920, p. 5.

³⁹ Ibid.

⁴⁰ *RCLI Report*, 1931, p. 279.

houses were of the types usually found in Chhota Nagpur villages, with 'rooms grouped round a courtyard, mud walls and tiled roofs, mud floors plastered with a mixture of cow-dung and earth. The walls are built by the occupants themselves, the woodwork and tiles provided by the company.'⁴¹ A more top-down approach was adopted in Jharia and Raniganj, where construction was more streamlined, stringent and bureaucratic in nature, and conducted under the strict supervision of the authorities. In 1919, the Mines Boards of Health in Jharia and Asansol were entrusted with the responsibility of controlling the construction and maintenance of housing in mining settlements. Mine officials were happy about these new housing arrangements. In 1908, the Chief Inspector of Mines sounded elated: 'A gratifying feature in the Bengal coalfields is the increased number of comfortable detached dwellings of brick and tile which have been erected at many places for the mine workers. The policy of attaching the worker to the mine must have excellent results.'⁴² It was reported that in the Jharia area, 'the common type of house is the "arched dhowrah" built of brick and cement concrete; in Asansol a large number of the recently constructed houses have tiled roofs, and two-storeyed buildings are also found in a few instances. Many of the lines leave much room for improvement.'⁴³ Certain standards were specified for miners' housing. For example, the Chairman of the Jharia Mines Board of Health in Dhanbad summarised the housing standards in Jharia as: 'a) Floor space. 100 sq. ft.; (b) cubic capacity, 100 cu. ft.: (c) width of room. 8 ft.; (d) average height. 7 ft.; (e) verandah floor space. 40 sq. ft.; (f) verandah

⁴¹ Ibid, p.5, the colliery companies were primarily entrusted with the task but there were a few exceptions. One can refer to the colliery company of Giridih which supplied its workers with the necessary building materials and assigned them the responsibility of construction (1940s). The adequacy of the amount of materials can be questioned but it was an opportunity for the labouring mind to build their residence the way they could imagine or they would want albeit within considerable constraints. It was a faint chance for them to reconstruct the 'Home' they were familiar with especially when some of them had their share of experience of living in other colliery companies' coolie huts which were built by others. Hence, the strategy of the management was in a way a ray of hope and a sense of responsibility for the miners. On the other hand, the mine authority's wanted to cut down the cost of construction by entrusting the miners the task and secondly, they were trying to have a stable workforce. But this was not a widespread practice and was limited to a few collieries like that in Giridih. One can come across similar kind of a case in the context of an African mine as shown by Charles van Onselen in *Chibaro: African mine labour in Southern Rhodesia, 1900-1933*, Johannesburg: Ravan Press, 1980, p. 37.

⁴² *RCIMI*, for the year ending 1908, p. 14.

⁴³ *RCLI* Report, p. 279.

width, 5 ft.; (g) doors. 5 by 2; (h) windows; (i) adequate and independent ventilation.’⁴⁴ A survey regarding the housing condition in Asansol mining settlement was undertaken by the Mines Board between September and October 1931. The Board found out that only 30% of *dhowrahs* in the coalfield could fulfil the above-mentioned basic requirements.⁴⁵ The Asansol Board of Health also specified a minimum standard for *dhowrahs*: ‘Floor space, 96 sq. ft.; Cubic content of room, 11,000 cft; verandah, 7ft wide; Ventilation a door in front and 4 sq. ft. of opening in back wall of each room and open space in between two dhowrahs (huts), 10 ft.’⁴⁶ But the huts built by the mine managements could not fulfil these minimum standards. Even in 1946, a report noted that ‘[t]he dhowrahs which have been erected for the workers are mere apologies for homes...’⁴⁷

This scheme of providing the miners with alternative, hygienic accommodation did not proceed as planned for a number of reasons, including unplanned construction, uneven distribution, overcrowding, and most importantly the miners’ aversion and consequent resistance to changing their age-old habitat. Most of the houses built by colliery managements did not stick to the standards mentioned above. As per one government report from 1917,

Multiple defects of the existing houses were evident. Accommodation mostly did not fulfil minimum requirements. The housing area was filled with unsanitary sites. The surface was often congested and broken up by goafing. Most of the drains used to be natural ones and the number of impervious ones was very few. As far as the size of those houses were concerned, floors were not more than 5 feet square and walls being

⁴⁴ *Ibid.*, vol. 4, part 1: Written Evidence, p. 197 (Chairman, Jharia Mines Board of Health, Dhanbad).

⁴⁵ ‘Health Conditions in Asansol Coal Mines, 1931-32’, *ILO*, May 1933, p. 49.

⁴⁶ ‘Health Conditions in Jharia Coal Mines, 1935-36’, *ILO*, June 1937, p. 59.

⁴⁷ S.R. Deshpande, *Report on An Enquiry into Conditions of Labour in the Coal Mining Industry in India*, 1946, p. 32.

only 3 or 4 feet high. The average room in the ordinary pucca (brick) hut used to have a floor of about 10 feet by 8 feet and the roof was usually too low. What was more surprising was that no doors were provided.⁴⁸

The Royal Commission observed,

The arched dhowrahs although possibly cool in the hot weather, are often dark and ill-ventilated, and few are fitted with windows. The single room serves as kitchen, store room, living and sleeping room. As cooking must be done either in the room or in the arched verandah in front and ventilation is usually defective, the inner walls quickly become coated with smoke and soot. When dhowrahs are erected back to back, as is sometimes the case, these defects are further aggravated....⁴⁹

The Commission thought that the one-room tenements, ventilation and lighting found in some of the newer collieries were reasonably satisfactory. Strangely, these houses were rarely provided with windows, leading to poor ventilation.⁵⁰

B. Mitter, a representative of the Indian Colliery Employees' Association to the Royal Commission, testified that 'Although the labourers are provided with pucca dhowrahs, and the village huts are kutchas,⁵¹ the latter provides more sunshine, air and accommodation and the surroundings are much cleaner than any colliery dhowrahs. The village huts are much

⁴⁸ Government of Bihar and Orissa, *The Report of the Committee of the Enquiry Appointed to Report on the Question of the Housing of Labourers on the Collieries of Bihar and Orissa: June 12, 1917*, Patna, 1919, p. 7.

⁴⁹ *RCLJ Report*, p. 279.

⁵⁰ *Ibid.*

⁵¹ In monsoon, the miners' huts posed another trouble for them. Very often they had to encounter constant flow of water from the roof of their dhowrah which was very feebly constructed. They had to find leaves like those from Siar trees from jungle to have a temporary protection from rain. Mentioned in Shailajananda Mukhopadhyay, *Sunirbachito Kailakuthi Golposongroho*, p. 24.

more comfortable and sanitary, and labourers prefer them every time to colliery dhowrahs.’⁵²

He specifically dwelled on the issue of ventilation:

The ventilation leaves much room for improvement. The colliery owners’ claim of adequate and sufficient ventilation of the dhowrahs is not proved by facts. There are no windows in the rooms except in a very few collieries. When the door is shut, as it will be during night or on a summer day, the miners in the room hardly get fresh air....⁵³

In fact, the way these *dhowrahs* were planned and erected did allow appropriate ventilation:

The arched dhowrahs (built back to back) which appear as so many tomb-stones, do not afford proper accommodation and ventilation to the inmates, and the smoke from the cooking place in the attached arched verandah makes the place absolutely uninhabitable. Besides arched dhowrahs there are several types of dhowrahs, some of which are habitable but filthy. But in all cases no separate place has been provided for cooking purposes.⁵⁴

The sorry state of affairs also appears in the testimony of Siba Kali Bose, another representative of the Indian Colliery Employees’ Association:

I do not advocate the system, as it exists in France, where a miner and his family are given a bungalow and an attached garden, but surely the miner and his family, would

⁵² *RCLI*, vol. 4, part 1: Written Evidence, p. 189 (Evidence by B. Mitter who was representing the Indian Colliery Employees’ Association).

⁵³ *Ibid.*

⁵⁴ *Ibid.*

like to have a room separate from that of another family, instead of having to share the same room with others. These dhowrahs have no windows, so that when the doors are shut, as it will be during the cold of the night or the heat of the day, one wonders how the air will circulate. If one compares the dhowrahs with the bathrooms of the Burrahsahibs, one would certainly choose to live in the bathrooms than in these pigsties.⁵⁵

J.H. Lang, the Officiating Chief Inspector of Mines in India in 1929, observed:

The Coal Mines Regulations provide that an adequate amount of ventilation shall be constantly produced in every mine to clear away smoke and render harmless inflammable and noxious gases to such an extent that the working places and travelling roads shall be in a safe state for persons working and passing therein.⁵⁶

In other words, he stressed that the regulations did not clearly define what the adequate amount of ventilation would be,⁵⁷ and as a result the attempt to provide ventilation both in workplace and in the miners' residences varied from one mine to the other.

In 1903, some mine managers reportedly tried to improve sanitary conditions in colliery regions, but they apparently faced strong opposition from the workers themselves: 'Sonthals prefer their hovels of mud and thatch to far more sanitary pucca dwellings which most of the managers have erected.'⁵⁸ A number of collieries in Bengal supposedly included a large number of 'good, roomy and nicely arranged coolie huts' but workers were allegedly averse

⁵⁵ Ibid., p. 192 (Evidence of Siba Kali Bose, a representative of the Indian Colliery Employees' Association).

⁵⁶ Ibid., p. 224 (J.H. Lang's evidence. He was the Officiating Chief Inspector of Mines in India).

⁵⁷ Ibid.

⁵⁸ *RCIMI*, for the year ending 1903, p. 7.

to living in such places.⁵⁹ A decade later, a similar line of argument was put forward by W.C. Banerjee⁶⁰ in conversation with the Coalfields Committee. When asked whether colliery settlements should be formed just off the coalfields, he replied, '[w]e provide better living accommodation...Rather Sonthal miners and certain people do not like to live in pucca coolie lines on account of the superstitions of ghosts, etc. they prefer that new rooms with straw should be made for them at a site in the colliery selected by them.'⁶¹

4.4. 'Overcrowding' of Miners' Dhowrahs:

As per a 1917 report, the distribution of houses depended on the status of the miners, i.e. whether they were working temporarily or were permanently settled at the mines.⁶² To create a permanently settled labour force in Bengal, it was reported that 'miners were assisted in building their own houses and given fields to cultivate. Those were considered as major reasons behind successful building up of a settled workforce in Bengal.'⁶³ Evidence of the erratic and uneven distribution of existing houses and the inadequacy and scarcity of existing accommodation, especially in the busy season from November to May, abounds. The common practice in many collieries was to house the 'temporary labour'—brick-makers and earth-cutters among others—in small, temporary huts made of straw. The the Committee of the Enquiry Appointed to Report on the Question of the Housing of Labourers on the Collieries of Bihar and Orissa didn't approve of this practice: 'It is true that railway labourers are housed in such huts when employed on the construction of new lines: but a colliery is a

⁵⁹ Ibid

⁶⁰ *IMF*, annual report for 1929, p. 1: Banerjee was a reputed coal mine owner. He headed Banerjee and Co. that had a number of collieries to its credit. He was also associated with the Indian Mining Federation.

⁶¹ B. Foley, *Report of the Coalfields Committee*, 1920, p. 62.

⁶² I will discuss the issue of settled workforce in the colliery districts with more details in relation to medical benefits available to miners. See pp. 211-215.

⁶³ Government of Bihar and Orissa, *The Report of the Committee of the Enquiry Appointed to Report on the Question of the Housing of Labourers on the Collieries of Bihar and Orissa: June 12, 1917*, Patna, 1919, p. 6.

fairly permanent institution and should have permanent arrangements for housing as many labourers as are likely to be needed for its purposes.’⁶⁴

The Royal Commission also noticed the difficulties in housing mining labourers during the busy season: ‘To the great influx of labour and the deficiency of housing accommodation at certain period of the year is added overcrowding.’⁶⁵ The Commission also referred to the tendency of certain groups of coal miners to ‘crowd together in the rooms of one block rather than occupying rooms in separate or distant blocks, a tendency which it is always difficult for employers to overcome’⁶⁶ and that ‘[t]here is the further difficulty of workers on different shifts deliberately and of choice occupying one set of rooms alternately, even when others are lying vacant.’⁶⁷ These remarks sound contradictory: first the deficiency of the dwellings was acknowledged, but later it seems that a number of rooms remained unoccupied. Instances were mostly on the contrary as ‘In many cases more than one miner is accommodated in one dhowrah or house. Very frequently a man and his wife and his family, all of whom may be regarded as separate labourers in the figures of the mining population occupy one house....’⁶⁸

An All India Trade Union Congress report also shed light on the problem of overcrowding:

the single room tenement, which often harbours more than one family, has to serve as the living room, kitchen and the bed-room. The sanitary condition of such houses is generally of a low standard while the provision of separate latrine accommodation for individual housing units is impossible for obvious reasons.⁶⁹

⁶⁴ Ibid, p. 7.

⁶⁵ *RCLI* Report, p. 280.

⁶⁶ Ibid.

⁶⁷ Ibid.

⁶⁸ *RCLI*, vol. 4, part 1: Written Evidence, pp. 22-23 (final memorandum of Bihar and Orissa Government).

⁶⁹ *AITUC* subject file no. 217, 1945, ‘AITUC’s Views on the Problems of Housing for Industrial Workers’, p. 47 (NMML).

Overcrowding in the Bihar coalfields can also be discerned from a table taken from a 1947 report (see Table 4.5).

Table 4.5: Overcrowding in Bihar coalfields

Colliery	No. of houses	No. of adults per room	No. of children per room
Bhaya	58	5.6	.7
Joint Bokaro	38	5.4	1.9
Jipuh	46	5.3	.9
Khas Jharia	65	.0	2.0
Jamadoba	140	4.9	1.2
South kujawa	16	4.3	1.0
Godhar	14	3.8	1.1
Sirku	10	3.4	.6
Kusunda mayadih	13	3.0	1.4
Bhadra chak	58	3.0	1.0

Source: The Report of the Bihar Labour Enquiry Committee, Vol. II, parts A n B. p. 382 (1947).

In a 1945 report by the AITUC, the larger picture of housing arrangements in India, in general, was compared to the housing arrangements for industrial workers in general. The report referenced the Census report of 1941.

Table 4.6: Housing arrangements in India

Census year	Average number of persons per house (British India and Indian States)
1911	4.9
1921	4.9
1931	5.0
1941	5.1

Source: AITUC, Subject File 217, 1945, *AITUC's Views on the Problems of Housing for Industrial Workers*, p. 47.

This report observed: ‘During the past few decades the rate of growth in housing has not kept pace with the rise in population.’⁷⁰ Although ‘During the ten years from 1931 to 1941 the population of the country as a whole increased by 50 millions or an annual figure of about five millions’,⁷¹ the increase in houses was merely 4.8 and 8.5 millions. Increases in housing for workers lagged even further behind.

Things were not working out in the way the Health Boards or mine managements had desired. The Boards decided to eliminate non-standard *dhowrahs* in 1919, but by early 1923, ‘[i]t became clear that the three year programme was drastic having regard to the financial condition of the trade, and it was, therefore, decided to substitute a five-year programme commencing with the year 1923-24 and ending in the year 1927-28.’⁷² However, enforcement was further delayed. Subsequently, a moratorium regarding housing in colliery areas was proposed in 1926, which was supposed to take effect from April 1, 1935. The purpose of this moratorium was to ensure a basic standard for miners’ housing by remodelling or demolishing non-standard houses.⁷³ However, the moratorium did not work in favour of the workers in colliery regions, and the general impression of the Mines Board was that ‘[t]he continued granting of moratoria for the last eight years had definitely lowered the standard of labourers’ dwellings as no programme for betterment of houses was imposed on collieries.’⁷⁴ The Board decided to withdraw the moratorium in 1936.⁷⁵ Sanitary arrangements in the *dhowrahs* were also nothing to boast of. In a number of cases, the provision of latrines proved quite unhygienic. In some instances, miners were criticised for using fields instead of latrines;

⁷⁰ Ibid., p. 49.

⁷¹ Ibid., p. 50.

⁷² *RCLI*, vol. 4, part 1: Written Evidence, p. 24.

⁷³ *IMF*, annual report for 1935, p. 46.

⁷⁴ ‘Health Conditions in Jharia Coal Mines, 1935-36’, *ILO*, June 1937, p. 59. The moratorium was about remodeling or demolition of non-standard houses.

⁷⁵ Ibid.

in others, the same miners were told to use the fields because colliery companies could not provide latrines in the mining districts.

4.5. Other ‘Remedial Measures’ for the Miners: Workplace Hygiene:

The provision of latrines was not only an important component of the workers’ living space; it was equally required in the workplace, especially underground. Hours of work with no provision for latrines were the order of the day. In 1894, the Inspector of Mines stated that

Suitable latrines should be...available for underground workers where the coal is carried out to the surface and morning and evening for those females who remain in the mines all day. The slower circulation of the air, and the greater number of persons employed near together in one place makes it more necessary than in England to have underground cleaners.... I found no latrines provided for females; somewhat curiously, there were a few for male Babus.⁷⁶

Proposals of erecting latrines underground for the miners’ comfort always met with opposition. On most occasions, it was the miners’ sense of hygiene that was questioned. In 1896, it was claimed that ‘[t]he miners generally are a very ignorant and suspicious class, and dislike innovations, and various witnesses have stated that even if the Sonthal men could be induced to use latrines themselves, they would object to their women doing so, as they would consider them places of assignation.’⁷⁷ The suspicions of a certain section of miners along with their questionable sense of hygiene, amazingly, were used to rule out the necessity of underground latrines. The other major reason that erecting latrines was considered impossible

⁷⁶ *RICMI*, for the year ending 30 June, 1894, p. 93.

⁷⁷ Department of Revenue and Agriculture, *Papers Regarding Legislation for the Regulation and Sanitation of Mines in India*, 1896, p. 21.

was the difficulty ‘to get sweepers in Bengal and in the countries to the east, to get sweepers to do the work for Sonthals, Kols and Bauris.’⁷⁸ On one hand, miners’ unsanitary habits were questioned; on the other, it was claimed that ‘[t]here is as a rule no need for them (latrine) near the pit’s mouth, as there is generally plenty of open country about.’⁷⁹ The experimental introduction of latrines was attempted ‘in the East Indian Railway Collieries at Giridih but proved to be a failure.’⁸⁰ In 1917, the Enquiry Committee appointed to report on the housing of labourers in the Collieries of Bihar and Orissa, noted that ‘Latrines are not provided because there are many fields in which the miners can relieve nature as villagers do.’⁸¹ In these cases, it was the mine authority itself urging its workforce to stick to their allegedly unhygienic habits.

The Royal Commission, however, felt that collieries should have proper latrine arrangements: ‘As most of the collieries are spacious, there should be little difficulty in providing bucket latrines at convenient spots. Although at first it may be difficult to persuade the miners to make use of these conveniences, we have little doubt that in time improvements could be effected...’⁸² Latrine accommodation was found to be ‘inadequate’.⁸³ The final memorandum that the Bihar and Orissa Government submitted to the Commission observed, ‘The conditions underground in the mines are on the whole satisfactory. The galleries are generally fairly airy. There are, however, no latrines underground and no proper method of disposal of dijecta. Where sweepers are employed below, their services are unsatisfactory.’⁸⁴ Even hospitals were not provided with adequate latrines. The alternative arrangement, as described

⁷⁸ Ibid, p. 27.

⁷⁹ Ibid, p. 26.

⁸⁰ Ibid, p. 24.

⁸¹ Government of Bihar and Orissa, *The Report of the Committee of the Enquiry Appointed to Report on the Question of the Housing of Labourers on the Collieries of Bihar and Orissa on June 12, 1917*, p. 5.

⁸² *RCLI Report*, p. 115.

⁸³ Ibid, p. 280.

⁸⁴ Ibid, vol. 4, part 1: Written Evidence, p. 28 (final memorandum of Bihar and Orissa Government).

by H. Mullick, a doctor in a colliery hospital, was that ‘The sweeper attends to the helpless patients, and the patients who are not helpless go to the fields.’⁸⁵

On 3 August 1934, the secretary to the Government of India, Department of Industry and Labour, sent a letter to the local governments stating, ‘[t]he policy should be to make the provision of latrine accommodation both above and below ground universal that the most that should be conceded to the industry in view of its depressed condition was that the process of achieving the aim should be a gradual one.’⁸⁶ Most local governments were in favour of providing this facility, but they were waiting for the revival of the industry. In a letter from the Government of Assam to the Department the following January, a manager of a coal mine claimed that latrines could not be used extensively due to the scattered nature of the mining settlement. The Deputy Commissioner of Lakhimpur stated, ‘latrines are erected from time to time at the mine head but that they are not used by the labourers.’⁸⁷ In 1946, Deshpande observed that ‘“miners” apathy to use facilities always described their caste prejudices but in fact those were never properly cleaned; hence miners used abandoned areas.’⁸⁸

Thus relieving oneself at work was not made easy for the miners in Indian coalmines. Could they at least find any respite between the long hours of work? Miners were often portrayed as lazy and given to leisure. They were accused of adopting their own style and pace of work, and of taking breaks whenever they wanted to eat or rest. Thus the need for a formal or recognised break was ruled out by mine managements. In 1894, it was made clear that breaks

⁸⁵ Ibid, vol. 4, part 2: Oral Evidence, p. 363.

⁸⁶ Department of Industries and Labour, Geology and Minerals Branch, *Views of the Governments of Bihar, Orissa, Assam and Bengal on the Questions Made to the Local Governments of Coal Producing Provinces for the Provisions of Sanitary Arrangements at the Surface of Coal Mines, as a Result of the Recommendations of the Royal Commission on Labour in this Respect*, Government of India, File no. M-1265, Collection no-23, 1935 (NAI).

⁸⁷ Ibid.

⁸⁸ S.R. Deshpande, *Report on An Enquiry into Conditions of Labour in the Coal Mining Industry in India*, 1946, p. 45.

for meals or rest were not recognised for workers underground.⁸⁹ Decades down the line, these perceptions remained static and unchanged. J.H. Lang, the Officiating Chief Inspector of Mines in India, declared:

Work in Indian mines is not hard. The miner is a leisurely individual. He rests after coming down the pit. Again when he reaches the face, between the filling of tubs and after he has filled his tubs, he rests before returning to the surface. He does not work so intensively as his confrere in Europe or America.⁹⁰

At the same time, he noted the hostile working atmosphere in the mines: '[b]ut the enervating atmospheric condition and the manner in which he feeds himself may account for this.... It is unusual for an Indian miner to take his meal below ground. He usually takes a light meal in the morning and his main meal after returning to the surface.'⁹¹

As far as eating while at work, the Commission mooted a proposal to construct dining sheds for the workers. Employers objected this proposal on the pretext of caste issues and the improbability of community dining among workers. However, a women's rest house at Jamshedpur was a success, with about thirteen to fourteen thousand people using the facility every month.⁹² Curiously enough, the President and joint Secretary of the Labour Federation of Jamshedpur were taken aback at the mention of the rest house and its successful use by a number of women, exclaiming, 'It is news to us.'⁹³

⁸⁹ *RICMI*, for the year ending 30 June 1894, p. 82.

⁹⁰ *RCLI*, vol. 4, part 1: Written Evidence, p. 229 (J.H. Lang, Officiating Chief Inspector of Mines in India).

⁹¹ *Ibid.*

⁹² *Ibid.*, p. 24.

⁹³ *Ibid.*, p. 374.

The other side of this story was quite different from the official one. Miners' struggles with hunger and sleep were expressed by Siba Kali Bose, a representative of the Indian Colliery Employees' Association:

[the miner] makes the mine his home, sleeping in the mine as best as he can, his "Kamin" (carrier) carrying his meals back and forth. Not that he likes to be deprived of the fresh air or the bright cheery sunshine, but because he cannot get the proper supply of tubs and that in time. Cases are still plenty where the miner will not be out of the mine for days together.⁹⁴

Miners were also expected to work erratic hours, resulting in fatigue caused by haphazard working hours. Technically, the hours of work were part of mining regulations and were supposed to be implemented in the workplace. Bose's observations did not bear testimony to the smooth implementation of those regulations, however: 'Though the Mining Regulations limit the hours of work of a miner to 56 hours per week underground, in practice, there is no limitation to his hours of work. He goes down the mine in the morning and will not probably come out till the following morning, having to work at a stretch 26 to 30 hours.'⁹⁵

N.M. Joshi also found discrepancies in the hours that miners had to work. As per the testimony of the Indian Mining Federation, Joshi estimated that miners in coalmines run by the Federation worked '33 1/3 hours per week. He works 5 days in the week and this gives you about 6 3/4 hours a day.'⁹⁶ However, he was surprised to find that the figure the Indian Mining Association provided was much different. The Association claimed that its miners worked 4 to 5 hours a day. His question to the representative of the Federation was

⁹⁴ Ibid, p.193 (Evidence of Siba Kali Bose of the Indian Colliery Employees' Association).

⁹⁵ Ibid.

⁹⁶ *RCLI*, vol. 4, part 2, p. 271.

interesting: 'What is this difference due to? Is the miner Patriotic enough to give the Indian employer more work than to the European employer?' The reply was, 'No, it is only an estimate; it will vary.'⁹⁷ Joshi was concerned about the miners' lack of rest at workplace, suggesting, 'I should put the number of hours at 8. Let them work 6 hours a day out of those 8 hours and spend the remaining 2 hours in eating, drinking and smoking.'⁹⁸ The representative of the Federation did not sound too impressed by this suggestion, however.

4.6. Medical Benefits for the Miners: Hospitals, Dispensaries, and Sickness Insurance:

Well-rounded medical provisions in the mining areas were required to tackle the outbreak of diseases and ensure the general well being of the miners. This section is devoted to investigating what medical facilities, if any, were available to the miners and that would, in the long run, assist in tying the miners to their workspace and preventing future migration.

The medical services offered by European- and Indian-dominated collieries were different. In '[a]ll the "European" collieries, doctors, medicines and surgical appliances are kept ready for use in case of sickness and accidents.'⁹⁹ In collieries owned by Indians, such provisions appeared to be 'quite absent at the native collieries, who depend almost entirely on the local doctors...and any help it is possible to get from the Europeans.'¹⁰⁰ Even worse, in most mines the managers often acted as 'amateur doctors'.¹⁰¹ The reason for this was the lack of doctors available to work in those mines. It was claimed,

⁹⁷ Ibid.

⁹⁸ Ibid, p. 272.

⁹⁹ *RICMI*, for the year ending 1894, p. 21.

¹⁰⁰ Ibid.

¹⁰¹ Ibid.

They most often do it well, though probably they may sometimes do a little harm. It appears that the medical officers who make periodical visits to mines might do a great deal of good by advising and guiding the officials in first aid principles and work, and by giving some useful instruction, not as to how mine managers may add to their very many and onerous as well as honorary duties by becoming amateur surgeons....¹⁰²

In 1896, most of the larger mines had a native doctor of the grade of a hospital assistant attached to them, and 'some have small dispensaries, while the East Indian Railway collieries have a fine hospital. Where there is no native doctor attached, there is someone generally near...at Raniganj there is a European doctor...'¹⁰³ Not much changed over the years. Even in 1903, Some larger collieries continued had better doctors while most of the smaller, Indian-owned mines had to arrange 'for the services of the doctors employed at the neighbouring European mine.'¹⁰⁴

In 1905 it was reported that '[a]lthough 28,967 persons are employed at the mines in the Jharia coalfield, yet there is no public hospital. The principal colliery owners pay native doctors... and an English doctor, paid by the Indian Mining Association, resides in the neighbourhood.'¹⁰⁵ Even basic medical facilities to be used in emergencies eluded the miners. The nearest public hospital was nearly 57 miles away, and ambulance services had not yet made much headway in the colliery regions. The provisions for hospital and dispensary services were not really noteworthy until the advent of the First World War. Even during the war, the improvements were minimal. In 1920, it was reported that 'much remains to be done

¹⁰² *RICMI*, for the year ending 1895, p. 177.

¹⁰³ *Papers Regarding Legislation for the Regulation and Sanitation of Mines in India*, 1896, p. 23.

¹⁰⁴ *RICMI*, for the year ending 1903, p. 7.

¹⁰⁵ *Ibid.*, for the year ending 1905, p. 11.

as far as workers' welfare was concerned.'¹⁰⁶ *The Bihar and Orissa Mining Settlement Act of 1920* was supposed to strengthen the Mines Boards of Health, but fell short of their expected performance.¹⁰⁷ The Mines Boards were pressured to make arrangements for expert medical staff and sanitary officers in the colliery regions.¹⁰⁸

Things did not seem to improve a great deal in the years to come, and it was observed time and again that the medical facilities provided to the labourers were inadequate.¹⁰⁹

In many collieries the medical department is not properly equipped, and in most cases understaffed. The services of efficient and qualified doctors are only requisitioned in case of sickness among superior staff. There are no segregation huts for patients suffering from infectious diseases. Excepting a few collieries there is no drainage system for cleaning filth. Refuses are generally thrown near labourers' quarters or dhowrahs (as there being no transport arrangements for such refuses) thus making the locality insanitary.¹¹⁰

There were some positive remarks about the functioning of eight hospitals in the Jharia region, but in this overall dismal scenario, it is reasonable to test the veracity of such a statement. 'Besides these', it was claimed by B. Mitter of the Indian Colliery Employees' Association, 'at every colliery there is a dispensary, its size and scope varying with the number of workers employed.'¹¹¹ Whether this remark corresponded to the actual situation is questionable. When asked about the dispensary facilities at his colliery, M. Bhattacharji, the

¹⁰⁶ B. Foley, *Coalfields Committee Report*, 1920, p. 14.

¹⁰⁷ *IMA*, annual report for 1939-46, pp. 14-18.

¹⁰⁸ Indian Mining Federation, *Golden Jubilee Souvenir, 1913-63*, Calcutta, 1964, p. 51.

¹⁰⁹ *RCLI*, vol. 4, part 1, p. 190 (B. Mitter, the Indian Colliery Employees' Association).

¹¹⁰ *Ibid.*

¹¹¹ *Ibid.*, p. 29.

manager of the Central Junagora Colliery, stated that the workers availed the dispensary of one of the neighbouring collieries. This colliery with dispensary facilities had to serve three other collieries, which meant added pressure for the dispensary doctor. This was the case for most collieries. Sometimes the closest dispensary was so far from a colliery that it was almost impossible for a sick miner to travel that far. Inconsistency could be located in the non-recurring grants given by the Government for medical amenities in Manbhum district, for example (Table 4.7).¹¹²

Table 4.7: Government's non-recurring grants for expenditure on medical amenities in Manbhum district

Year	Amount (in Rs.)
1920-21	18,000
1921-22	24,750
1924-25	13,000
1925-26	12,000
1926-27	18,000

Source: *RCLI*, Volume 4, Part 1, p. 30.

Resorting to indigenous medicines was not only a form of miners' resistance to western medicine, but also due to a lack of choices.¹¹³ While responding to the Royal Commission, Arikshan Sinha, the General Secretary of the Bihar Provincial Kisan Sabha of Muzaffarpur district, recommended 'the engagement of Ayurvedic and Tibbi physicians at all the industrial centres.'¹¹⁴ He argued that Indian medicines would be both more acceptable to the labourers and cheaper than Western medicines. Specifically, he strongly recommended that Vaid and Hakims should be engaged to treat labourers according to the Ayurvedic and

¹¹² *Ibid.* p. 30.

¹¹³ *Ibid.* p. 247.

¹¹⁴ *Ibid.*, p. 92 (Arikshan Sinha, General Secretary, the Bihar Provincial Kisan Sabha, District Muzaffarpur).

Unani Systems, respectively.¹¹⁵ There are a number of examples that indicate the limited reach of the medical services available to a colliery or group of collieries. The Labour Federation, based in Jamshedpur, observed that ‘We would like to see medical facilities brought to the very door of the sick and the ailing.’¹¹⁶ According to this organisation, the main impediment was that ‘The medical officer may go into the towns, but as far as my information goes he does not go to the bustis.’¹¹⁷ Thus the medical officers decided to stay away from the so called insanitary *dhowrahs* of miners’.

Given the general lack of medical facilities, the absence of specialised facilities catering to specific needs like pregnancy and childbirth is not surprising. When U.P. Chatterjee, the Chief Medical Officer of the Eastern Coal Company, was asked whether the company had a female medical officer to supervise ‘maternity relief work’, his reply was negative. He relied on the services of midwives while accepting the fact that they were not medical officers.¹¹⁸ This lack of women doctors was one of the major reasons for women miners’ apathy toward seeking medical care. Women miners tended to stay away from dispensaries, even if there was one in the vicinity.

Provisions for effective hospital facilities gained some momentum during World War II with a proposal for the formation of a welfare fund for mine labourers. Accordingly, the first meeting of the Coal Mines Labour Welfare Advisory Committee took place in 1944. Although this committee made many suggestions for disease management in the colliery regions, it chose to maintain silent on the issue of occupational diseases.¹¹⁹ To improve

¹¹⁵ Ibid. Ayurvedic and Unani were Indian systems of medicine and practitioners of those systems were called Vaidis and Hakims.

¹¹⁶ *RCLI*, vol. 4, part 2, p. 385.

¹¹⁷ Ibid.

¹¹⁸ *RCLI*, vol. 4, part 1, p. 111.

¹¹⁹ ‘The first meeting of Coal Mines Labour Welfare Advisory Committee’, *ILO*, October 1944, p. 45.

healthcare facilities, the Committee suggested that the Government should ‘open one central and five feeder hospitals in outlying areas of Jharia.’ Later, the Government of India expressed a desire to open the same number of hospitals in the colliery region of Raniganj. However, these lofty proposals remained only on paper. In a meeting of the Indian Mining Association held in April 1945, the Vice-Chairman informed the members that the schemes for hospitals and housing in colliery settlements were far from being implemented. He found the Government responsible for not executing the schemes with proper follow-ups.¹²⁰ One facility that had been proposed was sickness insurance for the workers. He argued that the miners deserved such protections. But the actual situation was cloaked with numerous complications as more attention was being paid to the discussion over the classes of coal needed to be raised rather than on coal miners’ health issues. His accusations of the Government’s reluctance to implement these reforms had merit: the Advisory Committee was still found to be contemplating the construction of two central hospitals in 1949.¹²¹ Even in Burdwan, a colliery hospital was only established in 1952.¹²²

Gaps in hospital and dispensary services for factory and mining areas were discussed at a meeting of the Industrial Health Advisory Committee in 1945.¹²³ In the appendix to the minutes of a meeting of the Industrial Health Advisory Committee held in Bombay, on 11 December 1946, the lack of medical experts in factory and mining committees was highlighted and the desirability of instituting a Medical Inspectorate of Factories and Mines

¹²⁰ ‘Problems of Coal Mining Industry: Annual Meeting of the Indian Mining Association’, *ILO*, April 1945, p. 17.

¹²¹ ‘Welfare and Workers’ Leisure: Reduction in Coal Cases Opposed by Advisory Committee: Programme for Construction of Houses in 1950’, *ILO*, December 1949, pp. 44-45.

¹²² Sunilkumar Das, *Pallysmriti O Kaylakhani: A Memoirs of Village and Coal Miners*, Burdwan, Jodhan Prakashani, 2011, p. 75.

¹²³ Indian Research Fund Association, *Minutes of the Meeting of the Industrial Health Advisory Committee*, Industrial Health Advisory Committee [New Delhi], 1945 (BL). IRFA was founded in 1911 and was renamed as Indian Council of Medical Research (ICMR) in 1949.

in India, such as the one in Great Britain, was discussed.¹²⁴ The factory inspection system of the time was based on the one in the United Kingdom, but had a number of glaring loopholes. In the United Kingdom, the Factory Inspectorate was divided into two separate bodies, i.e. a General staff and a Technical staff consisting of medical, electrical engineering, chemical and textile experts. Medical responsibilities were thus entrusted to experts from that field, with medical inspectors usually assisted by the Examining Surgeon.¹²⁵ In India, however, the practice was different: there was a Chief Factory Inspector in each province, and the central government had an adviser on factory problems attached to the Labour Departments. The personnel responsible for medical issues were all engineers—‘[t]he counterpart of the Medical Factory Inspector in the United Kingdom is conspicuous by its absence (in India).’¹²⁶ The only attempt at some kind of medical inspection was the appointment of certifying surgeons by the provincial governments, but there were discrepancies even in that arrangement: not all provincial governments had full-time surgeons.¹²⁷

The report of Industrial Health Advisory Committee also recounted specific observations of medical facilities in mining districts: ‘The health organisations in established mining settlements like Coal mining—the Mines Board of Health and miner’s welfare fund—have their activities limited only to the surface and not to the environmental conditions in the mine.’¹²⁸ The limited ability of the Health Boards to address industrial diseases and other major health issues in mines was again emphasised. Deshpande’s report stated that there was ‘no standardisation as between coalfield and coalfield in regard to the manner of maintaining

¹²⁴ Ibid., p. 1.

¹²⁵ Ibid., p. 2.

¹²⁶ Ibid., p. 4.

¹²⁷ Ibid., p. 4.

¹²⁸ Ibid., p. 4.

statistics of cases treated.’¹²⁹ Moreover, in most of the case records provided by the dispensaries, over half of the cases are classified as ‘others’—making it very difficult to reach any conclusions about the incidence of various diseases in coal mining areas.¹³⁰

Another measure that could have provided succour for the sick miners was the provision of sickness insurance, which received only delayed attention from the industry. Various voluntary schemes were floating around before the Royal Commission advocated for compulsory insurance schemes provided by the employers.¹³¹ However, the provincial governments opposed the implementation of a compulsory scheme on the grounds of the ‘great administrative difficulties’ it would cause.¹³² Arikshan Sinha also ruled out the plausibility of any compulsory sickness insurance based on the ‘peculiar character of the majority of mining labourers who were primarily agriculturists and hence are of a floating type.’¹³³ He was of the opinion that the ‘migratory’ nature of the miners might defeat the purpose of the compulsory sickness insurance.

Discussion of insurance schemes which were initiated by the Royal Commission in 1931, died down gradually through the coming years until B.P. Adarkar published the *Report on the Health Insurance for Industrial Workers* in 1945. This report referred to the insurance schemes that had already been proposed by the Royal Commission on Labour in 1931, the Labour Department of the Government of India in 1941-42, and the Bombay Textiles Labour Enquiry Committee in 1940.¹³⁴ While the Royal Commission made a distinction between

¹²⁹ S.R. Deshpande, *Report on An Enquiry into Conditions of Labour in the Coal Mining Industry in India*, 1946, p. 92.

¹³⁰ *Ibid.*, p. 92.

¹³¹ *RCLI*, vol. 4, part 1, p. 48.

¹³² *Ibid.*, p. 92.

¹³³ ‘Health Conditions in Asansol Coal Mines, 1935-36’, *ILO*, December 1936, p. 71.

¹³⁴ B.P. Adarkar, *Report on the Health Insurance for Industrial Workers*, 1945, p. 1 (BL).

medical care and cash benefits,¹³⁵ the scheme proposed by the Labour Department of India made no suggestion of separating these two aspects of insurance.¹³⁶ The most crucial recommendation made in Adarkar's report was that insurance should be compulsory rather than voluntary, as '[t]he voluntary insurance movement has been found insufficient...'¹³⁷ His major concern, however, was how to classify workers into categories such as 'permanent', 'temporary', and 'casual'.¹³⁸ Unlike its predecessors, Adarkar's report stated that, '[t]he floating and migratory character of labour itself, to a large extent, [is] a consequence of the absence of social and economic security...'¹³⁹ While earlier reports had highlighted the obstacles to implementing compulsory insurance, Adarkar thought that the absence of such security acted against the interest of the workers to settle in one place.

The limited scope of Adarkar's scheme was subsequently pointed out and criticised. In June 1945, it was reported that the government was mulling over a unified scheme of social security for industrial workers in India, covering health insurance, maternity benefits and employment injury.¹⁴⁰ Earlier, in May 1945, the standing labour committee had referenced the possibility of a revised, unified labour scheme.¹⁴¹ Sir Samuel Ranganathan, part of the Indian Delegation to the 27th session of the ILC in Paris, held between October 15 and November 5, 1945,¹⁴² mentioned experts from the staff of the ILO had visited India after publication of Adarkar's report. They suggested the creation of a uniform scheme by clubbing together '[t]he health insurance scheme, employment injury and maternity benefit... in all perennial factories and that provision should be made to extend its scope to other

¹³⁵ Ibid., p. 14.

¹³⁶ Ibid, p. 15.

¹³⁷ Ibid., p. 2.

¹³⁸ Ibid., p. 24.

¹³⁹ Ibid., p. 18.

¹⁴⁰ AITUC subject file no. 6, 1945, p. 127: *Indian Information*, 15 June, 1945: Social Security for Industrial Workers: Government's Scheme, p. 807 (NMML).

¹⁴¹ Ibid., Subject File 214, 21 May, 1945, p. 29.

¹⁴² Ibid., Subject File 164, 1945, p. 45.

classes of workers at the discretion of the Insurance Fund.’¹⁴³ The AITUC wanted this scheme to be introduced immediately. As the standing labour committee explained, ‘[s]erious defects have crept into the working of the Workmen’s Compensation Act and the Maternity Benefit Acts, which cannot be removed except by means of an integral scheme of insurance.’¹⁴⁴ As a result of such deliberations, the first major step towards building a unified scheme of social security for workers was taken after Independence with the *Employees’ State Insurance Act of 1948*. This Act provided for the medical care of insured persons in the event of sickness, maternity, and employment injury, in addition to cash benefits.¹⁴⁵

4.7. Circular Migration and Miners’ Health:

In the pre-independence period, the implementation of a scheme of compulsory insurance was prevented on the grounds that the collieries lacked a settled labour force. However, the real situation seemed to be different: when interviewed by the Royal Commission in the early 1930s, the managers of some colliery companies expressed happiness with the percentage of settled labour working in the mines.

Some mine managers, especially those in charge of old established mines, however, report that a higher percentage of the labour force is now settled. Thus Lodna, which is the oldest mine in the Jharia coalfield, estimates that 65 per cent of its labour is settled even though the company has no land to give the miner. Loyabad, the second

¹⁴³ Ibid., Report of the General Secretary, January 1945 to December, 1946, p. 15 (CPI Office).

¹⁴⁴ AITUC subject file no. 214, 21 May, 1945, p. 29a (NMML).

¹⁴⁵ Labour Bureau, Ministry of Labour and Employment, *Current Problems of Labour in India*, Simla: Government of India, 1959, p. 18.

oldest mine, estimates that 50 per cent of the labour force is settled and is mostly housed in houses provided by the colliery...¹⁴⁶

Several other collieries had the same experience: ‘Standard colliery estimates that 75 per cent of its labour is settled. Bhowra colliery estimates about 50 per cent of its skilled labour and 30 per cent of its unskilled labour as settled. Bhuggutdih estimates 25 per cent is settled. The mine managers apparently mean by “settled labour” labour that works fairly regularly and pays one or two visits to its home.’¹⁴⁷

In his 1946 report, Deshpande provided a table (Table 4.8) showing the percentage of the labour force that was permanently settled in different coalfields. This table also confirms a noticeable percentage of a settled workforce in some of the Indian coal mining regions.¹⁴⁸

Table 4.8: Increasing percentage of settled workforce in Indian coal mining regions

Centre	Percentage of Settled Workforce to Total Workforce
Jharia	25-45
Bokaro	40-75
Giridih	70
Raniganj	30-50
Central provinces	40-50
Punjab	40-50
Assam	30-45

Source: S.R. Deshpande Report, 1946, p. 42

¹⁴⁶ *RCLI*, Vol. 4, part 1, p. 7.

¹⁴⁷ *Ibid.*

¹⁴⁸ S.R. Deshpande, *Report on An Enquiry into Conditions of Labour in the Coal Mining Industry in India*, 1946, p. 42.

While this percentage varied by the region and the colliery, nearly half of the working population was tied to their workplace. This indicates a remarkable percentage in the settled labour force. An AITUC report also confirmed the variations in the settled workforce of different mining areas: the percentage was 25% in Jharia and 85% in Giridih.¹⁴⁹

At the same time, Table 4.8 also shows that there was a sizeable chunk of the working population whose rural links had not been completely severed and who continued to shuttle between their village and their workplace. This was often attributed to the miners' agricultural backgrounds or the low pay of mining jobs. Mine officials often blamed miners' lack of skills and inability to learn the intricacies of mining, which forced them to keep their rural ties intact.

Historians have delved into the discussion on the nature of workers' migration in the Indian industrial sectors in colonial India. Willem van Schendel has tried to draw attention to the study of this rural-urban continuum: 'Studies of workers' culture should themselves be stretched to embrace the rural-urban continuum rather than focusing on urban neighbourhoods alone. There was a continual two-way exchange of ideas, identities, and individuals between villages and towns.'¹⁵⁰ In academic scholarship, this continuous mobility is called circular mobility.¹⁵¹ Circulation migration refers to the 'migration of rural people for various forms of work elsewhere, often returning to the place they started from.'¹⁵² While

¹⁴⁹ AITUC subject file no. 319, 5 July, 1944, p. 130 (NMML).

¹⁵⁰ Willem van Schendel, 'Stretching Labour Historiography: Pointers from South Asia', in Rana P. Behal and Marcel van der Linden (eds.), *India's Labouring Poor*, New Delhi: Foundation Books, 2007, pp. 229-262, p. 254.

¹⁵¹ Arjan De Haan and Ben Rogaly (eds.), *Labour Mobility and Rural Society*, London: Frank Cass, 2002.

¹⁵² *Ibid.*, p. 1.

Arjan De Haan locates different patterns of mobility followed by workers,¹⁵³ he also describes the main pattern of migration as circular.¹⁵⁴ In Ranajit Dasgupta's words:

The proletarian status of the large majority of mine workers was considerably modified firstly, by circular movements, as in the case of jute mill workers, between the rural areas and mining areas, but usual not involving any permanent withdrawal from either of the two areas. However, in the case of mine workers the frequency of movement was much greater and the duration of stay in the mining areas was usually much less than that of the jute mill workers.¹⁵⁵

The harvest season has historically been identified as the single most important factor behind such circulation, but this has recently been questioned by historians. Ranajit Das Gupta observes, 'It is not clear whether the miners had land of their own. It appears that most of them were landless agricultural labourers or marginal peasants working on tenanted land, both categories depending partly on wage labour in the mines. Some of them were perhaps settled in the mining area but had close links with agriculture.'¹⁵⁶ Prabhu Mohapatra, too, does not subscribe to this perception that all miners had plots of land to return to. Miners sometimes had to leave collieries for other reasons; for example, a number of small mines stopped production altogether during the monsoon.¹⁵⁷ Mohapatra also refers to the good harvest of 1917, during which the average daily employment at coal mines increased.¹⁵⁸ Anand A. Yang believes that '[s]easonal migration was more than just a strategy for peasants

¹⁵³ Arjan De Haan, 'Unsettled Settlers: Migrant Workers and Industrial Capitalism in Calcutta', *Modern Asian Studies*, vol. 31, no. 4, October 1997, pp. 919-949, p. 925.

¹⁵⁴ *Ibid.*, p. 927.

¹⁵⁵ Ranajit Das Gupta, 'Migrants in Coal Mines: Peasants or Proletarians, 1850s-1947', *Social Scientist*, vol. 13, no. 12, December 1985, pp. 18-43, p. 27.

¹⁵⁶ *Ibid.*, p. 21.

¹⁵⁷ Prabhu Prasad Mohapatra, 'Coolies and Colliers: A Study of the Agrarian Context of Labour Migration from Chotanagpur, 1880-1920', *Studies in History*, vol. 1, no. 2, 1985, pages 247-303, p. 257.

¹⁵⁸ *Ibid.*, p. 271.

to enhance their resources',¹⁵⁹ rather, '[s]easonal employment was economically beneficial not only to the travelers but also to their land-holders and money-lenders.'¹⁶⁰

Apart from economics, socio-cultural factors also spurred this kind of circular migration. For example, the Indian Colliery Employees' Association told to the Royal Commission, '[o]wing to...domestic and social functions such as child-birth, marriage. etc., all of them have not yet cut off their connection with the villages.'¹⁶¹ This is echoed by Ranajit Das Gupta: 'Dependence on agriculture was, however, not the only basis for links with the village. Religious as well as familial and social festivities such as marriages were major purposes for frequent visits to the village. All this underscored the strength of the traditional ties.'¹⁶² Festivities, familial responsibilities and other socio-cultural factors were as decisive as agricultural engagements behind workers' movements to their villages.

Job insecurity further pushed the miners to return to their ancestral villages. As the Indian Colliery Employees' Association pointed out that because of 'poor accommodation, insecurity of service, piece work (no work no pay) system...' the miners were left with little choice.¹⁶³ Ranajit Dasgupta has pinpointed the risk-laden character of mining work as a potent push factor:

Another aspect related to the conditions of work was the hazardous nature of work. In fact, mine work in all countries is full of considerable hazard, but in the Bengal-Bihar

¹⁵⁹ Anand A. Yang, 'Peasants on the Move: A Study of Internal Migration in India', *The Journal of Interdisciplinary History*, vol. 10, no. 1, Summer 1979, pp. 37-58, p. 58.

¹⁶⁰ *Ibid.*, p. 56.

¹⁶¹ *RCLI*, vol. 4, part 1, p. 181 (the Indian Colliery Employees' Association, started in 1920).

¹⁶² Ranajit Das Gupta, 'Migrants in Coal Mines: Peasants or Proletarians, 1850s-1947', p. 25.

¹⁶³ *RCLI*, vol. 4, part 1, p. 181 (the Indian Colliery Employees' Association, started in 1920).

coalfields these were greatly enhanced, for the equipment handled was primitive and the managements ignored even the most elementary safety measures.¹⁶⁴

Naina Banerjee has also commented:¹⁶⁵

Some authors like Chittaranjan Sengupta are of the opinion that the coalfields attracted migrant labour from far off places, because the local people were reluctant to work in the coal mines. The local people were aware of the hazards of working in the coal mines. They preferred to work in government offices. Therefore, the mine owners depended upon professional recruiters (arkattis) to procure labour from far off places.¹⁶⁶

4.8. Health as a Crucial Factor behind Migration:

I would add health to this list of factors behind miners' migration. Indian miners' continued migration in general, and their craving to return to their villages in particular, points to a strategy of temporary escape from the perilous and claustrophobic activities of underground coalmining. Open-air agricultural tasks might have helped them to re-energise themselves before returning to their mining lives.

Circular migration as a way to renew miners' health has not been adequately discussed in the academic discourse, but it has found takers among important mines officials. The Chief

¹⁶⁴ Ranajit Das Gupta, 'Migrants in Coal Mines: Peasants or Proletarians, 1850s-1947', p. 33.

¹⁶⁵ Naina Banerjee, 'Coal Industry in Bengal (1870-1947): Structural Changes, Capital Labour and Trade Union Movement', p. 85.

¹⁶⁶ Ibid, Chittaranjan Sengupta, 'Khoni Sramikder Artho-Samajik Obosthar Ekal- Sekal', in Nandadulal Acharya (ed.), *Asansoler Itibritta*, Calcutta, 1998, pp. 99-100.

Inspector of Mines R.R. Simpson¹⁶⁷ once explained, ‘The physique and health of the Indian worker compare unfavourably with those of the worker in colder climates. This, to some extent, is due to the enervating climate in which he lives and to the lack of nourishing food.’¹⁶⁸ However, when the Royal Commission asked him, ‘In your memorandum it is said that great efficiency will not be effected until there is a large mining population independent of agriculture; would it be to the interests of the miners to be dependent wholly on coal cutting for their living?’¹⁶⁹ Simpson expressed doubts about the feasibility of such an arrangement. He testified that, under the prevalent perilous conditions, working long stretches in the mines would prove harmful to the miners’ health. His suggestion: ‘the conditions should be improved until they are such that all the year round work in the mines will not be harmful to him. I think it would be a good thing to have settled labour when the conditions are such that a man can work at the mines all the year round without his physique being impaired.’¹⁷⁰ He further explained,

In most countries the miners work in the mine all the year round and have no other occupation. It is also the case in certain parts of India, for instance, the Khewra Salt Mines. I think the present system by which the Indian coal miner goes away preserves his physique. He goes away for a period of rest and recuperation and that keeps him fit and well. I think there are already a large number of miners who do very little agricultural work. When they go back to their villages it is more often merely for a period of rest, and the miner has to earn sufficient at the mines to support him during that rest period.¹⁷¹

¹⁶⁷ *RCLI*, vol. 4. part 2, p. 283. R.R. Simpson the Chief Inspector of Mines in India: acted as Chief Inspector in 1914 and 1920 and had been in the post of the Chief Inspector of Mines for about 10 years.

¹⁶⁸ *Ibid.*, p. 292.

¹⁶⁹ *Ibid.*, p. 293.

¹⁷⁰ *Ibid.*

¹⁷¹ *Ibid.*, p. 294.

Thus miners did not return to their village just for the harvest or for social reasons. This theme about the difficult nature of mining work became more evident when jobs in military construction were threatening to lure all of the miners away from the mines during the Second World War. In a 1944 letter to the secretary to the Government of India, Labour Department, Imperial section, N.M. Joshi suggested measures to ameliorate the crisis of labour in the coalmines.¹⁷² Apart from receiving higher pay by working on military construction projects, 'Naturally, he prefers this open-air work on higher wages, to work underground, risky and unpleasant.'¹⁷³

In addition to the forms of circulation discussed by other scholars, I argue that one crucial factor promoting miners' movement was the occurrence of accidents. Nite was observant of the 'long-term effects of a collier's experience of an accident that inflicted irreparable psychological damage....'¹⁷⁴ Miners often spent the recovery period after an accident or sickness in their villages. In fact, there were many instances in which miners were known to leave the colliery belts after falling prey to an accident. This information cropped up time and again in discussions pertaining to the payment of compensation. The procedures after an accident were complicated.¹⁷⁵ The mine managers were required to come to the site of the accident, after which they were required to send notices to the higher authorities. A more elaborate inspection would ensue. The whole process of finding the cause of the accident and deciding whether a miner was eligible for compensation was lengthy. It was difficult for a miner to wait at the mine for the whole time, especially because staying at the *dhowrah* nearby was often not possible due to the unsanitary condition there. Hence, the miners tended

¹⁷² *AITUC* subject file no. 319, 1943-44, p. 54 (NMML).

¹⁷³ *Ibid.*, p. 55.

¹⁷⁴ Dhiraj Kumar Nite, 'Slaughter Mining and the 'Yielding Collier': The Politics of Safety in the Jharia Coalfields 1895-1950', p. 113.

¹⁷⁵ A.G. Clow, *IWCA*, 1923, p. 50.

to return to their village to stay safe and in good health, although they were expected to come back to the workplace after a specified period of time.¹⁷⁶ Miners were also sometimes sent home due to illness. For example, a memoir recounts that a colliery worker fell seriously sick in 1943 at the Kaalipahari colliery of Raniganj region. He was sent back to his village because the colliery doctor suspected that he had tuberculosis and wanted to isolate him from the other workers.¹⁷⁷

Another form of health-related circulation involved women miners during their pre-natal and post-natal periods. Because there were few amenities in the mines, they usually preferred to go back to their villages to give birth, returning to the mines a few weeks later. Maternity benefits were only formalised in 1941, and even then the amount and payment procedures of those benefits were often questioned. Women miners also did not feel safe at workplace after giving birth, mostly because of the difficulty of caring for a newborn while at work.¹⁷⁸

4.9. Migration as a Tool of Negotiation for Miners:

Miners' tendency to move back and forth, as well as their alternative sources of income and professions, gave them a certain degree of negotiating capacity. These negotiations were not part of an organised movement, nor were they following a deliberate strategy of placing their demands before the colliery management. Rather, under certain circumstances and in most cases their religious beliefs played a crucial role in their approach. A report in the Times of India on January 10, 1914 referred to an article by a certain E. C. Agabeg, who reportedly had 30 years of experience in managing mines in Bengal.¹⁷⁹ Agabeg described a colliery

¹⁷⁶ Ibid., p. 51.

¹⁷⁷ Sunilkumar Das, *Pallysmriti O Kaylakhani: A Memoirs of Village and Coal Miners*, p. 57.

¹⁷⁸ S.R. Deshpande, *Report on An Enquiry into Conditions of Labour in the Coal Mining Industry in India*, 1946, p. 114.

¹⁷⁹ 'Bengal Coal Mines: The Labour Problem', *The Times of India*, 10 January, 1914, p. 12. He contributed an essay titled 'Labour in Bengal Coalmines', published in *Transactions of the Mining and Geological Institute of India*, vol. 8, Calcutta, 1915.

village where 32 families lived, with 69 children of all ages. It happened that two weeks after the settlement of this village, two of the younger children died of an illness they had been suffering from before arriving at the mines. On the death of the second child, the whole village decided to desert the mine overnight. The manager was informed; when he and his staff personally enquired into the cause of alarm, they were told that devils had entered the houses where the two consecutive deaths had occurred. The miners insisted that the only way to drive the devils away was to dig up the floor. The Manager succumbed to their demands and immediately ordered that the floor of the two houses be dug up, personally supervising the work in an attempt to assuage the miners' fears. The miners apparently believed that evil spirits would not return if once disturbed. After the floors of the houses had been filled up again and a religious ceremony—paid for by the manager—was performed, peace found its way back into the colliery village. Had he responded differently, the manager would have faced a serious loss of about 32 families, which would have hampered the production. While the miners were often condemned for their superstitions, in this instance a superstition turned out to be a weapon of negotiation with the colliery management, who did not wish to lose a large group of labourers. The management even went as far as giving in to the demands of the workers and paying for a ritual to ward off the evil spirit. The miners, on the other hand, were at the winning end of this negotiation. We cannot say that it improved their housing conditions but it definitely added to their negotiating capacity.

Sometimes health issues gave them leverage. There were cases when the miners deserted mines on a large scale due to the fear of diseases. N.P. Thadani, the chairman of the Jharia Mines Board of Health, explained that until around 1914 or 1915 the industry had encountered great difficulties due to the scarcity of labour and intermittent epidemics. He referred to occasions when '[t]he Labour would get frightened, and if two or three deaths

occurred at a colliery, two or three hundred workers would leave over-night quietly without permission.’¹⁸⁰ In fact, one of the miners’ reaction most common reactions to diseases in the surrounding regions was the mass desertion of colliery districts. Understandably, this negatively impacted the productivity of those collieries. Mine managements often ascribed miners’ desertions to rumours of disease, rather than actual occurrences. In 1906, the Chief Inspector of Mines referred to two cases of serious cholera epidemics in the coal mining districts of Bengal. He explained,

The miners, in such cases, return to their native villages, perhaps 50 miles away. And thus alarming rumours about the unhealthy condition of the mining districts are quickly spread over at least 10000 square miles of recruit grounds, and the difficulty of obtaining labour for the mines in enormously increased. In the case of the largest mines, 75% of the work people left owing to cholera, and the desertions in many other cases were most serious.¹⁸¹

According to him, ‘The loss in output could not reasonably be estimated at less than 200,000 tons of coal.’¹⁸²

Desertion was not always based on rumours; on a number of occasions, the actual spread of disease moved faster than word of mouth. R.R. Simpson reported that ‘In 1908 a very large number of mines were closed down owing to a very severe cholera epidemic.’¹⁸³ In December 1911, plague broke out in the Jharia colliery region and quickly spread to the

¹⁸⁰ *RCLI*, vol. 4, part 2, p. 179.

¹⁸¹ *RCIMI*, for the year ending 1906, p. 15.

¹⁸² *Ibid.*

¹⁸³ *RCLI*, vol. 4, part 2, p. 283.

adjoining villages of Dhanbad, Gobindapur and Chirkunda, part of Raniganj.¹⁸⁴ Again in June 1914, cholera's spread was unchecked when 'an alarming outbreak took place at the Standard Coal Company's collieries in Jharia where there was a heavy death-toll. The disease then spread to other collieries in the same neighbourhood.'¹⁸⁵ It had already been declared that 'The coal areas of Bengal, particularly the Jharia coalfield, are particularly liable to outbreaks of infectious diseases. Smallpox, plague and cholera claim a large annual toll from the inhabitants of these districts....'¹⁸⁶

The miners also faced hardships that were indirectly connected to diseases. An example:

Towards the end of the monsoon there was an outbreak of plague in the Jharia coalfield causing very serious alarm...All the houses in which cases occurred, or which seemed to be especially insanitary were burned to ground. Others were unroofed and opened to the weather, and by these means a threatened epidemic was averted.¹⁸⁷

This decision was met with huge protests, as the issue of the miners' immediate rehabilitation had not been specified. The miners strongly resented these '[d]rastic measures', and they had to be paid Rs. 50,000 as compensation for the demolition of their houses.¹⁸⁸ Hence, 'benevolent' measures of the mine managements could often cause adversities to miners. These experiences were instrumental in determining miners' migration.

¹⁸⁴ *RCIMI*, for the year ending 1911, p. 27.

¹⁸⁵ *Ibid.*, for the year ending 1913, p. 17.

¹⁸⁶ *Ibid.*, for the year ending 1908, p. 16.

¹⁸⁷ *RCIMI*, for the year ending 1905, p. 14.

¹⁸⁸ *Ibid.*

4.10. Conclusion:

The perception of employers and mine managers toward providing medical facilities for the miners was summed up by N.P. Thadani, the chairman of the Jharia Mines Board of Health, in the late 1920s: '[t]hey have regarded even the Health Board, which is the minimum, as a kind of charitable work through commiseration and sympathy with the workers.'¹⁸⁹ The little importance given to miners' health was evident. For example, representatives of the Indian Colliery Employees' Association were asked whether they were allowed to hold different kinds of meetings in colliery regions and their reply was, '[i]f we go to hold hygienic meetings and that sort of thing, they allow us, but if we go to hold trade union meetings they do not allow us.'¹⁹⁰ Two things are clear from this statement. First, the mine managements did not consider health and hygiene meetings by trade unions as perturbing as the unions' political meetings. Second and more importantly, the trade unions did not pay enough attention to the hygiene issues as they were not part of their prevalent trade union activities.

In conclusion, I would like to refer to an essay from *Dying for Work*.¹⁹¹ While commenting on the class nature of industrial disease and safety issues, the Workers' Health Bureau of America observed, 'Industrial disease crushes man as effectively as the attacks of employers.'¹⁹² It added further, 'Health is an industrial and class problem deserving the same place in his union programme as hours, wages and working conditions.'¹⁹³ Somehow the health issues of Indian coal miners were given secondary importance compared to other issues like their political agency. Health could have been a crucial category in maintaining an efficient workforce, had it been given due attention throughout the history of coal mining in India.

¹⁸⁹ *RCLI*, vol. 4, part 2, p. 182.

¹⁹⁰ *Ibid.* p. 154.

¹⁹¹ David Rosner and Gerald Markowitz, 'Safety and Health as a Class Issue: The Workers' Health Bureau of America during the 1920s', in David Rosner and Gerald Markowitz (eds.), *Dying for Work*, Bloomington, Indiana Press University, 1989, pp. 53-63. The essay delves into the issues related to the occupational health and safety in America during the 1920s.

¹⁹² *Ibid.*, p. 55.

¹⁹³ *Ibid.*

CONCLUDING REMARKS:

The principal focus of this research was to highlight the negligent attitude of the colonial state, the mine owners, and the leading coal lobbies towards safety and health standards in the colliery districts of Eastern India from the early 1890s to 1952. Although some measures were adopted for safety and health reasons, they often acted as camouflage for the hidden interests or agendas of the mine managements or the state.

A case in point was the measures adopted for to protect children and women/mothers. The colonial state recognized the need to protect the children of miners. However, for decades starting from the early 1890s, the dominant perception in official and industrial circles was that mine premises—both the surface and the underground—were not dangerous for children. Because the services of the mothers and some of the children were required, questions about the children's safety were dodged. The *Indian Mines Act of 1901* added fuel to these discussions. Schools and crèches were considered to be potential places to keep safe children while their elders were at work. The presence of children in mines continued to be debated until after the years of high demand during the First World War. Soon after this, children were removed from any kind of employment in mines in accordance with the *Indian Mines Act of 1923*. Although this restriction was supposedly for the children's safety, the following decades did not bring a reduction in the various kinds of fatal and near-fatal accidents that befell children in and around mining areas. A number of working children also turned into dependents due to this Act, but they were often deprived of rightful compensation due to complications with legislative measures like the *Indian Workmen's Compensation Act of 1923*.

Likewise, women miners were excluded from underground areas of coalmines on the pretext of safety. The process of their exclusion started in 1929 and was completed in 1946, although the original deadline was 1937. Previously, women miners had been lauded for their discipline; their services were always cheaper than their male counterparts; and they were integral to the family system of working. However, the increase in deeper mining and growing mechanisation added to the costs of production. International pressure to ban women from mines was mounting, since most of the leading coal-mining nations had already adopted the ban. All of these factors led to the implementation of the ban on underground work, and gradually they were ousted from surface jobs as well. The women found themselves unemployed, and their family structures started breaking down. The 1940s saw the passage of the *Mines Maternity Benefits Act of 1941* and *Mines Crèche Rules of 1946*. The irony was that these rules were implemented at a time when most of the beneficiaries, who were women, were no longer able to work in the collieries. At the same time, the general safety of the workplace witnessed hardly any improvement; the Indian coalmines continued to be the site of major accidents.

A probe into the discourse around colliery accidents brings to light multiple layers of debate and discussion. The initial response of the coal industry to accidents was to deem mines in India safer and less dangerous than those in many other countries, especially Great Britain. In the early twentieth century, rampant colliery accidents called for the implementation of new mining regulations, but in 1912 a change in the typologies of accidents placed most of the blame on human failures. Miners were now considered responsible for accidents, primarily, it was argued, because of their ignorance of mining principles.

This brings us to the question of training. In chapter three, I asked whether effective training was available to the coal miners so that they could hone their skills in mining. In fact, barely any attention was given to their training. In the same vein, I have raised questions about the training facilities and recruitment methods for the mine engineers, who were on responsible for safety in the coalmines. Recruitment of these engineers from the UK was not always a smooth process, often involving a range of discrepancies and a host of compromises. For example, due to a lack of choices mechanical engineers were often recruited when the requirement was actually for an electrical engineer. Furthermore, the role of these personnel in dealing with accidents was also shrouded in doubts. Professional rivalries between mine officials were often given precedence over the health of the miners due to unnecessary controversies about the cause of accidents. As a result, actual concerns about safety in the workplace were sidetracked.

Similarly, questions about the safety of the mineral were bypassed for decades, even after serious concern was expressed in the report of the Coalfields Committee of 1920. The exhaustion of coal only gained attention in the 1930s, with the Coal Dust Committee's report in 1932 and the Coal Mining Committee's report in 1937. Sand stowing as a safety measure to stop fires, collapsing roofs, and subsidence had been suggested in 1920, and was again advocated in these reports. The *Sand-Stowing Act* was then passed in 1939. However, the scope of this act was limited to safety, and the need for conservation was left out. This was only changed with the amended *Sand Stowing and Conservation Act of 1952*, which included the provision for conservation. Thus the conservation of natural resources was given the same emphasis as the preservation of human resources.

The condition of the miners in coalmines of eastern India can also be questioned from the perspective of occupational and other diseases. Diseases stemming from the workplace were not readily recognised by the colonial state, the mine managements, or the coal entrepreneurs. Although discussions of these diseases can be found in various acts and reports, ranging from the *Indian Mines Act of 1901* to the *Indian Workmen's Compensation Act of 1923*, mere recognition of them did not ensure that there would be arrangements for treatment. Diseases like cholera, malaria and smallpox, which had direct, immediate effects on production, were quickly given official recognition. The health boards in Jharia and Asansol were devoted to keeping these diseases under control.

It was not possible to claim that these diseases originated in the workplace; it was the miners' huts that official circles and mine managements identified as their source. The hygiene and sanitary standards of the workers' *dhowrahs* thereby came under the scanner, but it is unclear whether the replacement huts provided by the colliery managements fulfilled the conditions of a healthy habitat that were allegedly lacking in the miners' huts. The evidence indicates otherwise: effective ventilation and sanitation was still wanting. Other remedial measures like hospitals, dispensary facilities, and sickness insurance were equally inadequate during the colonial era.

The thesis considers the period between the early 1890s and 1952, that is, mostly during colonial rule, although a few references from the postcolonial period have been mentioned as well. This research therefore leaves scope for future research projects to delve into the health and safety issues in Indian colliery districts during the post-colonial period. Although D.K. Nite has touched

upon these themes during the post-colonial period, a micro-level study of mine safety would be a welcome addition to the existing labour historiography of workplace safety in India.

The grim scenario as to implementation of new housing schemes in collieries in the early years of postcolonial India could be located. Back to back housing schemes were left unimplemented for years. The Coal Mines Welfare Fund Advisory Committee reported, '[o]n account of the extremely difficult situation in regard to finance, all housing schemes were held up.'¹ A meeting of the Coal Mines Welfare Fund Advisory Committee was held at Dhanbad on 1 and 2 September 1950, Jagjivan Ram, Minister for Labour, presided over it. Addressing the meeting he said that housing condition in the coalfields was '[f]ar from satisfactory and that provision of houses for labour was the primary responsibility of colliery owners....'² Referring to the difficulty experienced in settling coal miners of West Bengal and Bihar in the Bhuli and Vijoyanagar townships, Mr. Ram said that over 1600 houses had been constructed at Bhuli township under the Welfare Fund...of which only 150 had so far been allotted to the miners.³ The conclusions that the Advisory Committee came up with looked quite bleak for miners. It explained:

there are no amenities in the coalfield. The dhowrahs are neither beautiful nor healthful. The labourer enjoys no privacy in his domestic life. He has to carry his personal belongings about with him (even down the mine) for fear of theft. His only pleasure is

¹ 'Welfare of Coal Miners: Advisory Body's Report', *The Times of India*, December 8, 1949, p. 7.

² Ibid.

³ 'Meeting of Coal Mines Welfare Fund Advisory Committee, Dhanbad, 1 and 2 September 1950', *ILO*, September 1950, pp. 38-39.

that which is to be purchased at the liquor shops. There is no inducement for him to remain at the colliery for a minute longer than he can help.⁴

This research has been able to throw light on some accidents that did not find a place in the official reports. For example, I have discussed some accidents involving children that were not categorised in the official literature and that remained unexplained even in the trade union circuit and the historiography on Indian coalmines. However, some accidents have remained beyond the scope of this thesis, such as ones that did not happen in the workplace, but still reflected the implications and misuse of the hierarchical structure of a coalmine. For example, in at least one instance a mine official went hunting and forced one of the coal miners to accompany him:⁵

About a week ago Mazumdar reported to me that one of his colliers had been accidentally drowned. No details were given, and I paid no further attention to the matter. But certain facts have now come to light. It seems that the collier in question went off on *Shikar* [hunting] with Benjamin, the Junior Personal Officer. A bird was shot which fell into a lake. Benjamin ordered, compelled or asked him to go in after it, as a result of which he was drowned.⁶

Relatives of the deceased held Benjamin responsible for his death and were about to lodge a complaint with the Police. It was Ray, the writer of this passage and an employee of the Indian Mining Association, who pacified the agitated relatives with an assurance of compensation from

⁴ Ibid. p. 8.

⁵ *Gordon Meredith Ray Papers*, Mss Eur F256 (Indian Civil Service, Bihar 1937-47, 1938-1949: District Officer, Sukkur, Sind province, Pakistan; resigned September and appointed Labour, Food and Recruiting Officer for Indian Mining Association at Dhanbad, Bihar until August 1956), (BL).

⁶ Ibid., Gordon Meredith Ray's Personal Diary, Mss Eur F256/12:194

Benjamin. He did not hesitate to comment that compensation was actually ‘what they are after’.⁷ He further elaborated, ‘It is surprising what wonder a Rs 100/- note will accomplish in this country. Whatever happens, a scandal, which may give the IMA a bad name, must at all costs be ended.’⁸ While this accident happened beyond the workplace, it had proved fatal and was subsequently silenced by a representative of one of the main coal lobbies. Further analysis of these kinds of accidents would undoubtedly broaden the study of mine safety in the colonial period.

A number of major colliery accidents also took place in the early post-colonial period, including the Dhori colliery disaster of 1965 was one of those. The Hindu reported on May 29, 1965, ‘In the biggest disaster in the history of Indian coal mines to date [May 28], about 275 persons were killed in an explosion that occurred at the Dhori colliery, 60 miles from Dhanbad in the Hazaribagh district.’⁹ An explosion had led to the outbreak of a fire in the mines. In 1973, a periodical from the United States lamented, ‘The families of 268 miners, who lost their lives in the Dhori mine blast, then owned by the Ramgarh Raja, have not yet received a single paisa as compensation.’¹⁰ The Chief Inspector of Mines considered the accident at Dhori colliery to be a major disaster. While reporting on the deaths and injuries in mines for the year 1965, he explained that 547 people had died and 3298 persons had been seriously injured.¹¹ The number of deaths in 1964 had been 287, and this abnormal increase in fatalities in 1965 was ascribed to

⁷ Ibid.

⁸ Ibid.

⁹ ‘Colliery Blast near Dhanbad’, *the Hindu*, 29 May, 1965, <http://www.thehindu.com/todays-paper/tp-opinion/dated-may-29-1965/article7257799.ece>.

¹⁰ *Link*, vol. 15, part 3, United India Periodicals, 1973, p. 16.

¹¹ Ministry of labour, Employment and Rehabilitation, *ARCIM*, for the year ending 31 December, 1965, (under the Indian Mines Act of 1952), New Delhi, Government of India (G.S. Jabbi was the then Chief Inspector of Mines), 1966, p. 24.

the Dhori colliery accident that cost 268 lives.¹² In this incident, the accumulation of gas had led to the deadly explosion. Ironically, the mine had been treated as a non-gassy mine by the management; even the use of naked flames had been allowed inside the mine.¹³ Further probes into such accidents would bring to light the authorities' indifferent attitude towards the effective use of technology and their negligence toward mine safety in the post-colonial era. The following is a table attempting to determine the responsibility and cause of fatal accidents in coalmines in 1965. Evidently, the government still used the colonial typologies first introduced in 1912, which placed human failures as the root cause of accidents.

Typologies of accidents, 1965

Cause	Misadventure	Subordinate supervisory staff	Management	Deceased	Co-worker	Others	Total
Various like fall of roof/ explosion/ suffocation of gases etc.	80	33	69	28	16	20	246

Source: *ARCIMI*, for the year ending 31st Dec, 1965, 1966, p. 26.

Conditions in the mines did not improve much in independent India. Hospital facilities continued to be inadequate. In 1974, it was reported by CMA news that the one central and two regional hospitals started by the Coal Mines Welfare Organisation were no longer enough.¹⁴ The hospital at Sanctoria (at Dishergarh, Asansol) was said to possess a skeletal staff, who were treating only the officers and not the miners. The outpatient department had been shut down. The scarcity of doctors had turned out to be a matter of serious concern, as the lonely life at collieries did not

¹² Ibid, p. 23.

¹³ Ibid, p. 85.

¹⁴ KP Roy, 'Towards a better Health for the Miner', *CMA News*, Eastern Division, vol. 1, no. 4, February 1974, Sanctoria, Public Relations Cell, Coal Mines Authority Limited, Eastern Division. Roy was a Senior Medical Officer.

attract qualified doctors.¹⁵ Under the law, workers were to be provided with medical facilities. This was violated with the construction of ramshackle, hut-like hospitals, without either doctors or nurses, and hardly any drugs or equipment.¹⁶

The decade of the 1970s is crucial in the history of Indian coalmines. 1971 saw the nationalisation of the non-coking coalmines, while the coking coalmines were nationalised in 1973. This signified the complete nationalisation of the coal industry in India. The reasons for the move were, first, to put an end to the continued exhaustion of coal due to unplanned mining by privately owned colliery companies and, second, to secure effective safety and health standards for the workers. However, even after nationalisation there were discrepancies in the amenities available to the miners. Further, the post-nationalisation period witnessed one of the worst accidents in the worldwide history of coalmines. On 27 December 1975, a major accident occurred at the Chasnala colliery near Dhanbad. ‘The Chasnala mining disaster killed 372 people. The coal dust explosion in the deep mine led to a blast that damaged the roof barrier with a huge water body sitting above it. Most of the deaths were because of the formidable flooding of water into the mine.’¹⁷ Hence, an examination of the condition of industrial health in Indian colliery belts after Independence—and especially after nationalisation—would highlight the points of continuity and departure in the coal miner’s precarious life.

¹⁵ Ibid.

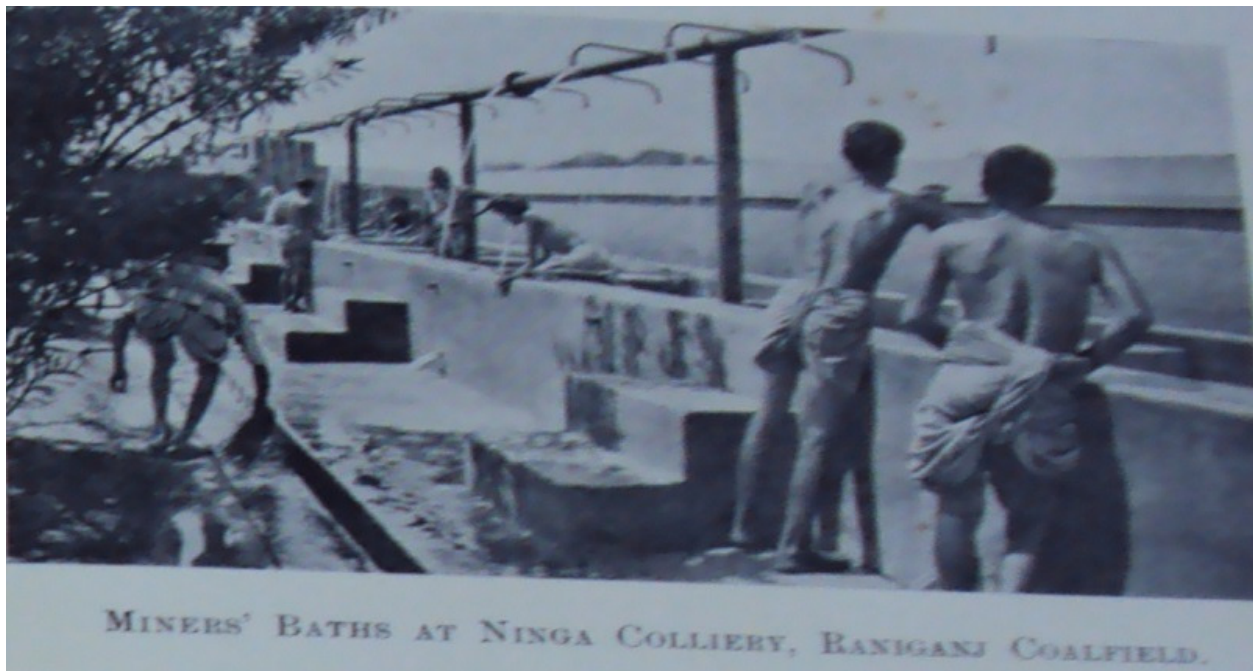
¹⁶ Ibid.

¹⁷ ‘The World’s Worst Coal Mining Disasters’, <http://www.mining-technology.com/features/feature-world-worst-coal-mining-disasters-china/>, (Accessed 14 January, 2017).

Appendix

Appendix 1

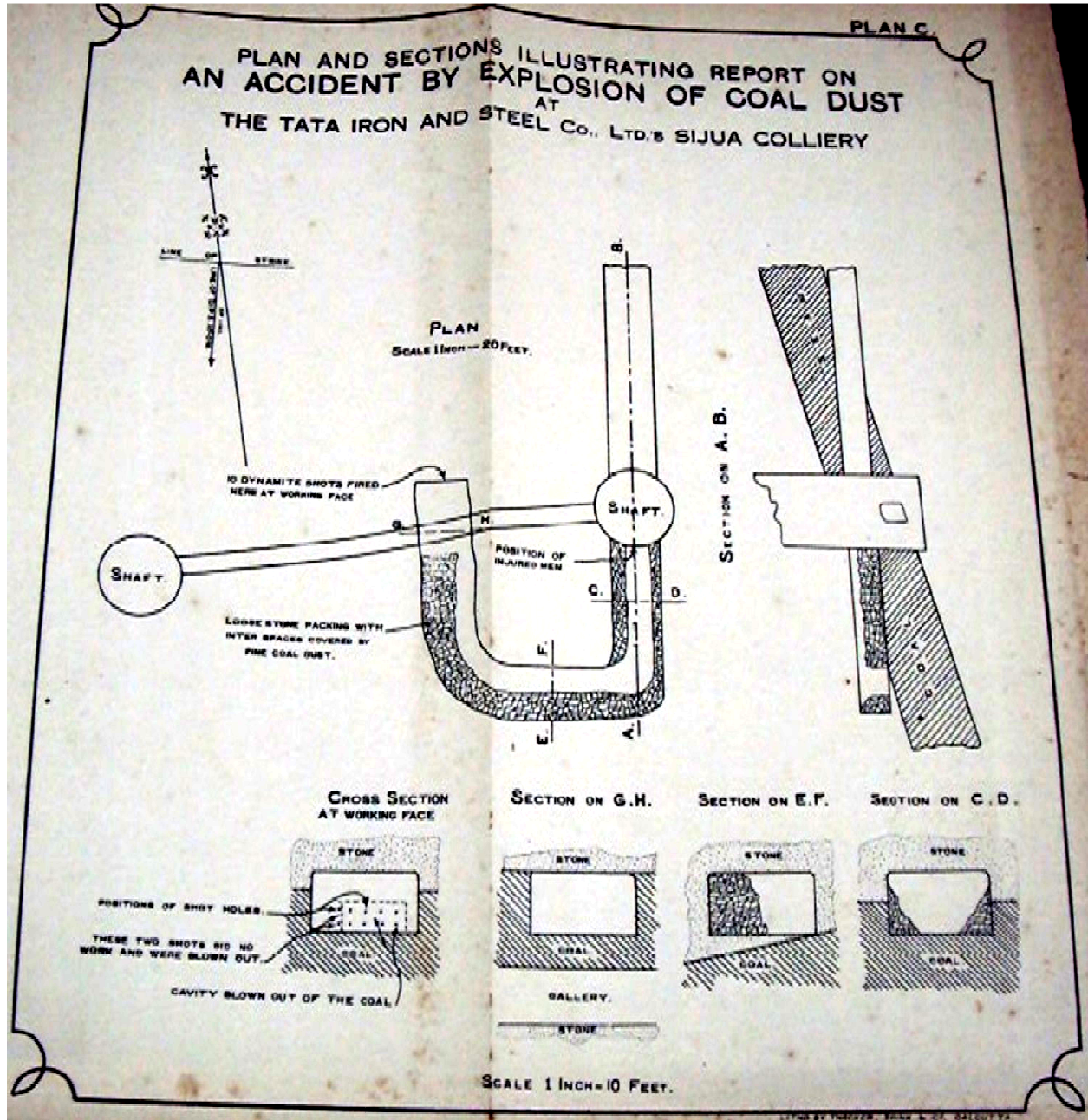
Pic 1: a Mines Maternity and Child Welfare Centre at a coalfield in Jharia. Pic 2: Miners' baths at a coalfield in Raniganj.



Source: *ARCIMI*, for the year ending 1930, p. 6.

Appendix 2

Illustration of the site of an accident caused by explosion of coal dust at Sijua, present day Jharkhand.



Source: Above: *ARCIMI*, for the year ending 1926, Plan C.

Appendix 3

Death rates during the years 1936-1945 in respect of coal mines.

Year.	Amount of coal raised.	Average number of persons working daily below and above ground.	Number of deaths below and above ground.	Death-rates.	
				Per 1,000,000 tons raised.	Per 1,000 persons working daily below and above ground.
1936	20,583,082	162,917	420	20.40	2.58
1937	22,335,528	171,149	200	8.95	1.17
1938	25,276,743	201,093	248	9.81	1.23
1939	24,662,788	201,989	249	10.09	1.23
1940	26,130,778	209,173	284	10.67	1.36
1941	26,088,573	218,230	269	10.31	1.23
1942	25,949,835	215,036	291	11.21	1.35
1943	22,447,494	213,096	290	12.92	1.36
1944	23,487,571	255,364	339	14.43	1.32
1945	26,255,210	294,902	282	10.74	0.96

Source: *ARCIMI*, for the year ending 1945, p. 93

Appendix 4

Images from my visit to an open cast coal mine at Bermo, Jharkhand in June, 2013.



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A research paper titled “**Occupational Disease, *Dhowrahs* and Migration: Coal Miners of Eastern Indian Collieries, 1900s-1940s**” has been published in the October 2016- March 2017 issue (Volume 56, Nos 3 & 4) of *the Quarterly Review of Historical Studies*, a refereed journal published by the Institute of Historical Studies, Kolkata.