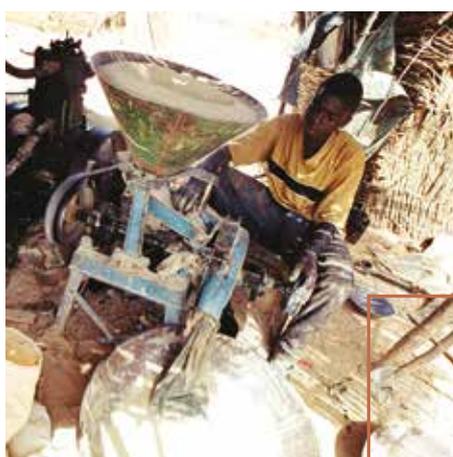




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International Migrant Workers in the Mining Sector

Mylène CODERRE-PROULX, Bonnie CAMPBELL and Issiaka MANDÉ



Labour
Migration
Branch

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by

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Foreword

Particular branches of the economy provide a significant source for work for internal and international migrants seeking temporary or permanent employment opportunities away from their home communities. In turn, migrants are a vital source of skills and labour for several economic sectors. However, the important links between migration and labour markets, including the quantity and quality of jobs, are often ignored or not well understood, nor do we know much about the diversity of situations in different sectors as concerns migrant employment. In the recent past, ILO constituents have voiced keen interest in learning more about migrant workers in particular economic sectors, and this for various reasons ranging from concern over the working conditions of migrant workers to the desire of increased cross-border labour flows with a view to improving labour allocation and gaining efficiency.

This study is part of a larger ILO effort to close knowledge gaps regarding labour issues in economic sectors where migrant workers can be found in considerable numbers, such as agriculture, construction and mining.

This report by Mylène Coderre-Proulx, Bonnie Campbell, and Issiaka Mandé (Centre interdisciplinaire de recherche en développement international et société (CIRDIS), Université du Québec à Montréal) focusses on the employment of foreign workers in the mining industry and highlights the different contexts in which labour migration to this economic sector takes place. The report provides a review of the literature documenting migrants' contribution to mining globally and identifies key trends in three regions: Africa, Latin America and Asia. Six national case studies, covering Australia, Chile, Zambia, Mali, Papua New Guinea, and New Caledonia, explore the wide range of mobility patterns related to the mining industry, including also migration flows that are stimulated indirectly by mining activities. The authors point to the fragmentation of data concerning the number and working conditions of migrant workers in the mining sector at a country and regional level. A serious lack of information exists in particular regarding workers in the low-skilled category. They call for devoting much more close attention to the issue of migrant workers in this sector, echoing the voices of selected employers, union officials and government staff who they interviewed for the purpose of this research.

This is a joint publication by the Labour Migration Branch of the Conditions of Work and Equality Department of the ILO and by the ILO's Sectoral Policies Department. We wish to express our thanks to Christiane Kuptsch, Senior Specialist in Migration Policy, and Martin Hahn, Senior Specialist Mining, Basic Metal Production, for their conception of and guidance on this project.

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Executive summary

The report entitled *International migrant workers in the mining sector* seeks to draw attention to the wide range of issues raised by the presence of foreign migrant workers in the mining industry, as well as to the very different contexts in which labour migration to this economic sector takes place. The question of international migrant workers in the mining sector covers a wide variety of patterns of mobility and, as well, raises political, legal, economic and social issues with consequences which have clearly not attracted the attention they merit. The report provides an overview of this theme but also aims to point to certain areas where information is either lacking or very fragmentary and consequently merit close attention and which clearly need further research. In order to do so, the report firstly underlines the main characteristics of the mining sector and its impact on employment. Second, a brief review of the literature on international migration is provided in order to highlight the gender and skills dimensions of migrants in current migratory flows, as well as certain of the main theoretical concepts which are proposed to apprehend these issues. In order to give a very brief overview of the very wide variation of situations pertaining to this subject across the world, this section concludes by presenting examples of academic studies and certain key trends they identify in three regions: Africa, Latin America, and Asia. The third section, which is the core of the report, illustrates the wide range of migration patterns related to the mining industry by exploring 6 national case studies which are Australia, Chile, Zambia, Mali, Papua New-Guinea and New-Caledonia.

Based on interviews with selected employers, government representatives and unions, as well as on the literature review which was conducted, this report reached a series of observations and conclusions, many of which were formulated by those interviewed, including the following:

- There is a very important lack of information concerning the number and working conditions of migrant workers in the mining sector at a country and regional level, and this is especially the case concerning low-skilled migrant workers. When data exists, the information it provides is often very fragmented and incomplete.
- When analysing international labour migration in the mining sector, it is relevant to consider also migration flows that are stimulated indirectly by mining activities because the mining industry is a sector in which direct employment multiplies indirectly the number of jobs created and these are at times and, in certain circumstances, likely to be filled by migrants from neighbouring countries.
- There is a need to distinguish between the migration of low-skilled and skilled labour in the mining sector, as the latter is most often regulated both with regard to legal migratory status and working conditions and the former much less so and in certain cases not at all.
- Among low-skilled migrant workers, there is also a need to distinguish between individual migrants and those who are hired and migrate temporarily as members of crews of workers.
- Migrant labour tends to be most present and involve the highest numbers during the construction phase of a mine's life.
- Temporary foreign labour is, in general, more vulnerable to the risks of employer exploitation than local members of the permanent work force.
- Temporary migrant workers are not always paid at current market rates for the work.
- Temporary skilled migration must not be a path to deter attention from the importance of improving working conditions in order to attract local workers and from attention which must be given to the need for local training.

- Temporary skilled migration must not become a substitute to permanent migration.
- Concerning the situation of low-skilled migrant workers, there is much that the stakeholders concerned could and need to do, for example mining companies should provide fair wages and decent and safe living conditions; should not discourage workers' unions and should ensure that they respect the human rights, particularly the labour rights, of their employees. As opposed to the situation of skilled workers where this area is usually carefully regulated, with regard to low-skilled migrant workers, governments need to ensure that they have regulations in place to protect the rights of migrant labour in their countries and ensure that they enforce these regulations.
- There is need to enhance cross-border cooperation among the States and also among the communities affected by migration.
- There is also need to strengthen the institutional capacities of the services responsible for security, health and environmental control in the artisanal mining areas.
- Issues concerning low-skilled migrant workers in the mining sector are often inextricably linked to issues of social and economic development in the countries of the sub-regions from which they originate. Consequently, they raise the broader question of the viability of current development patterns and strategies to ensure the livelihoods of the people of the countries and regions concerned. For this reasons, it is recommended in the report that the ILO encourage the creation at the level of the United Nations Economic Commission for Africa (UNECA) of a sub-regional partnership on issues concerning development and migration, specifically with regard to the mining sector.
- As migrant workers in this sector are particularly vulnerable, specific measures need to be taken such as providing facilities at borders for migrants and victims of trafficking. Special attention needs to be given the situation of youth and women. For example, information drawn from the situations in West Africa and New Caledonia suggests the need to devote an increased budgeted amount to promoting women's rights in government agencies and NGOs with regard to the elimination all forms of discrimination against women among migrant workers in the mining sector. There is also need to conduct further research related to sex migration around mining site.

It is hoped that although the overview provided in this report remains brief and in many ways incomplete, the observations and recommendations provided will serve to underline the urgent importance of devoting much more close attention to the issue of migrant workers in the mining sector.

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Introduction

In many regions of the world, the mining sector has a very significant impact on regional and national economies. The sector is characterized however by certain specific features which in turn influence its impact not only of the regions where activities take place but also on the labour patterns which it stimulates. First, as is well known, the mining industry is very dependent on global economic conditions as illustrated recently by the impact in terms of an upsurge or downturn of the emergent economies such as China and India. The variations of mineral prices and global mining production over the last decade reveal the extent to which such trends can be important. Second, attention must be drawn to the fact that activities vary widely depending on the minerals concerned whether gold, iron ore, copper, etc. Third, although one speaks of the sector, the forms which mining activities take also vary considerably and represent a continuum, which is itself evolving and ranges from highly capital intensive, very large scale operations, to small scale and artisanal mining activities. Fourth, as this industry is global in nature, the forms and patterns of activities which develop may take on quite different characteristics from one geographic area to another, depending on a wide range of factors including the nature of the regulatory frameworks in place, the manner in which local activities are integrated into global value changes, or again depending on local capacities whether with regard to institutional, technological and human resource capacities. With these characteristics in mind, among the many which could be cited, because of the major role which the mining industry plays internationally not only as a key driver of mineral wealth creation but also of employment, it plays a very important role in influencing human migration.

As in other industrial sectors, the decision to migrate is often driven by the desire of an individual to improve his or her economic condition. However in the mining sector, the duration of the employment opportunities created may vary depending on the phase of mining activity involved and the nature of the skills required. When large scale industrial mining operations are at the development or construction phase, the need for labour is high. There is a tendency for this demand to be filled by workers who are often not from the region concerned given the fact that at times mining locations may be sparsely populated. However, migrant workers may also be hired for other reasons whether economic or logistical. Consequently, the development of new mining activities very frequently stimulates both internal and international labour migration. Although the former type of migratory flow in this economic sector is important, this report will address only international migration patterns given the fact that this area is at present not at all well documented and that cross border migrations raise a wide range of political, juridical and social issues with consequences which have clearly not attracted the attention they merit.

International migration in the mining sector entails a very wide range of patterns of mobility which will be addressed in this report. In fact, the report seeks to underline the variations and specificities of the types of labour migration in the mining sector and the particular issues which they raise. For example, migration of low-skilled workers must be distinguished from that of skilled migrants, as well as intra-regional migration (between countries of the same region) which differs from overseas migration (between distant countries). Furthermore, we must differentiate between challenges arising from individual labour migration and those resulting from the migration of entire crews of foreign workers.

The report *International migrant workers in the mining sector* is divided as follows:

- The first section will provide an overview of the main characteristics of the mining sector and its impacts on employment. The second section will address firstly, the scope of international labour migration, i.e. the current major migratory flows, the gender dimension and the main theoretical explanations. It will

then outline existing information concerning mining and international migrant workers from three global regional perspectives: Africa, Latin America and Asia.

- The third section, which is the core of this report, will explore 6 case studies illustrating different specific international labour migration patterns in the mining sector. The first case study deals with temporary skilled migration in the Australian mining industry regulated through a work visa. The second case study focuses on the presence of foreign workers in the Chilean large-scale mining companies but also on regional migration flows from Peru, Bolivia and Colombia to the northern mining regions in Chile. The third case study addresses the role of large-scale copper mining in Zambia in stimulating migration from China and African countries. For its part, the fourth case study explores issues related to cross-border migrants to artisanal and small scale mining activities in Mali. The last two case studies look at imported labour by Chinese, Western and Brazilian mining companies for construction and operation phases in Papua New Guinea and New-Caledonia. Finally, the report will conclude with a summary of the research findings and a series of recommendations to the ILO's tripartite constituency: Employers and their organizations, Workers' organizations and Governments.

1. The Mining Industry – Certain characteristics

The mining industry is a vibrant and critically important economic sector in every continent of the world. It is a very diversified industry notably with regard to the type of minerals produced, the stage and scale of the operations, as well as with regard to the very different geographic, environmental, social and cultural contexts in which mining operations take place. Moreover, given the nature of its activities (extraction and processing of a raw material), the mining sector is affected in a very immediate way by any changes in global economics conditions. All of these characteristics and dimensions may have implications, either positive or negative on employment.

1.1 Recent trends in the mining industry

Since the mid-20th century, large scale mining activities have tended to shift from what are described as industrialised or developed regions to new areas where these activities were much less prevalent. Copper, gold and iron ore are by far the most important minerals in terms of the value of production. Together they account for around 70% of the total value production in mining and amongst the leading producers are China, Chile, Brazil, and Peru. With regard to others minerals, such as nickel, manganese, cobalt and silver, countries from Africa, Latin America and Asia are also among the top 3 producers. For their part, Canada, the United States, and especially Australia, remain the industrialised countries with the highest mineral production.

Figure 1: Largest producers by type of minerals

	Iron Ore	Copper	Gold	Nickel	Manganese	Cobalt	Silver
1	China	Chile	China	Philippines	South Africa	Congo-Kinshasa	Mexico
2	Australia	China	Australia	Russia	China	China	China
3	Brazil	Peru	Russia	Indonesia	Australia	Canada	Peru

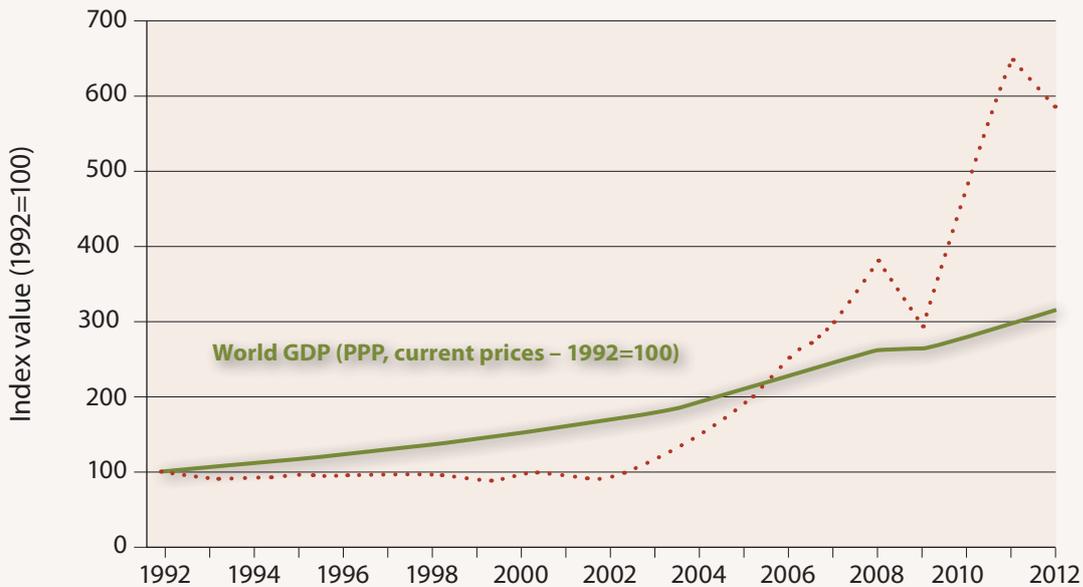
Source: U.S Geological Survey. 2015. Mineral commodity summaries 2015.

The rapid urbanization and industrialization of emerging countries, especially China, as well as population growth, have led to an increase of demand for minerals and metals and have resulted in increased investments in Latin America, Africa and Asia for mine production. The discrepancy between demand and supply has driven minerals and metals prices up. Figure 2 which traces the evolution of world mining production in the last decade shows a rapid increase from 2000 to 2008, a temporary decline after the world financial crisis, a growth phase until 2012 and a recent downward trend. The current slowdown of the Chinese economy may explain at least part of these fluctuations. Nevertheless, the International Council on Mining and Metals (ICMM) and Raw Materials Group long-term forecasts indicate that the demand of emerging economies, despite the slowdown, will remain high and also guarantee relatively high minerals prices¹. Figure 3 shows the evolution of the global consumption of metals and demonstrates clearly that Chinese demand for metals is still growing rapidly, while Indian demand is increasing but at a more measured pace. These trends

¹ Raw Materials Group and International Council on Mining and Metals (ICMM). 2014. *The role of mining in national economies*, 2nd ed, 11.

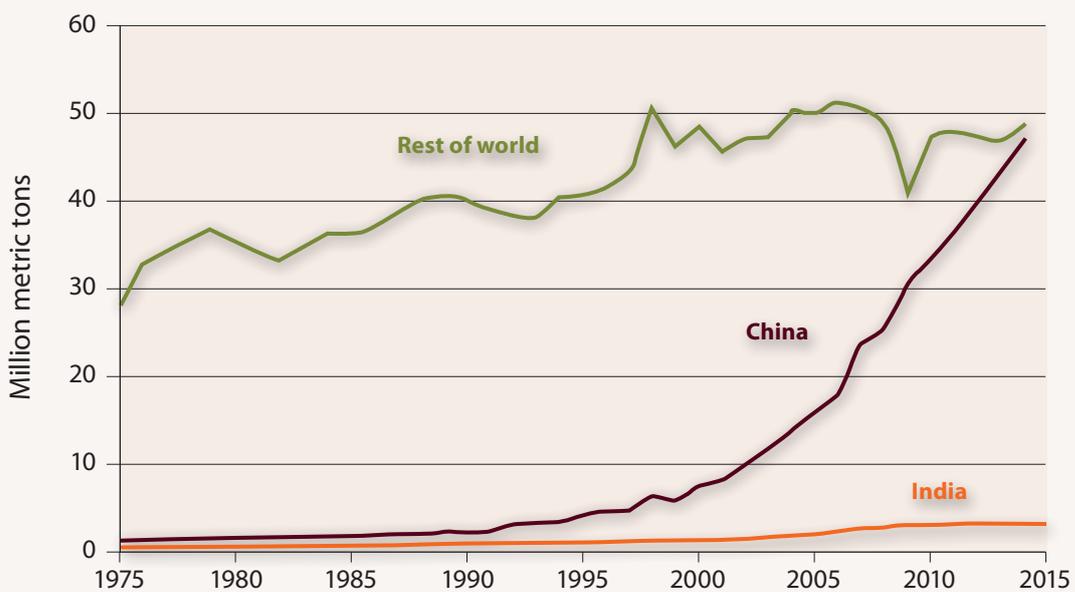
demonstrate that despite a current downturn in the sector, the demand for metals and minerals to support the development of emerging economies is still strong. Prices have fallen but not the need for minerals and metals. Thus, mining activities are likely to expand, and consequently addressing issues related to employment and labour migration become all the more relevant.

Figure 2: World GDP and mineral production



Source: ICMM. 2014. Citing Raw Materials Group and World Bank

Figure 3: Evolution of metal consumption



Source: ICMM. 2014. Citing Raw Materials Group and World Bank Source: World Bank. World Bureau of Metal Statistics. 2014. The metals are aluminium, copper, zinc, nickel, tin, and lead

1.2 Mining and employment

Today, it is estimated that the global mining industry employs 2.5 million individuals and that informal mining activities provide jobs for 15-20 million people². According to the 2002 ILO report on the employment in the mining industry, this economic sector represented no more than 1% of the global workforce because of its highly capital intensive nature. By the end of the 20th century, the evolution of direct employment in 29 selected countries showed that, except for 7 countries, all others experienced a substantial decline of jobs in their mining industry³. Reasons given to explain this downward trend were technological changes leading to a mechanization of work, and pressures for more competitiveness. However, when considering the creation of jobs indirectly related to the mining industry, the employment multiplier effect is significant. According to ICMM, creating one direct job in the mining sector may induce 3 to 5 indirect jobs. The example of Zambia, where the mining industry accounts for 16% of the total employment, shows that the multiplier effect may be even more significant for an area or country with a relatively few economic alternatives⁴.

Because of the non-renewable nature of the minerals, extractive activities have a limited life-span, the length of which varies depending on economic conditions (demand and prices) and minerals reserves. Mine life cycles have different phases that will impact on employment in the industry⁵. Nyame and Grant distinguished three stages in a mine life which are growth, decline and closure. The growth stage is characterized by two phases: exploration and development. The exploration phase concerns the search for minerals on a delimited land area. Usually, this phase lasts from 2 to 10 years and will involve a limited workforce, both skilled and low-skilled workers. The development phase requires a great variety of workers. It creates a demand for direct employment for engineers, drillers, drivers, and indirect employment in areas such as cleaning, security and administrative services. This phase will also involve infrastructural development (roads, electricity, etc.) which will also create indirect employment. The second of the three major stages reflects the fact that mining activities will ultimately stagnate or even decline. Various factors may explain this: fall of the mineral prices, mineral reserve exhaustion, high cost of production, government policies, etc. This phase is characterized by a restructuring of the mining industry. It can entail either a slowdown in mineral extraction or a modernization of mining activities in order to be more competitive. The decline will impact especially low-skilled jobs. Finally, the last stage is the mine closure which implies inevitably a loss of numerous jobs. Some workers will be able to relocate to another mine, but others, will have to redirect themselves to another economic sector. Given the fact that certain rural communities are dependent on mining activities, the negative effects of closures are even more acute. ICMM undertook a similar study by dividing the mine life cycle into five phases which are: exploration, site construction, operation, final closure and post-closure. The site construction, and to a lesser extent, the operation phase of the mine, which can last over 100 years, are the two phases during which labour needs are the highest⁶.

1.3 Scale of mining activities

The scale of operations also needs to be taken into account when analysing issues concerning mining and employment. Traditionally there have been two main categories for classifying extractive activities: industrial mining and artisanal / small scale mining (ASM). Both provide distinctive employment conditions, have different impacts on local communities, however they also influence each other.⁷ Industrial mining represents

² Raw Materials Group and International Council on Mining and Metals (ICMM). 2014. *The role of mining in national economies*, 2nd ed., 6.

³ ILO. 2002. *The evolution of employment, working time and training in the mining industry*, Report for the discussion at the tripartite meeting on the evolution of the employment, working time and training in the mining industry, Geneva. Selected countries are Australia, Argentina, Bolivia, Brazil, Bulgaria, Canada, China, Ecuador, Fiji, Germany, India, Indonesia, Japan, Kenya, Mauritius, Mexico, New Zealand, Papua New Guinea, Philippines, Poland, Romania, South Africa, Sri Lanka, Sweden, Thailand, Turkey, Ukraine, United Kingdom, United States.

⁴ Raw Materials Group and ICMM, *Op. cit.* 24.

⁵ Nyame, F.K. and J.A Grant. 2007. "Implications of migration patterns associated with the mining and minerals industry in Ghana", Conference paper, International Migration Institute.

⁶ Raw Materials Group and ICMM. 2014. *Op. cit.* 7.

⁷ B. Campbell, "Revisiting the Artisanal and Small Scale Mining Sector: An Invitation to Renew Research Strategies and Policy Proposals" forthcoming 2016 in Special Issue on ASM of *Third World Thematics*.

about 95% the total mineral production and leading mining companies of this nature are from Brazil (Vale SA), Australia (BHP Billiton Group), United Kingdom (Rio Tinto Group), Switzerland (Glencore), United States (Freeport-McMoran), and Canada (Barrick Gold)⁸. It is estimated that 2.5 million of individuals work for a large-scale mine⁹. An industrial mine may provide both positive and negative effects for surroundings communities. It stimulates direct and indirect employment, higher incomes, fiscal revenues for the state, investment in local infrastructures, training and education for workers, etc. However, it can also have negative impacts with regard to employment in non-mining sectors (downward impacts on wages and opportunities), competition for use of natural resources, potential of corruption, health risks and it may establish a culture of dependency that can be prejudicial considering the fact that mine operations will ultimately stagnate or decline¹⁰.

Artisanal and small-scale mining have drawn increasing attention since the late 1990s. There is no common accepted definition but certain studies have pointed out specific characteristics of ASM: low level of mechanization, physically demanding work, low levels of safety, health, environment and social security awareness, poor qualifications of employees, low level of productivity, seasonal or periodic operations, etc.¹¹ A 2011 report of UNECA notes: “owing to its high labour intensity, ASM is commonly acknowledged to create far more jobs per invested dollar than large-scale mining”¹². Moreover, attention must be drawn to the fact that although ASM activities concern not just hundreds of thousands but millions of workers¹³ (See figure 4), they have continued to operate most often in the absence of formal regulatory frameworks. Certain studies have estimated that more than 80% of the ASM operated outside a proper legal framework¹⁴. Instead of using the term “illegal”, some analysts prefer to use the ‘*a-legal*’ neologism, a concept coined by Nicholas Garrett and Harrison Mitchell based on the Greek privative alpha prefix to describe a situation that is only illegal because the state does not create the necessary conditions for actors to comply with the law¹⁵. For the purpose of this report, ASM will be defined as a “mining activity [whether it is *a-legal* or legal] involving the application of low, intermediate technology and universal prospecting methods, and requiring low initial investments and high employment per-unit output”¹⁶. Employment in the ASM sector has substantially grown in the last decades. In 1999, the ILO estimated that around 13 million of people were working directly in this sector. The more recent estimations for 2005 would be around 25 million direct jobs, added to 150-170 million of persons relying indirectly on this economic sector¹⁷. According to UNECA, half of these jobs are filled by women and around 2 million of children are also involved in this economic sector¹⁸. However, employment induced by ASM remains poorly remunerated and, above all, it is an economic alternative to avoid poverty. The lack of governmental regulation in this sector emphasizes health and safety risks for miners as well as environmental damages¹⁹. Considering the fact that there is a shifting of mining activities from industrialised countries to other regions, that almost all ASM takes place in areas described as developing countries, and

⁸ Raw Materials Group Data, SNL Metals and Mining, Stockholm 2015. The data are based on the share of value of world mine production of all minerals for 2013.

⁹ Weber-Fahr, M., Strongman, J., Kunanayagam, G.M, and Sheldon, C. “Mining” In *Macroeconomics and sectoral approaches*, vol. 2.

¹⁰ *Ibid.*, 47.

¹¹ See for example: Hentschel 2003, Hilson 2002, UNECA report 2011.

¹² United Nations Economic Commission for Africa (UNECA). 2011. *Minerals and Africa's Development: The International Study Group Report on Africa's Mineral Regimes*. 68-69.

¹³ According to ICMM: “ASM is a form of subsistence mining providing a direct or indirect livelihood for approximately 100 million people in the developing world. It often takes place alongside large-scale operations.” See: <https://www.icmm.com/page/84136/our-work/projects/articles/artisanal-and-small-scale-mining>. According to Hilson and Olok (2013: 139): “ASM in sub-Saharan Africa, employs at least 10 million people directly and creates jobs for many millions more in downstream industries.” The estimates of the UNECA (2011) in this area are presented in figure 4.

¹⁴ Yakovleva, N. 2007. “Perspectives on female participation in artisanal and small-scale mining: a case study in Birim North District of Ghana”, *Resources Policy*, 27, p.29.

¹⁵ De Faily et al, in Campbell et al 2013:165.

¹⁶ Hilson, G. 2002. “Small-scale mining and its socio-economic impacts in developing countries”, *Natural Resources Forum*, 26, p. 4.

¹⁷ Hruschka, F. and Echavarría, C. 2011. *Rock-solid chances: for a responsible artisanal mining*, Series on responsible ASM, Alliance for responsible mining, No.3, 8.

¹⁸ UNECA. 2011. *Op. cit.* 68.

¹⁹ Hentschel, T., F. Hruschka and M. Priester. 2003. *Artisanal and small scale mining: Challenges and Opportunities*, International Institute for Environment and Development, London.

that a huge number of individuals rely on ASM for livelihood, this scale of operation will be fully addressed in this report.

The relationship between LSM and ASM is quite frequently characterized by tensions. ASM activities often take place within the concessions of industrial companies and this often leads to land use conflicts²⁰. New initiatives, notably proposed by the ICMM and by the Government of Senegal, have shown the possibility of solutions in this area. In Senegal for example the reorganization of ASM which began in August 2012 involved an all-of-government approach, the introduction of a new regulatory framework completed on the one hand, by a decree which identified special zones which will be reserved for artisanal activities and on the other, by the adoption of procedures to regulate the sale of precious metals derived from ASM²¹. In order to arrive at this arrangement, to minimize their conflicts with artisanal miners and in exchange for a measure that would minimize risk to their operations, industrial companies were persuaded to allocate part of their concessions to artisanal miners. Furthermore, in exchange for access to secured land, the proposal involved persuading artisanal miners that they would have to obtain a permit to operate. This was done by providing public financial support to miners in order that they are in a position to obtain the necessary identification cards required as a precondition to be granted a permit.

1.4 Hazards and risks in the mining industry

Whether it is in the large or small-scale operations, the mining industry is known as a hazardous sector for all workers. According to the ILO, despite the fact that the mining industry accounts for 1% of the global workforce, 8% of the fatal accidents at work occur in this sector²². To improve working conditions, an international convention concerning safety and health in mines was adopted in 1995 and a series of codes of practice for opencast and underground mines were made available by ILO²³. The nature of the work in the mining sector exposes mineworkers to increased risks of accidents and diseases such as explosions, getting trapped underground, or lung diseases induced by mineral dust exposure. As outlined by the ILO in 2002, duration of working time is also one of the main concerns relating to employment in the mining sector. Extended working hours result in fatigue and they are highly correlated with increased risks of accidents, injuries or health problems²⁴. Remote locations of mining activities also may compromise access to health and emergency facilities. Moreover, because ASM is generally characterized by obsolete equipment and a lack of regulation, safety rules, and training of workers, risks of injuries may be higher than with regard to the activities of industrial companies²⁵. Finally, the prevalence of HIV/AIDS in mining communities, notably in Southern Africa, is another occupational health issue since infection rates tend to be higher among mineworkers than within the general population²⁶. These hazards and risks may be more acute for international migrant workers because they do not always have access to health services in the host country, especially if they are unregulated migrants.

²⁰ See Hilson. G. 2002. "The land use competition between small and large-scales miners: a case study of Ghana" in *Land Use Policy*, 19, 149-156.

²¹ See Campbell forthcoming 2016.

²² ILO. "Mining: a hazardous work" Online: http://www.ilo.org/safework/areasofwork/hazardous-work/WCMS_356567/lang--en/index.htm (Accessed on October 19th 2015).

²³ See: http://www.ilo.org/safework/industries-sectors/WCMS_219026/lang--en/index.htm.

²⁴ ILO. 2002. *The evolution of employment, working time and training in the mining industry*, Report for the discussion at the tripartite meeting on the evolution of the employment, working time and training in the mining industry, Geneva, 17.

²⁵ ILO. 1999. *Social and labour issues in small-scale mines*, Report for the discussion at the tripartite meeting on social and labour issues in small-scale mines, Geneva, 16.

²⁶ ILO. 2002. *Op. cit.* 56-57.

2. The Mining Industry and International Migration

2.1. International labour migration

Before exploring issues of international migration in the mining industry, it is useful to briefly identify current international labour migration patterns and their distinctive characteristics as these are evolving rapidly. For the purpose of this study special attention will be given to the patterns which are most relevant for the sector under examination.

According to the most recent estimates by UNDESA, there were 244 million international migrants in the world in 2015²⁷. ILO global estimates published in December 2015 recorded some 150 million migrant workers, of which 55.7% were men and 44.3% were women²⁸. If South-North migratory flows explain the increase in international migration during the 1990-2000 period, since 2000, South-South migration tends to have grown in importance. 57% of international migration from 2000 to 2013 took place within Southern countries²⁹. In 2004, the ILO estimated that 10% to 15% of the world's immigrant population was composed of irregular migrants. Irregular migrants refer to all migrants crossing borders into or working in a host country without a legal authorization³⁰. Irregular migration is mainly associated with South-North migration, but it is also a widespread phenomenon in developing countries, especially those with a common border. Difficulties for obtaining travel documents, lack of resources for managing borders, unclear or unapplied immigration rules, and the importance of the informal sector in national economies are all factors that contribute to the expansion of irregular migration³¹. This situation is rather paradoxical in view of the fact that the United Nations and all the international organizations have drawn attention to the need to prioritize the human development aspects of international migration³².

Regulated international migration in the mining sector, especially in industrialised countries such as Canada and Australia, concerns mainly high-skilled migrants. This characteristic applies also to an increasing number of countries of the South in which the rapid development of natural resources takes place in situations in which the institutions of learning and training are undergoing a series of crises and have difficulty setting up the specialised training courses required to meet the needs created by the extractive industries. The issue of mobility in the various sub-regions is an important consideration for the different subsidiaries of the mining companies. If all economic sectors are considered, high-skilled migration to OECD countries showed a significant increase of 70% between 2000 and 2013. Around 20% of high-skilled migrants in OECD countries are from India, China and the Philippines. Oceania and Europe are the regions of the world where the age of migrants is the oldest. Median ages are respectively 43 and 42 years of age in those two regions while it is 37,

²⁷ For these estimates, an international migrant is defined as a person living in another country than his or her country of birth for 12 months or more. UN Population Division, *International migration stock: The 2015 revision*: <http://www.un.org/en/development/desa/population/migration/index.shtml>.

²⁸ ILO Global estimates on migrant workers, December 2015.

²⁹ North and South are distinguished by the Human Development Index (HDI). Northern countries refer to all countries with a high HDI and Southern countries are all with low and medium HDI.

³⁰ ILO. 2004. *Towards a fair deal for migrant workers in the global economy*, International Labour Conference, 92nd session, 11.

³¹ Ratha, D. and Shaw, W. 2007. *South-South Migration and Remittances*, World Bank Working Paper, No. 102, 26-27.

³² Here, we can raise the issue of migration and development that has drawn the attention of United Nations since 2006 through High-Level Dialogue on Migration and Development. See: <http://www.un.org/fr/ga/68/meetings/migration/about.shtml>.

ILO also stresses the importance of migration dynamics for the world economy while rejecting the uni-dimensional approach of "utility-maximizing" immigrant workers. See: http://www.ilo.org/ilc/ILCSessions/103/reports/reports-to-the-conference/WCMS_242879/lang--en/index.htm and de Haas, H. 2009. "Migration and human development." *International Migration Institute, Working Paper* No. 14. University of Oxford.

34 and 29 in Latin America, Asia and Africa³³. Although no universal definition has been accepted, it is generally agreed that high-skilled migrant workers have “a university degree or extensive / equivalent in a given field”³⁴. As mentioned by Cerna³⁵, qualified migrant work in industrial sectors where international competition is higher and consequently where the specific skills of migrant workers contribute to the competitiveness of the company. The demand for migrant workers with qualifications is also closely linked to the economic situation and the demographic structure of the host country. An ageing of the population combined with low birth rates can contribute to making the available workforce scarce in some economic sectors, such as the mining industry. Accordingly, global competition for qualified foreign workers can contribute to a liberalization of immigration policies for this category of migrants³⁶. Educational level, financial situation, as well as professional skills of migrant workers make them less vulnerable to economic fluctuations and restriction of immigration policies than low-skilled migrants. Indeed, there are fewer obstacles for high-skilled migrant workers to finding a new job in the same industry, to change sector of employment, and even to migrate to another host country or to return to the country of origin. As could be expected, this category of migration is characterized by a strong mobility and more flexibility³⁷ which may result in the creation of a system of circulatory migrations characterised by specific mechanisms³⁸. In view of the fact that the State is not the only regulator of migration in the current context of globalisation and regionalisation³⁹, rather than viewing migratory flows as a unidirectional phenomenon (from an origin to a host country), the term “migration field” takes into account all geographic spaces included in migratory paths (departure, transit, arrival, return, etc.)⁴⁰. For example in her study of the migrations of the diamond merchants originally from the Senegal River region in West Africa (Guinea, Sierra-Leone, Liberia, Côte d’Ivoire) and in Central Africa (Congo, Zaïre, Zambia, Angola), Sylvie Bredeloup⁴¹ documents complex itineraries involving social transformations and mutations of the identities of the migrants, including their insertion into the international commercial networks of precious stones dominated by other diasporas (Jewish, Indian, etc.). She analyses as well the changes which these migrants provoke through their investments in different regions (that of their departure) but also in different activities, for example in the real estate sector in Dakar, the Senegalese capital.

Low-skilled migrants in the mining sector are commonly found in artisanal and small-scale mines and have a greater propensity to be in an irregular situation. There are also many migrants occupying low-skilled jobs in large-scale mining activities. They can be either in a regular or irregular situation. Just as is the case in high-skilled migration, low-skilled migration is also defined by the education level of migrants. When using the term low-skilled migration, the OECD refers to “those whose educational level is less than upper secondary”⁴². In comparison with high-skilled migration, low-skilled migration to OECD countries increased by only 12% from 2000 to 2013⁴³. This means that the increase in migrant workers towards developed countries in the past few years has relied more on skilled-migration. Low-skilled migrants tend to occupy jobs in specific sectors such as: transportation, agriculture, construction, mining, fishery, hotels, catering, etc. The preva-

³³ OECD. 2013. *Les migrations internationales en chiffres*, Contribution conjointe des Nations Unies / DAES et de l’OCDE au Dialogue de haut niveau sur les migrations et le développement, 3-4 octobre 2013.

³⁴ Iredale 2001 and Salt 1997 cited in Cerna, L. *Policies and practices of highly skilled-migration in times of the economic crisis*, International Labour Organization, 1.

³⁵ Cerna, L. 2010., 1.

³⁶ Duncan, N. and Waldorf, B. 2010. “High-skilled immigrant recruitment and the global economic crisis: the effects of immigration policies” Working paper, Department of Agricultural Studies, Purdue University, USA.

³⁷ *Ibid.* 8.

³⁸ In Burkina Faso, for instance, “migration means that despite an absence during one season or even a few years, the family is not deprived permanently of the migrants’ workforce. In Burkina Faso, as elsewhere, heads of family encourage young migrants to return home by controlling marriage arrangements, land and cattle distribution as well as material goods” (translation by the author) in Piché V., Cordell, D. D. 2015. *Entre le mil et le franc: un siècle de migrations circulaires en Afrique de l’Ouest. Le cas du Burkina Faso*, PUQ.

³⁹ See Castles 2009 and Faist 2000.

⁴⁰ For the concept of migration field, See Simon 2002, 2006, 2008.

⁴¹ Bredeloup S. 2007. *La Diam’spora du fleuve Sénégal. Sociologie des migrations africaines*, Toulouse, Presses Universitaires du Mirail, 301 p.

⁴² OECD. 2008. *Management of Low-Skilled Labour Migration*, International Migration Outlook, Part II, 127.

⁴³ OECD. 2013. *Les migrations internationales en chiffres*, Contribution conjointe des Nations Unies / DAES et de l’OCDE au Dialogue de haut niveau sur les migrations et le développement, 3-4 octobre 2013.

lence of low-skilled migrants in some economic sectors of affluent countries can be explained more generally by the ageing trends of the population but also by the fact that low-wage, low-status, and physically difficult jobs are abandoned by the native labour force⁴⁴. Because of the less pronounced economic gap and, in most cases, geographic proximity, the overall picture of low-skilled migration within developing countries is obviously different. As stated in a 2007 World Bank report, migration between developing countries is likely to be less costly for migrants since the distances are shorter, social ties may be more developed, and administrative regulations, when existents, are not always applied rigorously⁴⁵.

The gender dimension of international migration is a growing concern as nearly half of international migrants are women. Traditionally, migration studies addressed gender dimensions mainly from the perspective of wives accompanying their husbands rather than women as migrants themselves partly because of social and gender division of labour⁴⁶. Since the 1980s, migration theories have filled the gap by developing a more comprehensive view of the role of women in international migration. The awareness of international bodies was raised by the report of the UNFPA, *State of World Population 2006: A passage to Hope: Women and International Migration*. This report has revealed the importance of female migration, impacts of funds sent home to help their families, and their vulnerability to trafficking, exploitation and ill-treatments⁴⁷. Boyd and Grieco suggest that there are three stages in which the gender factor may influence migration pattern⁴⁸: 1) the stage of pre-migration where the status of women in their country of origin, as well as in their family and social environment, could influence their likelihood to migrate; 2) the stage of transition across state boundaries which raises the issue of all national policies of sending and receiving countries as well as intermediary institutions (such as companies) which contribute to defining the role of the women as migrants; 3) finally, the stage of post-migration which includes all social and economic integration issues in the receiving community affecting women and men differently. For example, Massey, Fischer and Capoferro demonstrated, in an analysis of the migration of women in Latin America, that systems of gender relations may affect emigration rate. Within patriarchal societies, such as Mexico and Costa Rica, women are less likely to emigrate in comparison with matrifocal systems of gender relations in Dominican Republic and Nicaragua, where the migration of women was higher than in Mexico and Costa Rica, and in some cases, it was even higher than male migration rates⁴⁹. Thus, the proportion of women in international migration flows varies among geographical regions. In Europe, Latin America, North America and Oceania, percentages of migrant women tend to be higher than in Africa and Asia⁵⁰. Women migrants are more likely to migrate for family-related motives than labour-related motives. However, it appears that female migrants in OECD countries are not less skilled than male migrants. The percentage of women having a tertiary degree is only 3% below that of men. Nevertheless, women are usually relegated to low-status sectors such as domestic and sex industries. Kofman and Raghuram show that foreign-born women are more likely to be overqualified for their jobs than men. Skill recognition seems more accurate for women than men, but also highly-skilled jobs tend to be reserved for men rather than women⁵¹. Indeed, skilled-labour migration concerns especially sectors where the masculine workforce is overrepresented such as engineering, mining, or information and communication technologies.

A large body of literature provides explanations for factors motivating international migration. For a long time, neo-classical economic approaches were the main theoretical currents used to analyse international migration flows. They are based on macroeconomic assumptions that migrations are the expression of the

⁴⁴ *Ibid.* 132.

⁴⁵ Ratha, D. and Shaw, W. 2007. *South-South Migration and Remittances*, World Bank Working Paper, No. 102.

⁴⁶ Stichter, S., 1985. *Migrant Laborers*, Presses de l'Université de Cambridge, pp. 144-78.

⁴⁷ UNFPA. 2006. *A passage to Hope: Women and International migration*. Online: <http://www.unfpa.org/publications/state-world-population-2006> (Accessed on November 22 2015).

⁴⁸ Boyd, M. and E. Grieco. 2003. *Women and migration: incorporating gender into international migration theory*, University of Toronto and Migration Policy Institute.

⁴⁹ Massey, D.S, Mary. J. Fischer and C. Capoferro. 2006. *International Migration and Gender in Latin America: A comparative analysis*, *International Migration*, vol. 44, No.55, 63-91.

⁵⁰ OECD. 2013. *Les migrations internationales en chiffres*. Respectively: 51,9%, 51,6%, 51,2%, 50,2%, 45,9%, 41,6%.

⁵¹ Kofman, E. and P. Raghuram. 2009. "Skilled female labour migration", *Focus Migration*, Policy Brief, No. 13, April 2009.

balance between supply and demand in the labour market or based on microeconomic postulates asserting that migration is a result of an individual rational choice resulting from a cost benefit calculation⁵². In view of the insufficient consideration given to the causes and effects of international migration, several authors have focused on a multilevel analysis integrating sociological and economic variables⁵³. This has given rise to a new approach, the *new economics of migration*, by which migration is no longer seen as an individual process to maximize income as suggested by neo-classical approaches, but rather a family strategy to diversify income or minimize risks⁵⁴. This postulate is present above all in studies on international migration in developing countries⁵⁵. Although the *new economics of migration* approach identifies emigration objectives, it does not permit assessing under what circumstances the decision to migrate is taken, nor does it take account of details of the migratory journey. The *migratory networks* theory may address this shortcoming⁵⁶. According to Massey, the evolution and the stability of the dynamics of migration flows rely on migratory networks which are “sets of interpersonal ties that link migrants, former migrants, and non-migrants in origin and destination areas by ties of kinship, friendship, and shared community origin”⁵⁷. Migratory networks are key as they influence the shape, the volume of migration flows as well as the evolution of communities and localities of origin and destination⁵⁸. Migratory networks act moreover as reducers of the costs and risks involved in international migration, especially with regards to choice of destination and period of departure, sharing travel costs, crossing borders, social and professional integration in the destination community and developing links with the country of origin⁵⁹. Since the crossing of borders entails taking into account complex political and legislative frameworks which can increase immigration costs and risks, migratory networks play an undeniable role in international migration. Every additional migrant participates in the extension of the migratory network, which leads to the phenomenon of *cumulative causation of migration*: “each act of migration alters the social context within which subsequent migration decisions are made, typically in ways that make additional movement more likely”⁶⁰ creating a *migration chain*. Migratory networks seem to play a major role in structuring international migration towards artisanal and small-scale mining, especially in Africa. These forms of mobility intrinsically reduce state autonomy and capacity to act as an actor of migration management

These general considerations concerning international migration, whether with regard to category of migrants, migratory directions, or causes of migration, are all key issues of relevance for the mining sector, as will be discussed in the next section.

2.2 International migrants in the mining industry

The numerous issues raised by labour migration in the mining industry have not been fully addressed in the scientific literature on migration. Moreover, international labour migration patterns seem to be understudied in comparison with internal migrants in the mining industry. In fact there appears to be no statistical data that can help measure the scale of the phenomenon. Attention has been given to the feminisation of the mining sector especially in artisanal and small scale mines where the number of women engaged in mining as a means of livelihood is increasing⁶¹. However, international female migrant workers in the mining industry

⁵² See Greenwood and McDowell 1986, Todaro 1989.

⁵³ See Boswell 2008, Massey and *al.* 1993, Portes 1987, Stark and Taylor 1991.

⁵⁴ Stark, O. and J. E. Taylor. 1991. “Migration Incentives, Migration Types: The Role of Relative Deprivation”. *The economic Journal*, vol. 101, No. 408, 1163-1178.

⁵⁵ Guillmoto, C. Z. and F. Sandron. 2000. “La dynamique interne des réseaux migratoires dans les pays en développement”. *Population*, No. 1, 105-135.

⁵⁶ Piché, V. 2013. “Les théories migratoires contemporaines au prisme des textes fondateurs”, *Population*, vol. 68, p. 153-178.

⁵⁷ Massey, D. S. 1990. “Social structure, household strategies and cumulative causation of migration”. *Population Index*, vol. 56, No. 1, 7.

⁵⁸ Gurak, D. T. and F. Caces. 1992. “Networks shaping migration systems”. In *International migration systems: a global approach*, M.M Kritz, L.L Lin and H. Zlotnik (dir), 150-173. Oxford: Clarendon Press.

⁵⁹ Guillmoto and Sandron 2000, 120.

⁶⁰ Massey, D. S., J. Arango, G. Hugo, A. Kouaouci, A. Pellegrino and J. E. Taylor. 1998. *Worlds in Motion: Understanding International Migration at the End of the Millennium*. Oxford: Clarendon Press, 45-46.

⁶¹ Lahiri-Dutt, K. 2015. “The feminization of Mining” in *Geography Compass*, vol.9, No.9, 523-541.

are very rarely studied in the literature. Despite this apparent lack of studies on the migration patterns and working conditions of migrants, there has been an interest to address the issue of skilled migration as a solution to labour shortages in the industry. For example, Hultin and Åkerman-Börje, note that some countries such as Mongolia have limited skilled migration by imposing quotas in the mining sector and employed local workers who did not necessarily match the skill requirements. According to these authors, this has resulted in two main labour market distortions: decline of labour productivity and wage inflation. Therefore, they argue that temporary skilled migration may prevent a decline in productivity and remedy the lack of skills of local workers in the short-term while in the long-term it could strengthen knowledge transfer⁶².

The subsections which follow will highlight only a very few of the numerous issues noted in the literature concerning international migrant workers in the mining sector from three regional perspectives: Africa, Latin America and Asia. Available studies on which this synthesis is based, reflect a variety of disciplinary approaches (history, demography, health sciences, anthropology, etc.); are concerned as much with industrial mining as with artisanal and small mining; and address a wide range of issues such as health, identity, and migration patterns. It must be underlined that the very brief summaries which follow only present a very sketchy overview of issues which are extremely complex and multifaceted within any one country and even more so within any particular continent.

2.2.1 Africa

The African case studies contained in this report (see section 3) have been selected in order to illustrate the situation of migrant workers in both large scale mining activities, as presented in the study on Zambia, as well as small scale and artisanal mining activities as described in the study on Mali, in order to draw attention to certain of the many very important variations across the continent.

As the case study on Mali and the West African sub-region more generally illustrate, ASM is very widespread. According to a 2011 UNECA report which considered the continent as a whole, 22 African countries have more than 100 000 ASM operators each and estimated dependants vary from 600 000 in Côte d'Ivoire to 9 million in Tanzania⁶³.

Large-scale companies, for their part, are present across the continent and notably in countries such as South Africa (gold) and Zambia (copper). The number of international migrants within the continent is hard to estimate as borders are very porous and migration mainly unregulated. In West Africa, about 70% of migratory flows, representing 8.4 million individuals, take place within the sub-region and these flows are mainly driven by the search for employment⁶⁴. The central role of mining activities in the regional economy, the search for better livelihoods, as well as the unregulated nature of human mobility are, as suggested by the Malian case study, very possibly important factors contributing to the explanation of why labour migration in the industry in West Africa appears to be an important phenomenon.

Regarding international migration, as noted above, the study from Nyame and Grant on migration patterns in the mining sector is probably among the most relevant⁶⁵. Even though their research focused on Ghana, their conclusions may be useful for other regional studies. Nyame and Grant have studied the links between migration flows and the main mining industry phases (as described in more detail in Section 1.2): 1) growth (exploration and development stages) 2) decline and 3) closure. The growth phase is most likely to attract migrant workers as local communities might not have the skills required or a sufficient number of workers to fill the labour demand. Data collected in Ghana indicated that cross-border migrants are more likely to

⁶² Hultin, G. and E. Åkerman-Börje. 2014. "Unlocking the potential of migration for inclusive development: a focus on mining and labour migration" In *Minerals Economics*, 27, 157-161.

⁶³ UNECA. 2011. *Minerals and Africa's Development: The International Study Group Report on Africa's Mineral Regimes*.

⁶⁴ International Organization for migration. West and Central Africa. Online: <https://www.iom.int/west-and-central-africa> (Accessed on October 21st 2015).

⁶⁵ Nyame, F. K, A. Grant, and N. Yakovleva. 2009. "Perspectives on migration patterns in Ghana's mining industry" in *Resources Policy*, No. 34, 6-11.

Figure 4: African countries with more than 100 000 ASM operators

Country	ASM	Estimated dependants
Angola	150.000	900.000
Burkina Faso	200.000	1.000.000
Central African Republic	400.000	2.400.000
Chad	100.000	600.000
Côte d'Ivoire	100.000	600.000
Democratic Republic of the Congo	200.000	1.200.000
Eritrea	400.000	2.400.000
Ethiopia	500.000	3.000.000
Ghana	1.100.000	4.400.000
Guinea	300.000	1.500.000
Liberia	100.000	600.000
Madagascar	500.000	2.500.000
Mali	400.000	2.400.000
Mozambique	100.000	1.200.000
Niger	450.000	2.700.000
Nigeria	500.000	2.500.000
Sierra Leone	300.000	1.800.000
Sudan	200.000	1.200.000
Tanzania	1.500.000	9.000.000
Uganda	150.000	900.000
Zimbabwe	500.000	3.000.000

Source: UNECA report, 2011, 69. Estimates based on Communities and Small Scale Mining (CASM), ASM statistics for Africa

stay longer at mining sites seeking employment than internal migrants. Moreover, the development stage also attracts commercial migration. Traders come to the mining sites in order to sell goods and services. The decline phase, however, leads to the opposite migratory flows. This phase is usually characterised by labour restructuring or lay-offs. As mentioned above, skilled migrant workers are less vulnerable to unfavourable economic situations and may return to their home countries or migrate to another mining site. Low-skilled workers, however, are likely to be more affected at this phase as it may involve the replacement of manual techniques by mechanical equipment in order to increase productivity. The decline of large-scale mine activity is often followed by an increase in artisanal mining activity initiated by former low-skilled miners and a wave of out-migration. Furthermore, conflicts between mining companies and artisanal miners may be exacerbated by international migration. For example, in Tarkwa (Ghana) where 70% of the area is under a large-scale concession, tensions between artisanal miners from Nigeria, Burkina Faso and Côte d'Ivoire and large-scale mining companies have been reported⁶⁶. Finally, mine closures, as was the case of the Fria mine in Guinea in 2012, quite often provoke a collapse of the local economy and infrastructures and consequently generate strong incentives to emigrate.

⁶⁶ Hilson, G. 2005. "Strengthening artisanal mining research and policy through baseline census activities" in *National Resources Forum*, 29, 150.

South Africa is undoubtedly the country that has been the most addressed in the literature regarding migration and the mining industry. Throughout the 20th century, South African gold mines attracted labour migrants from all the other countries of the region (Mozambique, Lesotho, Malawi, and Botswana). In 1970, it is estimated that there were over 260 000 migrant workers in the South African mining industry⁶⁷. In the 1990s, the mining companies in South Africa implemented massive layoffs but surprisingly these affected more local than foreign workers. As a result, the proportion of migrants in the South African mines increased from 47% in 1990 to 57% in 2000 and half of them were from Mozambique and Lesotho⁶⁸. Studies have also demonstrated that remittances from mine workers are often the main household income. In Lesotho, for example, the layoffs of migrant miners have led to increased poverty for the households of dismissed workers⁶⁹.

In the existing literature, international migration in the South African mining industry has also been addressed from the standpoint of health impacts. A number of studies have suggested that high HIV/AIDS prevalence among miners in South Africa may be due to international labour migration⁷⁰. By comparing a mining industry which employs above all domestic labour, such as that of Zimbabwe, and that of South Africa which attracts foreign workers, Corno and De Walque concluded that HIV/AIDS infection among miners versus the general population was higher in South Africa. These results appear to suggest that migration may in fact increase HIV/AIDS prevalence⁷¹. Housed in single-sex hostels close to their workplaces, separated from their wives or family, they are more likely to engage in risky sexual activities. In a similar perspective, an ILO report showed that contract workers, who are more likely to be foreigners, have higher HIV prevalence rates (25% compared to 5-20% for others categories of workers)⁷². In view of the prevalence of HIV/AIDS issues among migrant workers in the mining industry, access to health services in the host country should be a crucial concern for political authorities and employers. However, there is no scientific consensus on the causal link between migration and HIV. In Zambia, Wilson reached different conclusions while analysing the copper boom in eleven large-scale companies between 2003 and 2008 and its effects on sexual activity. During those years, employment in copper mines increased by 200% and stimulated in-migration⁷³. His field study demonstrated that the copper boom reduced sexual activities in mining cities and migrants were less likely to engage in risky sexual behavior.

In West Africa, studies have, among other areas, focused on the relationships between international migrants and local communities, as well as social regulation mechanisms adopted by miners. While exploring migratory dynamics related to artisanal gold mining in Mali, Burkina Faso and Benin, Grätz⁷⁴ noted that ethnic, religious or nationality differences between gold miners and local communities did not necessarily lead to conflicts. For instance, to improve the local management of gold mines and to prevent the appropriation of resources by foreign miners, the *niaro* system in Mali is based on the principle that gold mines should be owned only by local miners, called *damantigi*, and mining activities are monitored by the *tombolomaw*⁷⁵. Together, they decide the level of royalties to be given to the local community. According to Grätz, the non-interference of the Malian state ensures greater flexibility for local authorities. His field work also showed that foreign workers may elect or chose representatives to express their interests to local authorities⁷⁶. Similarly,

⁶⁷ Crush, J., S. Peberdy, and V. Williams. 2006. *International Migration and Good Governance in the Southern African Region*, Southern African Migration Project, Migration Policy Brief, No. 17, Paper for the Global Commission on International Migration (GCIM), 47 p.

⁶⁸ *Ibid.*, 10.

⁶⁹ Mensah, S. and V. Naidoo. 2011. "Migration Shocks: Integrating Lesotho's Retrenching Migrant miners" in *International Migration Review*, vol. 45, No. 4, 1017-1042.

⁷⁰ See Corno and de Walque 2012, Campbell 1997, Rees and *al.* 2010.

⁷¹ Corno, L. and D. de Walque. 2012. "Mines, Migration and HIV / AIDS in Southern Africa" in *Journal of African Economies*, 1-34

⁷² ILO. 2002. *The evolution of employment, working time and training in the mining industry*, 64.

⁷³ In-migration is based "on whether the individual has lived in the same location for at least one year or not", thus it could be internal or international migrants.

⁷⁴ Grätz, T. 2004. "Les frontières de l'orpaillage en Afrique occidentale" in *Autrepart*, No.30, vol. 2.

⁷⁵ Tombolomaw is a group of young people in charge of monitoring mining activities in their territory.

⁷⁶ Grätz. 2004. *Op. cit.* 141-142.

Grätz conducted another study in Benin⁷⁷ and concluded that, far from contributing to ethnic tensions, migrant workers, on the contrary, have developed an identity linked to mining activities in common with local workers, which has taken priority over ethnic identity. These contributions demonstrated that, even in artisanal mining where state regulation is incomplete, inexistent, or unapplied, there may be social regulations which have emerged from the local communities themselves and which contribute to the management of relationships between foreign and local workers. However, this does not mean that tensions are totally absent between local communities and foreign mineworkers. Discovery of mineral deposits, especially in a frontier zone, encourages the flow of artisanal miners and may lead to confrontations as occurred in June 2015, for instance, between Guineans and Malians in the Sananfara gold artisanal mining site (in Mali, close to the Guinean border) which caused nine fatalities⁷⁸.

The involvement of women in artisanal and small scale mining in Africa has also drawn the attention of researchers as their participation in this type of mining activity is higher than in any other region of the world⁷⁹. To our knowledge, international migration of women in ASM in Africa is not well documented. Certain observers have briefly addressed the migration dimension of the phenomenon but referred solely to internal mobility. For instance, while analysing female workers in ASM in Ghana, Yakovleva, has pointed out that the majority of women are local residents but a small number have come from other country areas to work as *galamsey*⁸⁰. Similarly, a study conducted in Ilakaka, in Madagascar, showed that there were as many Malagasy women as men migrating to artisanal mines⁸¹. The case study on Mali included in this report documents the presence of women by region and by nature of activity in ASM in that country, as well as that of children working in ASM (see figures 15 and 16). The exact figures as to how many of these workers are migrants are not readily available however but estimated percentages are given in the Malian case study. Due to the importance of ASM for the employment of women in Africa and the growing proportion of women in international migration, this lack of information will need to be filled by future research.

As noted with regard to Mali, mining activities more generally also involve children migrants. A UNICEF report noted that Beninese children from 6 to 18 years old were recruited to work in Aboekuta in Nigeria by former migrants. This reinforces the *cumulative causation of migration theory* noted above, suggesting that each additional migrant increases the likelihood of further migration from the same locality of origin. Indeed, according to the report, three categories of individuals are involved in the recruitment of young Beninese boys: older migrants settled in Nigeria since 1970, second generation migrants who have kept links with their families in Benin and young migrants who have returned home. Furthermore, remittances from mining work may incite others to migrate in order to become a miner. The boys from Benin who were working in Ogun State, in Nigeria, sent to their parents every two years an amount of money varying between 150\$ to 300\$. However, as is well known, mining exposes children to a harmful environment with increased risks such as prostitution, injuries or criminality⁸².

The third section of this report will address in greater detail the main issues related to international migration and mining activities in Africa, in taking as examples migration in artisanal gold mining in Mali and large-scale copper mines in Zambia.

⁷⁷ Grätz, T. and Marchal, R. 2003. "Les chercheurs d'or et la construction d'identités de migrants en Afrique de l'Ouest" in *Politique Africaine*, No.91, vol. 3.

⁷⁸ (n.a). "Affrontements à la frontière Mali-Guinée". Online: <http://news.abamako.com/h/91061.html>, published June 8 2015.

⁷⁹ See Yakovleva 2007, Hilson 2001, 2002, Dreschler 2001.

⁸⁰ Yakovleva, N. 2007. "Perspectives of female participation in artisanal and small-scale mining: a case study of Birim North District of Ghana" in *Resources Policy*, 32, 35. In Ghana, *galamsey* means illegal small-scale mines.

⁸¹ Canavesio, R. 2013. "Les fronts pionniers des pierres précieuses de Madagascar: des espaces d'émancipation pour les femmes?" in *Géocarrefour*, vol. 88, No.2, 119-129.

⁸² Thorsen, D. 2012. *Les enfants qui travaillent dans les mines et les carrières: Résultats d'une étude menée en Afrique de l'Ouest et centrale*, UNICEF, Dakar.

2.2.2 Latin America

The mining industry in Latin America has experienced rapid growth over the past decade. Chile and, to a lesser extent, Peru, the world's main producers of copper along with China, have benefited from the increase in the price of this mineral. Copper prices doubled between 2002 and 2005, but since then they have shown great volatility. Indeed, they experienced a drastic collapse with the financial crisis in 2008, started rising again to reach the highest peak in 2012 and since then are declining moderately⁸³. Price volatility has impacts on employment. Recently, the copper industry in Chile has faced labour shortages that might have been resolved by international migration. When one examines international migration statistics for Chile, it becomes apparent that the country is becoming a popular immigration destination for South Americans. For example, between 2002 and 2009, the Colombian population in Chile grew by 215% and for Peruvians the percentage was 245%⁸⁴. Brazil is also one of the main regional minerals producers, especially in iron ore production (third world producer) and niobium-columbium (first world producer)⁸⁵. Just as in the case of copper, world consumption of iron ore has grown, particularly due to the increased demand from China and led to a price increase at the beginning of 2000s. The price decreased in 2009 due to the financial crisis and grew rapidly again between 2010 and 2014⁸⁶. The 2010 census in Brazil concluded that the immigration rate had grown 86% since the last census in 2000 and benefited Southeast Brazil, which is also the region where there is the largest number of mining companies. The Brazilian mining industry employs approximately 2.2 million of workers; however, there does not appear to be any data concerning foreign-born migrant workers⁸⁷.

The literature on migration in the Latin-American mining industry seems rather limited and has focused more on internal flows⁸⁸. Authors such as Theije and Heemskerk who work on Brazilians migrants in Suriname (2009), and Bury on Peru (2007), are among the few who to our knowledge have raised concerns regarding international migration in the mining sector. Theije and Heemskerk documented the *garimpeiros* (Brazilians small-scale goldminers) migration to Suriname⁸⁹. In a similar manner to the conclusions reached by Grätz in West Africa, the authors analysed relationships between local people (Maroons) and Brazilian migrants and stated that "the relative isolation of the mining camps contribute to the dilution of ethnic differences between Maroons and Brazilians"⁹⁰. Their study also concluded that on the one hand, Brazilians imported their practices and skills to Suriname and consequently, Maroons relied on them for mining activities. On the other hand, Brazilians need the approval of Maroons for exploiting mines in their territory and rely on their knowledge of the Amazonian territory. Thus, this mutual dependence forces both parties to overcome ethnic differences and to develop a set of rules that are applied in the mining area. Bury's research work on Newmont Mining Corporation (hereinafter MYSA) in Cajamarca, Peru, is mostly concentrated on national migration patterns, but it also provides relevant information on international migrants⁹¹. Indeed, MYSA is the largest gold mine in Latin America, and due to the use of advanced technology in its mining activities, MYSA also attracts high-skilled foreign workers from Canada, Australia, South Africa and the United States. International workers do not live in Cajamarca, as do other nationals, but in Baños del Inca. This has led to the creation of an enclave where the type of housing has changed and land prices have increased. Therefore, economic impacts of the settlement of international migrants remain very concentrated. Regarding a similar

⁸³ Raw Materials Group and ICMM, *Op. cit.* 12.

⁸⁴ Dona-Reveco, C. and A. Levinson. 2012. *Chile: a growing destination country in search of a coherent approach to migration*, in Migration Policy Institute. Online: <http://www.migrationpolicy.org/article/chile-growing-destination-country-search-coherent-approach-migration> (Accessed on September 27th, 2015).

⁸⁵ U.S Geological Survey. 2015. *Mineral commodity summaries*.

⁸⁶ (n.a). 2012. *Fact sheet: Iron ore*, Working paper, No.41, POLINARES (EU policy on natural resources).

⁸⁷ Instituto brasileiro de mineração (IBRAM) 2012. *Information and analysis on the Brazilian mineral economy*, 7th edition.

⁸⁸ See for example Bury 2007, Aroca and Atienza 2011.

⁸⁹ De Theije, Marjo and M. Heemskerk. 2009. "Moving frontiers in the Amazon: Brazilian small scale gold-miners in Suriname" in *European Review of Latin American and Caribbean Studies*, 87.

⁹⁰ *Ibid.* 18.

⁹¹ Bury, J. 2007. "Mining migrants: Transnational Mining and Migration Patterns in the Peruvian Andes" in *The Professional Geographer*, 59, 3.

issue, Aroca and Atienza reached the conclusion that long-distance commuting is a useful mechanism in order to spread economic benefits from mining industry. Focusing on the Chilean mining region Antofagasta, these researchers observed that the Chilean regions which benefitted the most from the mining industry were obviously the immediately surrounding areas, but also Coquimbo, the region from which the workers in Antofagasta mainly come⁹². This shows how economic development resulting from the mining industry may spread through human mobility and notably the remittances from migrant workers to their location of origin. Section 3 will explore the case of Chile which has known an important growth of immigration along with the copper mining boom.

2.2.3 Asia

The rapidly developing economies in the Asia-Pacific region have accelerated their investments in mining projects in neighbouring countries that are richly endowed with metals and minerals. Mineral flows in the Asia-Pacific region are characterized by movement from less developed countries that are exporters of mineral resources, such as Mongolia, Afghanistan, Burma, the Philippines, Papua New Guinea, New Caledonia, Tonga, and the Solomon Islands to wealthier countries that are importers of mineral resources, such as China, Japan and South Korea⁹³. Many Chinese mining companies operating in the region are majority state-owned and Chinese investments have been associated with concomitant infrastructure projects, funded by official development assistance, that support the development of the mines and the production and export of the mined resources. Japanese and South Korean investments in mining overseas, while not state-owned, are nevertheless supported by diplomatic efforts⁹⁴, as well as by strategic use of official development assistance (ODA) to poorer countries in the region⁹⁵. Reliable access to metals and minerals is deemed to be in the national interest of each of these importing countries.

Less-developed but mineral-rich countries in the Asia-Pacific region have been chronically short of the skilled workers and professionals that are needed to provide labour for the expansion of mining and mining-related infrastructure in their territories. As Katz noted, as early as 1994, “much of the slack” in the ASEAN region “is still taken up with a considerable number of expatriate mining professionals”⁹⁶. As a result, some mining projects have imported the labour necessary to get projects constructed and operating. Migrant labour flows in the region are, to an extent, related to the geopolitics of mineral flows. In particular in the case of Chinese state-owned and managed mines, such as the Ramu Nickel mine in Papua New Guinea (case study 5), migrant labour both for the mine itself⁹⁷ and for related infrastructure projects, largely comes from China. Other mines such as the Brazilian Vale-owned Goro Nickel mine and the Swiss Glencore-owned Koniambo mine in New Caledonia (case study 6) import labour from other countries in the region, such as the Philippines⁹⁸. As noted above, mines are particularly labour intensive during the construction phase. Migrant labour, brought in by mine proponents, therefore tends to be most important during the construction phase of a mine’s life. There is some indication that one difference in the use of migrant labour between Chinese owned mines and those from other countries is that Chinese migrant labour is used in higher proportions throughout the mine’s lifetime as opposed to primarily during the construction phase⁹⁹.

⁹² Aroca, P. and M. Atienza. 2011. “Economic implications of long-distance commuting in the Chilean mining industry” in *Resources Policy*, 36.

⁹³ Barclay, K. and G. Smith. 2013. The International Politics of Resources: China, Japan and Korea’s Demand for Energy, Minerals and Food. Special Issue. *Asian Studies Review*. Volume 37, Issue 2, pages 125-140.

⁹⁴ *Ibid.*

⁹⁵ Reilly, J. 2013. China and Japan in Myanmar: Aid, Natural Resources and Influence. *Asian Studies Review*. Volume 37, Issue 2, 141-157.

⁹⁶ Quoted in B. Y. Imbun. 2000, p.59.

⁹⁷ Smith, G. 2013. “Nupela Masta? Local and Expatriate Labour in a Chinese-Run Nickel Mine in Papua New Guinea”. *Asian Studies Review*. Vol. 37, Issue 2, 178-195.

⁹⁸ Brazilian company Vale (formerly Vale Inco) holds a 69% interest in the Goro project. Japan’s Sumitomo Metal Mining and Mitsui own 21% through a jointly owned company called Sumic Nickel Netherlands. The remaining 10% is held by the three provinces of New Caledonia. Koniambo Nickel SAS (KNS) is a joint venture between the Northern Province’s Société Minière du Sud Pacifique (SMSP) at 51%, and Swiss-based Glencore. The Goro mine imported at least 3000 Filipino workers for the construction phase alone (see http://www.ofwguide.com/article_item-387/3-000-OFWs-for-New-Caledonia.html).

⁹⁹ Smith. 2013. *Op. cit.*

There are a number of concerns associated with migrant labour related to mining in the Asia-Pacific region. These concerns include: irregularities in how foreign workers are brought into countries as a result of weak governance in the host country (for example in the case of the Ramu Nickel mine in Papua New Guinea); poor working and living conditions for migrant workers; unequal treatment between migrant and local labour; and a rise in local conflict associated with migrant labour. The cases in section 3 illustrate these concerns. As can be seen in the Papua New-Guinea case (section 3.5), the biggest story in regard to migrant labour related to mining in the Asia Pacific region, particularly in terms of sheer numbers, is the arrival of Chinese migrant labour brought in by mine projects proponents and as workers on various infrastructure projects related to mining investment. However, while studies point to the significance of China in regard to migrant work in mining in the region, there is a dearth of the kind of in-depth investigation conducted by Smith (2013) and Imbun (2000; 2001) in Papua New Guinea into the actual living conditions of the migrant Chinese workers, or, for that matter of migrant mine workers from other countries. Mongolia and Burma are but two of the countries bordering China that are sources of natural resources for the Chinese economy. In spite of the involvement of Chinese migrant labour in these countries, there is a paucity of data providing even such basic information as the number of Chinese workers in the mining sector and very little has been written about the conditions under which these workers labour.

Resource-hungry China plays a large role in the economy of resource-rich neighbouring Mongolia. China's primary focus in Mongolia with respect to Foreign Direct Investment (FDI) and official development assistance is on the mining sector. The highest number of international migrants in Mongolia comes from China. The greatest demand for labour is in construction, especially related to mining projects. The actual number of Chinese migrant workers appears to be somewhat uncertain. The 2013 Mongolia Real Estate Report (MRER) puts the number at 17,000 on May 1, 2012, but calls this number an "estimate." Mongolia has taken steps to protect its economy, and its workers, but it would seem that, as in the case of Papua New Guinea, the Government has not done enough to enforce its own policies¹⁰⁰. Reeves¹⁰¹ notes that the Mongolian government has passed legislation to limit the number of foreign workers in the country to 3% of the total population of Mongolia. But Reeves also notes that reports put the number of Chinese migrant workers at 26,000 which exceeds the total allotment for all foreign workers. MRER points out that:

cases where migrant Chinese workers have been found to violate immigration restrictions, or where a company has hired illegal workers, often end in mass deportation. This occurs frequently and usually results in workers not receiving outstanding remuneration for their labour. It has been rumored that Chinese laborers have been hired illegally and once construction was completed unscrupulous developers would report their own companies to the immigration authorities for violations. Paying the fine for employing illegal migrant workers in these cases worked out much cheaper than actually paying the wages the workers were owed.

MRER also notes that "Chinese workers are often preferred by Mongolian construction companies because they are better skilled and willing to accept lower working conditions than their Mongolian counterparts" giving some indication that Chinese workers may not be receiving treatment equal to that of Mongolian workers.

As is the case with Mongolia, Burma is a source of natural resources for China and China's FDI in Burma is almost entirely aimed at oil, gas, timber, and mining¹⁰². A "2001 MoU between the Burmese mining authorities and the Chinese Ministry of Land Resources regarding the promotion of exploration and investment in Burmese mining and mineral resources"¹⁰³ provided the impetus for increased involvement of China in Burma. In 2008-2009 FDI by China in Burma was 985 Million US Dollars and the bulk of it was invested

¹⁰⁰ Mongolia Real Estate Report last updated 2013. <http://mad-research.com/mongolian-real-estate-market/construction-sector/labour/>.

¹⁰¹ Reeves, J. 2015. Chinese Foreign Relations with Weak Peripheral States: Asymmetrical Economic Power and Insecurity. Routledge.

¹⁰² *Ibid.*

¹⁰³ Earth Rights International. 2008. China in Burma: the increasing investment of Chinese multinational corporations in Burma's hydropower, oil and natural gas, and mining sectors. <https://www.earthrights.org/sites/default/files/publications/China-in-Burma-update-2008-English.pdf>.

in mining¹⁰⁴. In 2008, EarthRights International “found evidence of involvement of 10 Chinese MNCs in 6 major mining projects over the last five years”. Here too the predominant way natural resources are extracted is through Chinese migrant labour that contributes to “enclave economies”¹⁰⁵ with few economic flows to the wider society including to Burmese workers. However, far more work needs to be done in order to better document and understand the working conditions of migrant labour from China in Burma.

This conclusion holds true for low-skilled migrant workers on each continent. Indeed, the information available concerning working conditions of migrant workers in the mining sector as well as the presence of an effective regulatory framework appears to be directly correlated to their level of skills.

¹⁰⁴ Dittmer, L. 2010. *Burma Or Myanmar? The Struggle for National Identity*. World Scientific.

¹⁰⁵ Reeves. 2015. *Op. cit.*

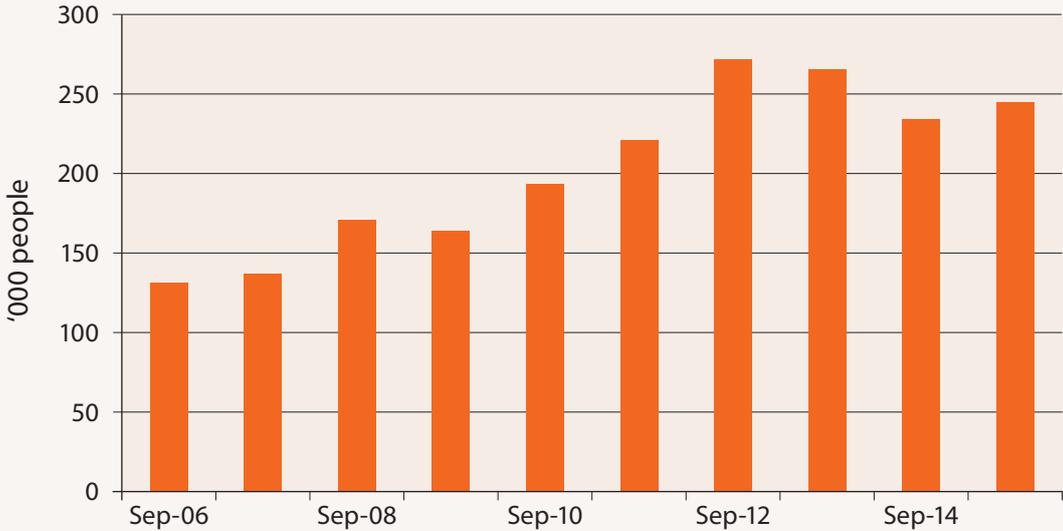
3. Mining and International Migration: Case studies

3.1 Australia: Temporary skilled migration in the mining industry

3.1.1 Evolution of the Australian mining industry

The increase in the global demand for commodities over the past decade has spurred a mining boom in the Australian economy. In particular, the increase in production in the steel industry has stimulated iron-ore and coking coal global exportations, two minerals of which Australia has important reserves. Thus, by the end of 2010, the share of resources in total value of exports had risen from 40% in 1990 to 55% and this increase was especially due to the demand for iron-ore and coal. Indeed, iron-ore and coal accounted respectively for 17% and 15% of the total value exports while it was only 4% and 9% in 1990¹⁰⁶. Although the mining industry is not a major employer due to the highly mechanized nature of its activities, employment has more than doubled over the past decade, rising from 78 000 in 2000 to 173 000 in 2010¹⁰⁷. Because the Australian mining boom was closely related to emerging Asian economies, and notably China, the recent economic downturn has strongly impacted the Australian mining industry. In the short-term, commodity prices declined and lower levels of investments reduced activities in the mining sector and created pressures to minimize costs of production. For example, mineral exploration and exploration expenditure decreased respectively by 25% and 23% in 2014-2015. As noted previously, exploration, and especially development, are the phases during which the need for workers are the highest. Consequently, employment has been negatively affected by the current decline in mining activities.

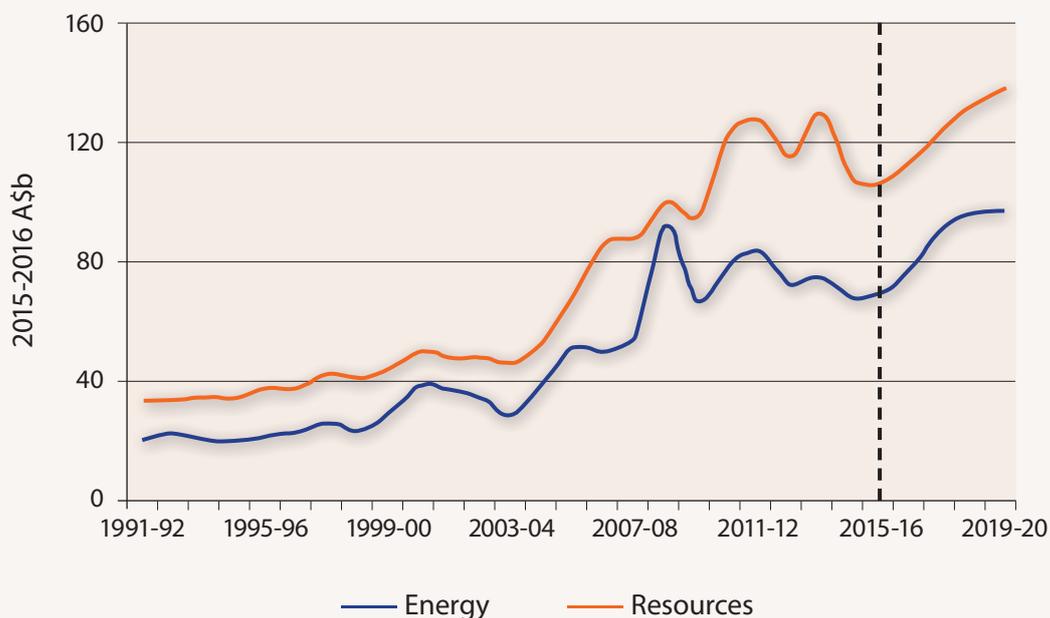
Figure 5: Total mining employment in Australia 2006-2014



Source: ABS, Citing in Resources and Energy Quarterly, September 2015

¹⁰⁶ Connolly, E. and D. Orsmond. 2011. *The Mining industry: From Bust to Boom*, Reserve Bank of Australia, 121.

¹⁰⁷ *Ibid.* 124.

Figure 6: Australia's resources and energy export earnings

Source: ABS, Citing in Resources and Energy Quarterly, September 2015

However, according to the forecasts of the Ministry of Industry, in the medium-term, the outlook of the mining industry is positive; higher export volumes and investments due to the past mining boom, combined with a depreciated Australian dollar are likely to translate into a moderate increase of iron-ore and coal prices and a rise of earnings from resources exports (figure 6).

3.1.2. Overview of the skilled-migration to the mining industry

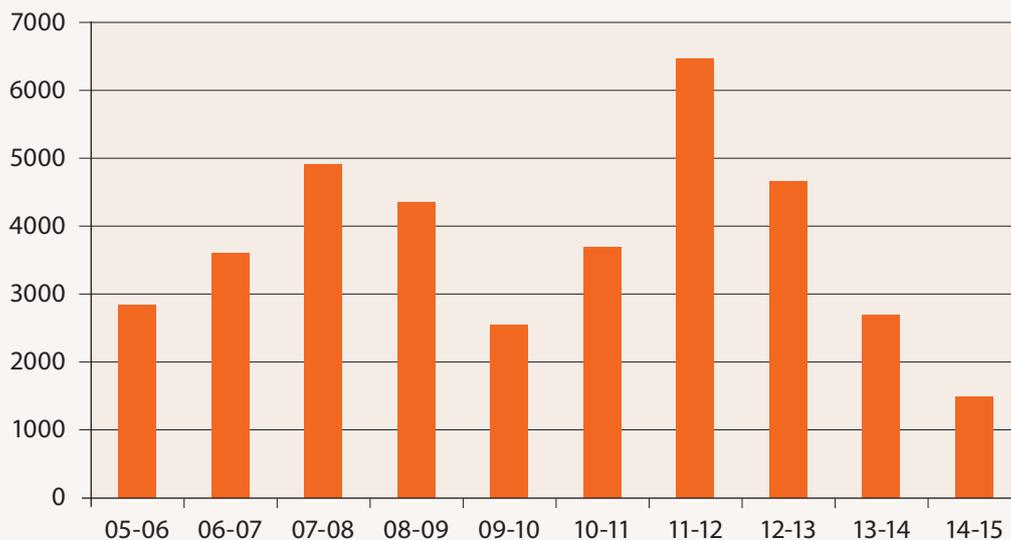
These major fluctuations in employment and earnings of the mining industry over the last fifteen years have had important implications for the demand of skilled foreign workers. International migrants in the mining sector are usually classified under the Subclass 457 visa, commonly named the 457 visa. Introduced in 1996, this temporary work visa¹⁰⁸ allows a skilled worker sponsored by an employer to live and work in Australia for up to four years. Two main requirements need to be met: being sponsored by an approved business and having the skills required to fill the occupation concerned. Skilled foreign workers can change employers but they are only allowed to stay a maximum of 90 days in Australia without having a job. After this period of time, they must leave the country. The visa is also renewable and they can apply for permanent residence if they meet the requirements. Furthermore, the 457 visa allows spouses and dependent children to accompany the visa holders and they have the right to work and go to school in Australia. According to the data of the Department of Immigration and Border Protection (DIBP)¹⁰⁹, the mining sector is no longer a major sponsoring industry. Indeed, only 3.8% of the total number of the temporary skilled visas granted in 2014-2015 was in the mining industry, in contrast with 2011-2012 when it was 9.5%. The number of granted visas in the mining industry increased until 2008, experienced a rapid decline after the global financial crisis in 2008, rebounded in 2010 to reach a peak in 2012, and since then, it has been marked by a downward

¹⁰⁸ Australian Government, Department of Immigration and Border Protection, "Temporary work (skilled) visa (subclass 457)" Online: <https://www.border.gov.au/Trav/Visa-1/457-> (Accessed on October 14th 2015).

¹⁰⁹ All data cited are from the Department of Immigration and Border Protection of the Australian Government (DIBP) accessible online: <https://www.border.gov.au/about/reports-publications/research-statistics/statistics/work-in-australia> (Accessed on October 18th 2015).

trend. When compared with total employment (figure 5), we note that the fluctuations of visas granted are more acute. Foreign skilled workers are more likely to be affected by the contractions and expansions of the global mining market than local workers.

Figure 7: Number of visas granted in the mining industry



Source: Department of Immigration and Border Protection

Because of the high number of visas granted in 2011-2012, the statistics cited in this section are based on that period as they are more significant for providing an overview of the situation of skilled migrants than those for 2014-2015. Skilled foreign workers are from a wide range of countries but some tend to predominate. For instance, in 2011-2012, half of the visa holders were from United Kingdom (24%), United States (10%), China (7%) and Philippines (7%). Canada (6%), India (4%) and South Africa (4.5%) were also amongst the main sending countries although to a lesser degree. It is mainly a young and masculine migration. 88% of the visa holders were men and 42% were between 25 and 34 years old. Skilled migrants in the mining sector are more likely to be professionals (50%) or technicians (27%) and to earn a higher salary than in other economic sectors. The average base salary in the mining industry was the highest of all sponsor industries (AUD\$117 000 in comparison with a total average of AUD\$85 400). However, a higher salary is also a way to compensate for harsh working conditions such as a remote location, long working shifts, and job security depending on the variations within the mining cycle. According to a union representative in Australia, the mining industry has often had difficulty in attracting a tertiary-educated local workforce. Rather than improving working conditions, the same source suggests that the industry has had a tendency to turn to foreign labour. On the one hand, migrant workers are more willing to tolerate harsh working conditions because temporary migration may lead to permanent residency. On the other hand, programs such as 457 visa allow companies to “try before you buy”¹¹⁰.

¹¹⁰ Information obtained from an interview with a union representative in Australia (November 2015).

3.1.3 Main issues concerning skilled foreign workers

Although foreign mine workers are the highest-paid in comparison with other sponsoring industries, their work remains extremely precarious considering the volatility of the global mining industry and the exposure to various hazards and risks. Thus, skilled migration in the Australian mining sector still raises a series of issues that will be discussed below.

The DIBP realized a survey in 2012 on the 457 visa holders and employers experiences¹¹¹. In interpreting the findings drawn from this survey, Mayes has pointed to the global lack of unionization in this economic sector, as well as to the absence of access to health care for workers employed under the 457 visa¹¹². Indeed, 98.5% of the respondents said that they are not a member of a union and half of them expressed the wish to have access to health insurance or health care. A union representative said in an interview that foreign workers are less likely to be unionized for fear of employer discrimination and the discouragement of union membership is a widespread phenomenon within the industry. Moreover, foreign workers, keen to migrate to Australia, do not bargain their wages and they are more likely to be paid less than the average wage¹¹³. Considering the nature of work in the mining sector, being represented by a union may contribute to improving working conditions, and having access to health care or insurance may be seen as essential to prevent any health problems or limit injuries from the mine work.

Considering the fact that 457 visa holders must not stay more than 90 days on the Australian territory without being bound by a contract of employment, they have little flexibility to change employers. A temporary work visa makes the right to live in the host country conditional on employment. In such a situation, a temporary migrant is more vulnerable and consequently may experience labour exploitation without reporting it. As pointed out by Oke¹¹⁴, employers could also exploit the fact that foreign workers use the temporary skilled migration program to obtain permanent residence. According to Khoo, Hugo and Macdonald, in the Australian context, it is particularly nationals from less developed countries that are more likely to get a 457 visa while expecting to eventually apply for permanent residence¹¹⁵. Because of the conditionality of employment for staying in Australia for more than a month, greater access to workers' unions for temporary migrants may reduce the risks of abuse or exploitation. Given the recent decline of the mining industry and employment in this sector, it may be relevant to explore further how this economic conjuncture affects temporary skilled migrants. McDonald, Mayes and Pini, who studied the impacts of a nickel mine closure in Western Australia, observed that some migrant workers had just arrived in the mining area when closure was officially announced. Recently arrived in Australia, they found themselves in a complex situation in which they needed to find alternative employment in a short period of time but they had not yet acquired local qualifications and become familiar with the Australian labour market¹¹⁶.

Another issue that has been highlighted concerns the services for spouses and children of skilled temporary migrants. Mayes has conducted a study on the spouses of mining migrants located in Boddington, a mine situated in rural Western Australia. The 457 visa allows the skilled worker to be accompanied by his spouse and dependent children. In her study, Mayes demonstrated the gendered nature of this migration and the resulting systemic inequalities for women migrants. Indeed, given the fact that mining activities take place in remote areas, spouses have few employment and social opportunities. Moreover, for those who are not English native speakers, they face a lack of language services. Consequently, the spouses of mining

¹¹¹ DIBP. 2012. *Filling the gaps: Findings from the 2012 survey of subclass 457 employers and employees*, Government of Australia, 57 p. cited by R. Mayes in "Transnational temporary skilled labour migration: intersections of policy, industry practice and experiences of migrancy in Australia", Queensland University of Technology.

¹¹² Mayes, R. (n.a). *Transnational temporary skilled labour migration: intersections of policy, industry practice and experiences of migrancy in Australia*, Queensland University of Technology.

¹¹³ Information obtained from a union representative in Australia (November 2015).

¹¹⁴ Oke, N. 2010. "Working Transnationally: Australian Unions and temporary work migration" in *Social Alternatives*, vol. 29, No. 2, 71.

¹¹⁵ Khoo, S-E., G. Hugo and P. McDonald. 2008. "Which skilled temporary migrants become permanent residents and why?" in *International Migration Review*, vol. 42, No. 1, 193-226.

¹¹⁶ McDonald P., R. Mayes, and B. Pini. 2011. "Mining work, Family and Community: A spatially-oriented approach to the impact of Ravensthorpe nickel mine closure in remote Australia" in *Journal of Industrial Relations*, 54, 1, 31.

migrants are more likely to experience a process of isolation, especially in the first months¹¹⁷. Similarly, Strutt highlighted the fact that despite the rise of non-native-English speaking children in Western Australia, the federal government still does not provide funding for English tuition courses of 457 visa workers' children¹¹⁸. Furthermore, in March 2015, the federal government announced that the English language competency requirement for obtaining the 457 visa will be lowered. The Secretary of the Australian Council of Trade Union (ACTU), reacted by saying that in hazardous industries "it is important that you can have effective communicative skills, and we are deeply concerned that any watering down of that test [English test] could put these workers at risk"¹¹⁹. Indeed, the ACTU will emphasize the need for skilled migrants to have access to language services and that government commitment in this area should lead to measures which would come along with an increased support to 457 visa holders and their families in the English learning process.

To conclude, the 457 visa system has helped to meet the increasing demand for skilled labour in the mining sector in Australia over the last decade. However, in a context of a slowdown, this regulatory framework offers very few options for migrant workers who have been laid-off. Opportunities to find alternative employment are considerably reduced by the short time limit they are allowed to stay in Australia while being unemployed. Furthermore, such temporary work visas, which rest strictly on a relationship between an employer and a migrant worker, may neglect other vehicles for economic integration, namely social networks, language proficiency, etc. Also, respondents to interviews suggest that temporary skilled migration must not be a path to deter attention from the importance of improving working conditions in order to attract local workers and the need for local training. Neither must it completely become a substitute permanent migration.

3.2 Chile: The copper boom and the increase of immigration in the mining regions¹²⁰

3.2.1. Overview of the Chilean Mining industry

Mining is an important economic sector in Chile. There are seven mining regions extending from the centre of the country to the Northern region¹²¹. Mining activities cover 41% of the Chilean territory and account for 11% of the GDP, more than half of exports and 3% (247 000 workers) of total employment, a percentage which may reach 9% if we take into account indirect employment. In 2013, there were 896 companies and 3544 subcontractors. Chile produces mainly copper, gold, molybdenum, silver and lithium.

Since 2005, the mining sector has grown rapidly due to high international prices of minerals, notably copper. Consequently, investment, production and employment in related services in this sector have also increased. Mining employment has three main characteristics: it relies on the tertiary sector, it implies mainly subcontractors who employ labour which is flexible, and finally, it generates more indirect than direct jobs. Due to the decrease in international minerals prices in 2013, projections for the mining sector have been reduced. Many companies have announced mines closures. While the mining sector represents 2.9% of the national employment, given the multiplier effect, the industry creates on average 2.5 indirect jobs for each direct jobs (mining and subcontractor companies) which, it was estimated, concerned 594 000 workers in 2015. The industry anticipates a moderate increase of the labour demand for the period between 2014 and 2023 which will correspond to 27 000 jobs¹²². Over the last years, indirect employment has been more affected

¹¹⁷ Mayes, R. *Op. cit.* 13-14.

¹¹⁸ Strutt, J. 2009. "Work visa kids: a burden on schools" in *The West Australian*, August 28, 2009.

¹¹⁹ Woodlay, N. 2015 "Federal Government announces changes to 457 skilled visa program after review into rorts and abuse", *ABC*, March 18 2015, Online: <http://www.abc.net.au/news/2015-03-18/federal-government-announces-changes-to-457-visa-program/6328900> (Accessed on October 19th 2015).

¹²⁰ By Angel Saldomando. Centro de investigación sobre Sociedad y políticas públicas de la Universidad de Lagos (CISPO), Santiago. Translated from Spanish and edited by M.Coderre-Proulx.

¹²¹ These mining regions are Norte Grande (Tarapaca, Antofagasta), Norte Chico (Atacama, Coquimbo) and Centro (Valparaiso, Metropolitana, O'Higgins).

¹²² Consejo de competencias mineras. 2014. *Op. cit.* 67-79.

by the downward trend within the industry than the direct employment. Indeed, there were 233 000 workers in 2015, a decrease of 17 000 since 2012. By contrast, between 2012 and 2015, 44 000 indirect jobs had been lost¹²³.

Figure 8: Mining sector contribution to the Chilean economy

Data	
Companies	896
Subcontractors	3.544
Mining-GDP	11%
Exports	57.3%
Tax revenue contribution	10%
Mining investment (of total investment)	26%
Direct and indirect employment	3% – 9%

Source: La minería en cifras. Consejo de competencias mineras (Mining Skills Council) 2013

3.2.2. Foreign workers in the Chilean mining industry

A report published in 2014 by the Mining Skills Council of Chile (Consejo de Competencias mineras CCM) highlighted the characteristics of workers within 13 large-scale mining companies and 20 subcontractor companies which represent 40% of the total workforce within the industry. According to the data provided by that study, in 2014, there were 1700 foreign workers of whom 468 were employed by a mining company and 1268 by a subcontractor company. Overall, foreign workers represent no more than 1% of the total employment¹²⁴. Nevertheless, many migrants live in the mining areas. As demonstrated in the chart below, the seven mining regions have experienced a significant growth in their foreign-born population. For instance, in a region such as Antofagasta, where the contribution of the mining activities to the regional PIB is high, the number of immigrants has more than tripled since 2009. Although there is no evidence that the increase of the foreign-born population is related to the mining boom, in the case of Antofagasta, the economic development stimulated by the dynamism of the extractive industry may very well have played a role in attracting migrants over the last years even if in most cases their arrival has not been accompanied by a job in the industry. It should also be pointed out that Antofagasta is also one of the main points of entry of migrants from the bordering countries who transit by this region when they are heading for the capital region. This may also explain why this region has experienced a substantial growth of its immigrant population. Thus, the causal link between the mining boom and the arrival of migrants is hypothetical and should be further tested.

There were two references made by the Mining Skills Council of Chile regarding foreign workers in the industry in 2014: the data collected concerning a sample of 652 persons (figure 10) and the report “Fuerza laboral de la gran minería chilena 2014-2023” which provides data collected concerning the 1700 foreigners identified within the large-scale mining industry (figure 11). Both references take into account the type of hiring company but the first study also gives data concerning the sex of workers. The data differ with regard to the nationalities which are the most likely to be employed by a subcontractor company. For example, figure 10 reveals that Bolivians and Germans are more likely to be employed by a subcontractor while figure 11 shows on the other hand, that Peruvians are more likely to work for a subcontractor. Nevertheless, on the basis of both studies we can conclude that foreign workers in the mining industry are in a large proportion from

¹²³ Consejo de competencias mineras. 2015. “Capital Humano” Online: <http://www.consejominero.cl/ambitos-estrategicos/capital-humano/> (Accessed on November 28th 2015).

¹²⁴ Consejo de competencias mineras. 2014. *Op. cit.* 35.

Figure 9: Immigrant population distribution per mining region

REGIONS	CASEN 2009		CASEN 2013		% growth of immigration*	% of mining contribution to the PIB region
	No immigrants	% Pop-Region	No immigrants	% Pop-Region		
I Tarapacá	9.898	3.4	18.069	5.7	83%	42%
II Antofagasta	8.257	1.5	26.629	4.7	222%	57%
III Atacama	1.871	0.7	2.997	1.1	60%	43%
IV Coquimbo	2.907	0.4	7.076	1.0	143%	36%
V Valparaíso	14.128	0.8	25.510	1.4	80%	14%
VI O'Higgins	2.025	0.2	4.743	0.5	134%	24%
XIII Metropolitana	141.561	2.1	235.610	3.4	40%	0.6%

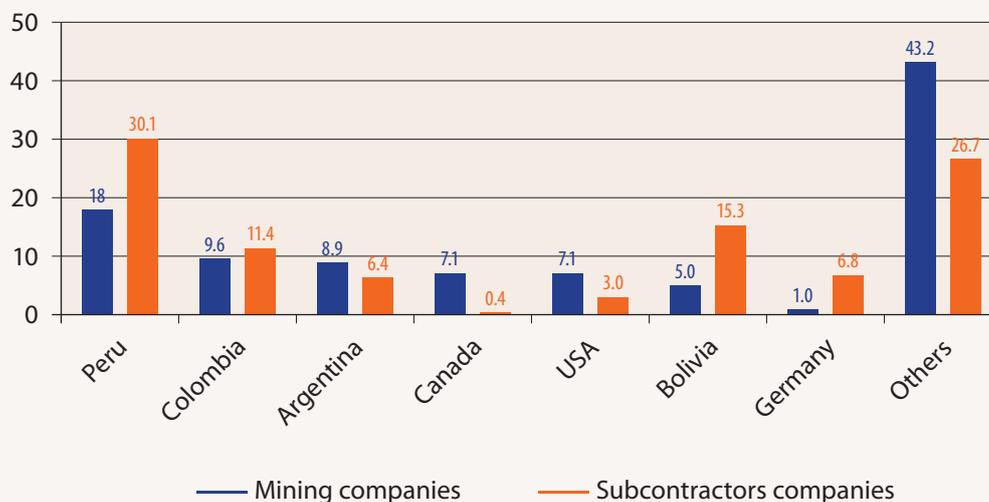
Source: CASEN 2009, CASEN 2013, CCM 2015. *Calculated by the author

Latin America, especially Peru, Bolivia, Colombia and Argentina. Although these figures concern mainly male labour migration, there is a significant proportion of Colombian women working in the industry. As figure 10 shows, the number of foreign workers has increased since 2013 despite the slowdown of the mining industry. This growth appears to be the result of an increased presence of Japanese, Americans and Australians. Their numbers had more than doubled in one year although they were still a minority in comparison to South Americans. Furthermore, it should be underlined that these figures only concern large mining companies and do not include foreign workers who might be working in the small and medium scale mining sector.

Figure 10: General data of foreign workers

Top 10 Country of origin	% of pop. immigrant	Type of company (%)		Sex (%)		Variation between 2013-2014 (%)*
		Mining company	Contractor	Female	Male	
Peru	23%	52%	48%	12%	88%	25%
Colombia	10.6%	61%	39%	39%	61%	1.5%
Bolivia	8.9%	38%	62%	11%	89%	57%
Argentina	8.3%	72%	28%	25%	75%	-11%
Japon	6.6%	67%	33%	2%	98%	104%
United States	5.8%	82%	18%	13%	87%	192%
Spain	5%	76%	24%	28%	72%	12%
Canada	4.9%	97%	3%	16%	84%	0%
Australia	4.9%	91%	9%	19%	81%	166%
Germany	3.2%	24%	76%	10%	90%	10%
Total		66%	34%	19%	81%	27%

Source: *Calculated by the author, CCM. 2014. Based on a sample of 652 migrant workers. Online: http://www.ccm.cl/app_ccm/frontend/modules/index.php?modulo=datamart&accion=SeleccionarDatos

Figure 11: Distribution of foreign workers among mining and subcontractor companies (%)

Source: CCM 2014 *Fuerza laboral de la gran minería*, p. 35, calculated on 438 mining companies foreign employees and 1268 subcontractors companies foreign employees

3.2.3 Main issues related to migrant workers in the Chilean mining regions

A reactive and fragmented legislation

The fact that Chile is not a country with an important tradition of immigration is certainly an important part of the explanation for the fact that its public policies concerning its foreign-born population have been qualified as reactive to the increase of immigrants over the last years. As of 1998, there occurred an accumulation of measures concerning different issues lacking an overall coherence and in the absence of the existence of an institutional framework specifically responsible for immigration. Indeed, there are no governmental specialized bodies in this area nor is there a genuine immigration policy. The existing measures are put forward by various institutions and prepared more or less on an *ad hoc* case by case basis, opening up space for arbitrariness. In the case of labour migration, the appropriate visa is called “residence subject to contract”. This means that the migrant is authorized to reside in Chile to perform paid activities¹²⁵. In the event of the expiration of the work contract, the visa also expires, generating high transitional informality. For this reason, this situation has been compensated for by legislation that grants an additional period of three months (previously it was a month) in order for the worker to get a new contract and revalidate the visa. The visa known as “residence subject to contract” is valid up to 2 years and can be extended indefinitely. This regime is universal for all categories of labour, including mining. Regional conventions within Mercosur (2009) facilitate the entry of the member countries’ citizens. The formula in this case provides that individuals from Mercosur can obtain a visa for a year that makes it possible to reside and work¹²⁶. This provision is different from the case which applies to other nationalities for which access to a temporary resident visa is subject to obtaining a contract for work. However, as for Colombian applicants, they must submit a judicial record certificate. To remedy the lack of coherent migration policy, draft legislation will be presented to the Parliament during 2016.

¹²⁵ Chile Abroad. “Foreign-born worker in Chile”, Government of Chile, Online: <http://chileabroad.gov.cl/en/estudie-y-trabaje-en-chile/para-trabajar-en-chile/> (Accessed on November 29th 2015).

¹²⁶ Countries members of Mercosur: Argentina, Brazil, Paraguay, Uruguay, Venezuela and Bolivia (in process of adhesion) Associated countries: Chile, Peru, Colombia, and Ecuador. With regard to migration to Chile, nationalities profiting from a visa for a year are: Argentines, Bolivians, Brazilians, Paraguayans, and Uruguayans. Peruvians and Colombians are excluded from this regime.

The inadequacy of existing laws together with the increase of migration flows, especially in Northern Chile, has led to the development of a variety of labour migration patterns. The classic journey is that of entering into Chile with a tourist visa for 90 days¹²⁷, obtaining a contract for work and subsequently requesting a temporary residence permit for the duration of the contract. Others, mostly from the bordering countries may choose to enter illegally to the Chilean territory. In this case, the sanction provided is expulsion. It is estimated that 5.6% of the immigrants or about approximately 20,000 migrants are in Chile under illegal conditions¹²⁸. The number of expulsions reached 2823 in 2014 and the most important nationalities concerned were people from Bolivia, Peru and Colombia, which are also the nationalities which correspond to the migrants in the northern mining areas¹²⁹. According to a study conducted in the region of Tarapacá, a northern mining area¹³⁰, the average duration of a stay is short. Only a 24% of migrants considered in the study declared that they had been in Chile for more than 2 years and a similar percentage expressed their wish to settle there. Nevertheless, since the onset of the mining boom that has driven the regional economy in Tarapacá and Antofagasta, the demographic portrait has changed: Peruvians, Bolivians, and more recently Colombians have arrived with the intention of staying longer. According to the mayor of Antofagasta: “in Antofagasta it is very difficult to find waiters who are Chileans, pump attendants, hairdressers or others. The majority of them are foreigners, either Peruvian, Colombian, etc.” This may be explained by the fact that jobs in the mining companies have been filled mainly by Chileans, leaving vacant lower paid jobs that are currently occupied by foreigners¹³¹. To deal with the new context of immigration since 2009, the future legislation will need to address issues related to temporary, circular, and permanent labour migration from neighbouring countries such as Peru and Colombia from which nationals account for more than one third of the foreign workforce in the mining industry. These are migrants who do not benefit from visa facilitation procedures unlike passport holders of Mercosur member countries.

Working and social conditions

With regard to employment contracts, the immigrant population with no work contract has tended to decrease. In 2009, 23.7% of the foreign-born population did not have a contract compared with 20.1% of Chileans while in 2013 they were fewer than nationals (10.6% as opposed to 14.8% of Chileans)¹³². This is due partly to the relationship between contracts and residence visas, but also to the fact that informal employment is likely to be less well documented. In the large mining companies this is easier to control but in the small and medium ones, as well as in the supplier companies, the conditions may be less transparent. In the case of the Antofagasta region, contracts of indefinite duration cover 90% of the workers¹³³. A less well documented aspect is the relationship of the immigrant labour force with the trade unions. The latter do not appear to have information on this aspect as they do not discriminate by nationality. Since 2001, the new labour law permits the affiliation of foreign workers, a situation which was not allowed under the previous legislation. Unionization in mining had led to the existence of 305 unions in 2013 and 308 in 2014. The members of these unions accounted for 5.4% and 5.5% respectively of the total national number of people affiliated to unions. During the same period, unionized miners represented 21.9% of the labour force in mining and 0.6% of the employed workforce nationwide¹³⁴.

¹²⁷ Peruvians have a pass allowing them to stay 7 days in Arica, a Chilean city bordering Peru.

¹²⁸ Isla Gonzales, C. 2015. “Número de inmigrantes en Chile llegaría a un millón en ocho años” in *El Mercurio*, September 7th 2015.

¹²⁹ Diaz, F. and J. Matus. 2014. “Policía registro aumento de extranjeros expulsados en 2014” in *El Mercurio*, December 13th 2014.

¹³⁰ Dirección del trabajo. 2005. *El trabajo de los extranjeros en Chile y en la I región*, Gobierno de Chile, No. 17, p. 22.

¹³¹ Vargas, J. 2012. “Minería le cambia el perfil a Antofagasta: Inmigrantes ocupan los puestos menos cotizados”, *la Segunda*, 24 de diciembre 2012, Online: <http://www.lasegunda.com/Noticias/Nacional/2012/12/808555/mineria-le-cambia-el-perfil-a-antofagasta-inmigrantes-ocupan-los-puestos-menos-cotizados> (Consulted on November 29th 2015).

¹³² Ministerio de desarrollo social. 2015. *Encuesta de caracterización socioeconómica nacional. Casen 2013*. Government of Chile. Santiago, 22.

¹³³ Dirección del trabajo. 2011. Seguridad en la mediana minería en la región de Antofagasta, Cuadernos de investigación, Gobierno de Chile, No. 43, p. 55.

¹³⁴ Dirección del trabajo. 2014. *Capítulo 1: Organizaciones sindicales*, Unidad de Análisis estadístico, p. 29.

Given the recent nature of the increased immigration in Chile, issues related to integration and social cohesion are numerous. For instance, in the region of Antofagasta, where migrants have become more present over the last years, the local population is divided regarding immigration. According to a journalistic investigation conducted in 2014 and entitled “Perceptions of Antofagastinos on recent immigration”¹³⁵, only 51% of the Chilean population living in Antofagasta was in favour of immigration and 55% of the immigrants have reported that they had experienced discrimination because of their nationality. The majority of the population is of the opinion that immigration has exceeded the capacity of the city. Although there is a consensus that the arrival of immigrant has favored economic dynamism, 63.8% of Chileans living in Antofagasta declare themselves as xenophobic. There are also prejudiced opinions against Colombian women and links made between migrants and criminality. In fact, Antofagasta is the only city in Chile where an anti-immigrant protest has taken place although it should be underlined that it was followed only by a minority. These conclusions regarding tensions between nationals and foreigners were also confirmed by a field survey of Colombians in Antofagasta published in 2014. Indeed, the survey showed that 70% of the respondents claimed to have been subject to insults or threats and 64% reported to have been discriminated against by their neighbours because they were Colombians¹³⁶.

To conclude, on the one hand, international labour migration to the Chilean mining industry seems to be a rather marginal phenomenon although the data for the last years does indicate an increasing presence of migrants. On the other hand, the mining regions in Northern Chile, such as Antofagasta, have experienced an increase in the growth of immigration which exceeded 200% between 2009 and 2013. Because there is no evidence of a causal relationship between the mining boom and the rapid increase of immigration, it would be useful to examine more closely whether or not these two trends have influenced each other. The increased presence of Peruvians, Bolivians, and Colombians in the trade and services sectors in Antofagasta, for instance, might suggest that the migrants have filled the jobs left by Chileans in order to work in the mining industry. Rather than being a direct factor of attraction, the vibrancy of the mining sector over the last years might indirectly have induced migration by stimulating the regional economy and creating jobs, as well as by provoking a shift of the national workforce towards mining activities. These two hypotheses should be tested in a further research. There is a lack of data concerning unionization, the nature of work contracts, and more generally, concerning the working conditions of migrants. Moreover, and as noted, the legislation on labour migration is fragmented. The legislative reform forthcoming in 2016 is expected to specify the regulations and conditions under which labour migration will take place in the future. Finally, the rapid growth of immigration, notably in Antofagasta has drawn attention to the presence of the non-Chilean population and this has favoured the emergence of misconceptions about foreigners, especially concerning people from Colombia, Peru and Bolivia who are the most numerous foreign population groups.

3.3 Zambia: African and Chinese migration in the copper mines of the Copperbelt province

3.3.1 The mining industry in Zambia’s national economy

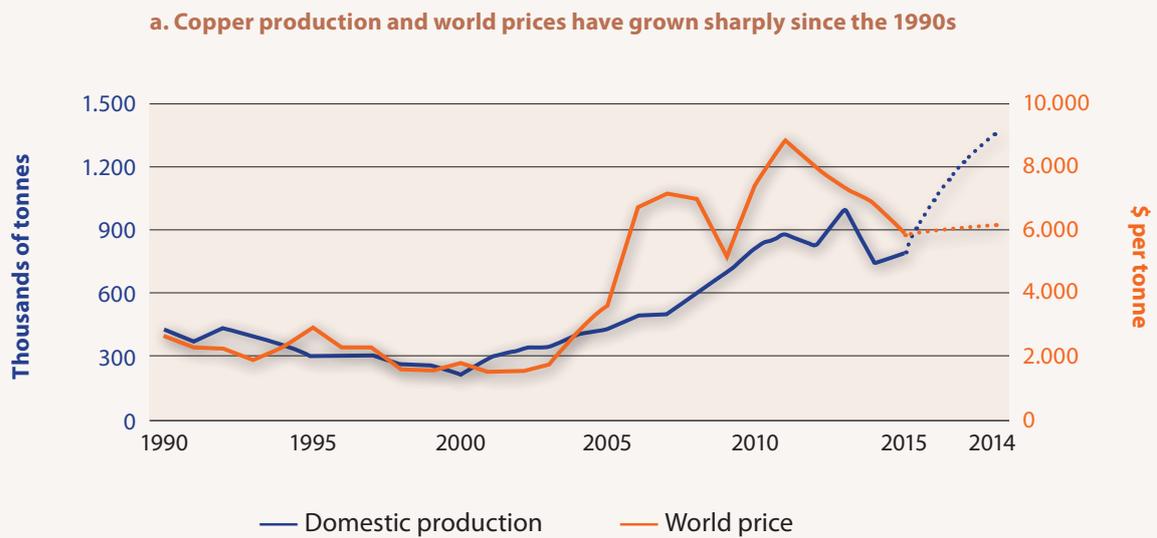
The copper industry plays a central role in the Zambian economy, accounting for a large part of total exports and GDP. In accordance with the volatility of the global mining market over the last decade, the Zambian mining sector experienced rapid growth and subsequently a recent moderate downturn. Indeed, the mining industry grew annually by 20.8% over the period 2005-2010, benefiting from the high global demand and prices. Although, the mining industry has recently faced a decline due to the slowdown for the demand for minerals, copper production and its market price still remain higher than in the 1990s. Copper export

¹³⁵ Jimenez, T. 2014. “Hay recelo contra los inmigrantes y una mayoría se considera xenófobo” in *Mercurio Antofagasta*, August 24th 2014, Online: <http://www.mercurioantofagasta.cl/imprensa/2014/08/24/full/2/> (Accessed on November 29th 2015).

¹³⁶ The survey was conducted in 102 Colombians (43 men and 59 women) living in Antofagasta. Taylor, J. 2014. *¿La unión que nos separa? La estructura de la comunidad colombiana en Antofagasta, Chile*, Master thesis, Leiden University, p. 42.

revenues were still on the increase as of 2010 and contributed more than 7millions \$US to the national economy in 2014. The World Bank Group estimates that copper prices will rise as of 2016 but at a slower pace than between 2005-2010¹³⁷.

Figure 12: Zambian copper production and world prices 1990-2018



Source: World Bank 2015

Figure 13: Contribution of mining to Zambia's GDP and exports



Source: World Bank 2015.

¹³⁷ World Bank. 2015. *Making mining work for Zambia. The Economic, Health and Environmental nexus of Zambia's copper mining industry*, Zambia Economic Brief, World Bank Group, No. 5, 31.

Mining activities are mainly located in the Copperbelt Province¹³⁸, and in the Northwestern Province, also called the New Copperbelt. These provinces border the Democratic Republic of the Congo (DRC). In 2014, mining operations in Zambia employed nearly 70 000 direct and contract workers¹³⁹. Employment in mining is mainly concentrated in the Copperbelt Province. The mining operations which contribute most to employment are Konkola (16 000 workers) and Kansanshi (13 919 workers) which are owned respectively by Vedanta and First Quantum, as well as those of Mopani Copper Mines (20 000 workers) which belongs to Glencore¹⁴⁰. Chinese companies are also very present, as for example China Non-Ferrous Metals Mining Corporation (CNMC), but these companies have fewer employees than those previously cited¹⁴¹. Two unions represent around 50 000 mineworkers: Mineworkers Union of Zambia (MUZ) and National Union of Miners and Allied Workers (NUMAW). Due to current lower prices for minerals and high costs of production, the main mining companies are currently restructuring their activities, notably by proceeding with numerous lay-offs. For instance, in September 2015, Glencore announced its plan to lay-off about 4000 workers¹⁴². Privatization of state-owned mines during the 1990s led to the emergence of small-scale mining camps in the bush, especially in the North Western Province. In a study published in 2012, Mususa has referred to these camps as “rurban slums” due to their rural location, the absence of basic services (water, electricity) and the concentration of a migrant population¹⁴³.

3.3.2 International labour migration in the mining industry

International migration in Zambia is not a major phenomenon. The last national census in 2010 estimated that international migrants represent 0.4% of the total population and that they are mainly from Angola, Zimbabwe, DRC, India, and Congo Brazzaville. Employment is one of the main motives for migrants to stay in Zambia, along with family reunification, asylum and settlement. The economic migrants are more likely to live in the capital region (53%) or the Copperbelt province (25.8%)¹⁴⁴. Therefore, it is likely that the mining sector, prevalent in the Copperbelt province, has attracted labour migration directly by creating job opportunities and indirectly by contributing to the economic development of the mining cities. The Zambian immigration rules allow a migrant to apply for an employment permit which lasts for two years. Figure 14 below shows the number of approved employment permits by nationality¹⁴⁵.

We can note that the countries of origin above differ from those highlighted in the 2010 national census. A study conducted for the ILO on forced labour in Zambia reported that there were West Africans and South Africans in Zambia active in mining activities and trading gemstones. Congolese are also present in the mining cities of the Copperbelt Province, namely in the city of Chililabombwe, especially in the sale and trade sector¹⁴⁶. Zambia is also a transit country for Central and East Africans migrating to South Africa¹⁴⁷. According to the Ministry of Mines and Mineral Development (MMMD) in response to a request for information in preparation for this study, in 2015 the countries of origin of migrant labour in the mining sector were

¹³⁸ Mining cities in the Copperbelt province are: Chililabombwe, Chingola, Mufulira, Chambishi, Kitwe, Kalulushi, Ndola, Luanshya. Mining city in Northwestern Province: Solwezi.

¹³⁹ *Ibid.* 33.

¹⁴⁰ *Ibid.* 16.

¹⁴¹ Main mines run by CNMC: NFCA (Chambishi), CLM (Luanshya), CCS (Chambishi) and Sino Metals (Chambishi) and provide around 6000 jobs. See Human Rights Watch. 2011. “You’ll be fired if you refuse”. *Labor Abuses in Zambia’s Chinese state-owned copper mines*, New York, 21.

¹⁴² Hill, M. 2015. “Glencore to shed 4300 Zambia jobs” in *Business Day*, September 16, Online: <http://www.bdlive.co.za/africa/africanbusiness/2015/09/16/glencore-to-shed-4300-zambia-jobs> (Consulted on November 7th 2015).

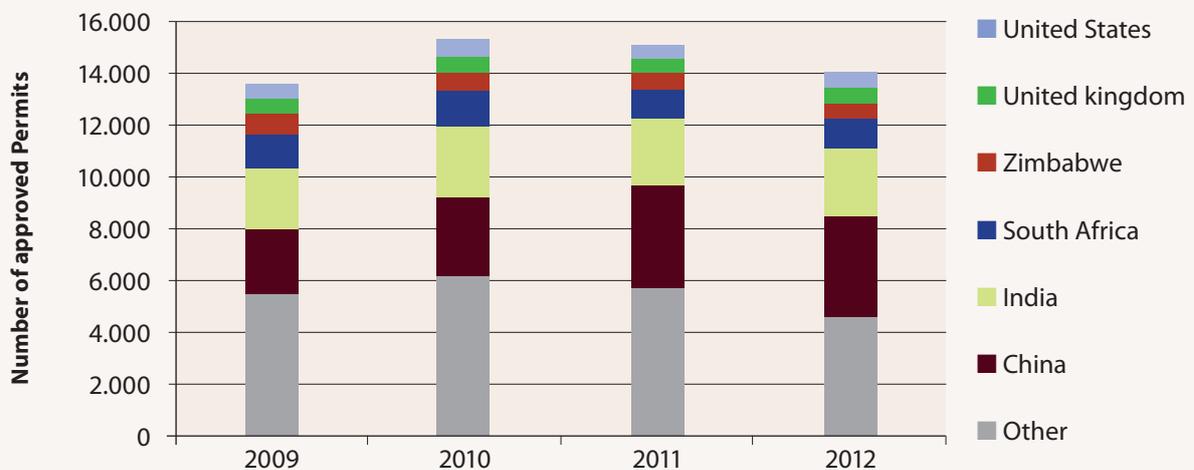
¹⁴³ Mususa, P. 2012. “Mining, welfare and urbanisation: the wavering urban character of Zambia’s Copperbelt” in *Journal of Contemporary African Studies*, vol. 30, No. 4, 581.

¹⁴⁴ Central Statistical Office. 2013. *2010 Census of Population and Housing. Migration and Urbanization*, Republic of Zambia, 18-21.

¹⁴⁵ Postel, H. 2015. “Following the money: Chinese labor migration to Zambia”, Migration Policy Institute, Online: <http://www.migrationpolicy.org/article/following-money-chinese-labor-migration-zambia> (Accessed on November 2th 2015). As mentioned in her article, it is worth to note that there is no family reunification permit in Zambia. Thus, one employment permit may also include dependants and spouses.

¹⁴⁶ Fox, C. 2008. *Investigating forced labour and trafficking: Do they exist in Zambia?* International Labour Office and Republic of Zambia, New Horizon Printing Press, 54.

¹⁴⁷ Postel, 2015. *Op. cit.*

Figure 14: Approved employment permits by nationality

Source: Postel, 2015. Cited Zambian Department of Immigration

South Africa, Peru, Chile, Australia, Mongolia, India, and China¹⁴⁸. The number of workers employed can vary enormously depending on the project from 20 to 2000 workers. The level of skills of migrants ranges from professional, to technical and artisanal. In the future it is anticipated that more migrant workers will be attracted to work in mine construction. According to the same source, entire crews of migrant workers are brought in for i) shaft sinking and equipping; ii) in metallurgical plant construction (new rehabilitation and expansion); and iii) commissioning of specialized mine systems. Individual highly skilled workers are brought in when needed to fill positions such as those of engineers and specialized technicians. In Zambia, foreign workers must obtain work permits to enable them to work in the mining sector.

Concerning the specific case of migrant workers from China, according to a study carried out by Postel, since 2009, the migration of Chinese to Zambia, especially through the employment permit system has increased. In 2013, of the 5897 employment permits delivered to Chinese migrants, nearly 10% were linked to the China non-ferrous Metals Mining Corporation (CNMC). Women accounted for 10-20% of the total of Chinese migrant population. As observed in the 2010 national census, male migrants are more numerous in Zambia for employment purposes than women (73.9% for men and 26.1% for women). More generally, with regard to the increased presence of Chinese migrants notably in the Zambian mining sector, this trend may well illustrate the tendency for those present to attract new migrants as suggested in Section 2 above and referred to as the *cumulative causation of migration*. As Postel concludes, “the Chinese population in Zambia is still quite new; as life in Zambia is publicized and further business opportunities are created, more migrants will surely follow”¹⁴⁹.

3.3.3 Issues related to international labour migration in the mining sector

The issues arising from international labour migration in the Zambian mining sector are multiple and vary depending on the migrants’ country of origin, legal and employment status, and gender.

¹⁴⁸ Information exists at the company level concerning migrant workers but there is no legal requirement to disclose this information to the Ministry of Mines and Mineral Development (MMMD). However the information can be accessed.

¹⁴⁹ *Ibid.*

Chinese labour migration employed by the Chinese mining companies

In 2007, the government of Zambia established a special economic zone in Chambishi exempting Chinese investors from taxes on dividends, imports and profits¹⁵⁰. These tax incentives led to an increase of the Chinese presence and investments in the Zambian mining industry. In 2009, around 75% of the value of China's investments in Zambia was related to mining activities¹⁵¹. Consequently, the mining industry has become an important sector of employment for Chinese migrants. Although there is no official data concerning the nationalities of employees at the Chambishi mine, information available suggests that 521 employment permits were delivered to Chinese migrants to work for China Non-Ferrous Metals Mining Corporation (CNMC) in 2013 (Postel 2015) and there was a total of 5171 jobs in the mining sites operated by CNMC in 2014 (World Bank 2015). Thus, these visa holders accounted for 10% of the total employment of CNMC.

Researchers have inquired into the reasons for the presence of Chinese labour imports. From the perspective of the Chinese government, clearly and above all there is need to provide jobs for workers in an overcrowded China where there are at least 10 million new city dwellers per year. According to Gadzala, hiring co-nationals by Chinese companies is driven also by a factor of mutual understanding, that is, Chinese employees are attractive because the communication with Chinese managers is easier and guarantees higher productivity. For example, in 2007, 180 Chinese employees in the Chambishi mine were permanent compared to 52 Zambians¹⁵². Similarly, Postel noted that Chinese mining companies are inclined to hire almost exclusively Chinese workers and that this is motivated by language and cultural differences with Zambians¹⁵³. The presence of Chinese in Zambia has tended to have become highly politicized. Such rhetoric was especially popular in the capital region and the Copperbelt Province, where the presence of Chinese in the local economies is the most visible. Specific issues related to Chinese migrating to Zambia for work include the following. First, considering the relatively modest number of job opportunities in the formal sector in Zambia (around 400 000) and the high rate of unemployment (around 50% of the total active population), Chinese migration in the mining industry is seen to possibly restrict opportunities for Zambians to be hired in the formal sector and consequently be confined to the informal sector where jobs are more precarious and do not have social protection. Second, according to certain observers, for those who are employed by the Chinese mining companies, there is fear that Zambian workers may have faced difficulties in being understood and accepted by their employers¹⁵⁴. Third, this context may be harmful for Chinese integration into Zambian society and relationships between nationals and Chinese. As shown by Postel, the Chinese community in Zambia is more segregated than other cultural groups (as British and Zimbabweans for example) and cultural prejudices contribute to this situation¹⁵⁵. These tense relations sometimes lead to confrontation at work. For example, in 2012, a Chinese supervisor was killed and another wounded after the workers protested against the mining company's refusal to raise wages in accordance with the Zambian government's new minimum standards¹⁵⁶. Finally, the increasing presence of Chinese in permanent positions in the mining sector, especially in a context of an economic slowdown, brings to light certain elements of Zambian immigration rules with respect to labour migration which may need to be revisited, as well as the need to invest in local training. In fact, an employment permit can only be delivered when no nationals have the skills to fill the position. Although this is legally the case, this provision may have at times been circumvented.

¹⁵⁰ Alves, A. 2011. "The Zambia-China Cooperation Zone at a Crossroads: What now?" in *South African Institute of International Affairs (SAIIA)*, Policy Briefing, No. 41, 4 p.

¹⁵¹ Gadzala, A. 2010. "From formal to informal-sector employment: examining the Chinese presence in Zambia" in *Review of African Political Economy*, vol. 27, No. 123, 44.

¹⁵² *Ibid.* 50.

¹⁵³ Postel, H. 2015. "Following the money: Chinese labor migration to Zambia", Migration Policy Institute, Online: <http://www.migrationpolicy.org/article/following-money-chinese-labor-migration-zambia> (Accessed on November 2th 2015).

¹⁵⁴ See Fox 2008 and Human Rights Watch 2011.

¹⁵⁵ Postel. 2015. Cultural prejudices such as: Zambians are less efficient at work, Chinese are cold and distant.

¹⁵⁶ IndustriALL. 2012. "Supervisor killed in a protest at Zambian Collum Mine", Online: <http://www.industrialunion.org/supervisor-killed-in-a-protest-at-zambian-collum-mine> (Accessed on November 12th 2015).

Recruitment agencies in the Copperbelt Province

In the 2000s, the Ministry of Labour and Social Security of Zambia (MLSS) expressed concerns about recruitment agencies in the mining sector and approached the International Labour Office to investigate on their practices. A research project was undertaken to look into the possible existence of forced labour practices in Zambia. In particular, MLSS had become concerned about the practices of some recruitment agencies, which were acting as 'labour brokers' in the mining sector. Labour brokers involve "a commercial agreement between an agency and the employer/user firm for the former to recruit certain categories of labour to be contracted to the latter"¹⁵⁷. This means that the agency takes all the responsibility for the worker. The mining sector was one of the economic sectors with the highest number of complaints addressed to the MLSS¹⁵⁸. In the Kitwe MLSS headquarter, located in the Copperbelt province, 105 complaints were registered in the mining sector, and the majority of them came from workers employed by mining contractors¹⁵⁹. Indeed, contract workers are more likely to seek employment through a recruitment agency and the latter act as an intermediary between the mining company and the worker, creating a triangular employment relationship. As suggested by Fox, "the structural relationship of the contractor as an intermediary between the mining company and the workers allows the contractor to delay the payment of wages and dues by blaming the mining company for not paying on time"¹⁶⁰. In fact, almost all complaints in the mining sector concerned unpaid wages and dues, low wages or unfair deductions. Also, there were cases reported concerning contractors withholding workers' pneumoconiosis certificates (a specialised medical certificate which is mandatory to work for a mining company) and thus preventing them to find work elsewhere in the industry¹⁶¹. A consequence of this for a migrant worker is to strengthen the conditionality of his right to stay in the host country to one employer. The insecurity which accompanies the fear of job loss may expose him to labour rights abuses without the possibility of reporting them. While further research is necessary and although there is no mention in the report of the nationality of complainants, one might hypothesize that low-skilled migrants, particularly those entering Zambia by irregular means, notably those from neighbouring countries, would be more likely to encounter such difficulties. In the interviews conducted for the ILO report on forced labour, Congolese were constantly mentioned as entering and staying in Zambia by informal channels and with irregular documents, particularly in Chililabombwe because of its proximity with the DRC¹⁶².

Zimbabweans sex workers in Chililabombwe

Mining activities not only stimulate direct labour migration. As noted on several occasions, the mining sector is known as an industry with a high employment multiplier effect which means that each direct job created gives rise to more indirect jobs. Consequently, it is relevant to take into account indirect labour migration flows resulting from a mining area development. This flurry of activities resulting in part from cross border migration can be positive or negative and has come with new sets of challenges.

A survey undertaken in the Konkola Copper Mines in 2001 revealed that HIV prevalence was 18% to 20% among permanent workers and 14-15% among contract workers¹⁶³. The International Organization for Migration (IOM) cited various factors that might explain, beyond the particular case of Konkola, the high prevalence of HIV in the Zambian mining industry including: dangerous working conditions that may present

¹⁵⁷ Fox, C. 2008. *Investigating forced labour and trafficking: Do they exist in Zambia?* International Labour Office and Republic of Zambia, New Horizon Printing Press, 2. Citing F. Mutesa and C. Matenga. *Recruitment agencies and practices in Zambia*.

¹⁵⁸ *Ibid.* p. 27, 112 complaints were registered, accounting for 9% of all complaints.

¹⁵⁹ *Ibid.* 36.

¹⁶⁰ *Ibid.* 37.

¹⁶¹ *Ibid.* 4.

¹⁶² Fox, C. 2008. *Investigating forced labour and trafficking: Do they exist in Zambia?* International Labour Office and Republic of Zambia, New Horizon Printing Press, 50.

¹⁶³ International Organization for Migration. (n.a). *Briefing note on HIV and labour migration in Zambia*, IOM Regional Office for Southern Africa, Pretoria, 2. Citing the study of Evian CR, Van Wyk P, Slotow SJ, et al. "HIV prevalence survey miners in the Zambian Copper Belt.". Based on a sample of 9024 workers; the higher prevalence of HIV among permanent workers is due to difference age with contract workers who were younger.

HIV as a distant risk, single-sex hostels, loneliness, and lack of social cohesion¹⁶⁴. The last three are more likely to be faced by internal (national) and international migrants. This context, combined with an economic boom in the mining cities, may lead to migration linked to commercial sex. A recent report of the National AIDS Council of Zambia, demonstrated that the Copperbelt Province, along with Lusaka, have higher HIV prevalence rates than other provinces and, as is the case more generally, there is a discrepancy of approximately 10% between males and females¹⁶⁵. A study on sex workers at the Kasumbalesa border in the district of Chililabombwe demonstrated the presence of Zimbabweans and the marginalisation they were facing on the Zambian side¹⁶⁶. Indeed, the Kasumbalesa border post is very porous and busy. According to one account, it is not uncommon to see hundreds of copper transportation trucks queuing to cross the border for exporting minerals to China by sea. Numerous truckers have become regular clients of Zimbabweans sex workers¹⁶⁷. In the ILO report on forced labour, trucks drivers were repeatedly mentioned as responsible for trafficking women for prostitution and transporting illegal migrants¹⁶⁸. The links between HIV, mining and migration are multiple. On the one hand, the experience of Zambia shows, as any number of other similar case studies would have, that the multiplication of cross-border trade in mining areas, along with the growth of the mining cities can lead to an increase of migrant sex workers coming from neighboring countries. On the other hand, other case studies namely in South Africa¹⁶⁹, also show that migrant mineworkers are more likely to be involved in risky sexual activities due to their location in single-sex hostels, their distance from their home and their isolation.

To sum up, for certain issues related to labour migration in the Zambian mining sector, it would seem useful to distinguish between Chinese and African immigration. On the one hand, Chinese migrant workers generally come to Zambia through an employment permit and at times would appear to be favoured in hiring practices over Zambians for filling permanent positions within mining companies run by Chinese managers. This preference for Chinese prevails against the backdrop of high unemployment rates in Zambia which partially explains why relationships between Zambians and Chinese are not always very harmonious. On the other hand, the development of mining areas has attracted migration from neighbouring countries, especially from the DRC and Zimbabwe, as well as from West African countries. These migrants are more likely to enter into the country by irregular means and be involved in the informal sector surrounding large-scale mines. West Africans were reported in the artisanal mining sector dealing gemstones and Congolese as traders in the mining cities close to the DRC border. These findings show that while analysing international labour migration in the mining sector, it is relevant to consider also migration flows that are stimulated indirectly by mining activities, especially in Africa where human mobility is high, borders more porous and alternative means to ensure livelihoods often very precarious.

The issues raised in this short overview are in fact monitored closely by those in decision making positions in the country and notably in the Ministry of Mines and Mineral Development. Our observations lead us to formulate the following recommendations:

- Co-opt plant and shaft sinking construction in college syllabi especially at the technical and artisanal level.
- Encourage Zambia entrepreneurs to set up plant construction and shaft sinking ventures and source for business both locally and abroad.
- Establish data base of specialist construction workers.
- Maintain accurate data base on medical examination of migrant workers.

¹⁶⁴ *Ibid.* 3.

¹⁶⁵ National AIDS Council. 2014. *Zambia Country Report*, Government of Zambia, Lusaka.

¹⁶⁶ Mubanga, K.C. 2013. *Formative Research with Sex Workers for Kasumbalesa Border in Chililabombwe, District of the Copperbelt Province of Zambia*, Zambia Centre for Communication Programs, 16.

¹⁶⁷ (n.a). 2011. "Zimbo women rule the roost at border post", *Newsday*, March 18 2011, Online: <https://www.newsday.co.zw/2011/03/18/2011-03-18-zimbo-women-rule-the-roost-at-border-post/> (Accessed on November 7th 2015).

¹⁶⁸ Fox, C. 2008. *Investigating forced labour and trafficking: Do they exist in Zambia?* International Labour Office and Republic of Zambia, New Horizon Printing Press, 46.

¹⁶⁹ See section 2.2.1 of this report.

Moreover issues which merit more information and research include: (a) The medical history of workers; (b) Setting limits to dust and other hazardous substances exposure; and (c) Development of local counterpart experts during plant construction and commissioning.

3.4 Mali: Migrant Workers in the Small and Artisanal Mining Sector¹⁷⁰

Mining activities in Mali, whether industrial or artisanal, involve workers who are most often nationals. However, the sector attracts a significant flow of migrants in search of work or even land in order to undertake gold mining or other activities that are organized around this activity. This case study has drawn on available information, in order to describe the context created by migratory flows in mining areas and the issues which they raise. It also outlines a set of recommendations to improve the management of the problems related to migrations in host areas.

3.4.1 Brief presentation on mining activities in Mali

Mali is considered the third largest gold producer in Africa, after South Africa and Ghana. The country relies on the gold mining sector to play a strategic role in its economic development¹⁷¹. The rapid development of the production and export of gold in large quantities in recent years is due to several factors: the changes in the country's mining code, the opening up of the sector to foreign capital, the significant technological advances that facilitate exploration as well as the increase, for a certain period of time, of the price of gold which made several mines all the more profitable. Mali's mining legislation, that is, the Mining Code and its implementing decree, provide the main legal framework for mining activities in general and that of small scale mining and artisanal mining more specifically. It is also necessary however, to take into account the Code on State-owned Private Land, the Tax Code, the Customs Code and the Environmental Law (Code domanial et foncier, le Code des impôts, le Code des douanes et la loi sur l'environnement).

Because of its potential in the extractive sector, Mali has recently experienced a renewal of mining and petroleum exploration. Consequently, in 2013, there were three hundred seventy-five (375) valid search titles, one hundred and one (101) exploration permits, nineteen (19) business licenses, twenty one (21) authorizations permitting operations, and fifty-one (51) permits for quarrying activities¹⁷². The gold mining sector includes three types of operations. First are industrial activities which are undertaken by large foreign companies such as AngloGold Ashanti, Randgold Resources, Endeavour, IAMGOLD and Avneel Gold. These corporations must create companies registered under Malian law (and in which the State of Mali is a shareholder) in order to conduct their mining operations. Most of them hold operating licenses. The second type of mining activity takes the form of small scale mines which are developing rapidly at present. In this sector, there are both nationals and foreigners, notably Chinese companies. The Mining Code defines a small scale mine as a small and permanent mining operation, which has a minimum of fixed installations, uses the rules of the industrial and semi-industrial processes and whose annual production on average does not exceed a certain tonnage of commercialized output (ore concentrate or metal). The third type of exploitation is artisanal, commonly called gold panning. According to the Mining Code, it must be carried out in corridors determined by the competent authorities, and sanctioned by an authorization issued by the community authorities. The contribution of gold mining to the state budget is very important when compared with that of other sectors of the economy such as cotton. In 2012 the total tax revenue from mining companies amounted to 248.1 billion FCFA¹⁷³. These revenues accounted for 31.8% of the total tax revenue of

¹⁷⁰ By *Alfousseyni Diawara*, Groupe d'Études et de Recherche en Sociologie et Droit Appliqué (GERSDA). Université des sciences juridiques et politiques de Bamako (USJPB), University of Bamako, Mali *GERSDA – USJPB*. Translated from French by B. Campbell. We wish to thank Moussa Etienne Touré and Kô Samaké for their contribution to this study and Amadou Keita for his methodological insights.

¹⁷¹ Ministère de l'Économie. 2013. *Revue annuelle du Cadre stratégique de Lutte contre la Pauvreté (CSCR) 2012-2017*, République du Mali.

¹⁷² *Ibid.* p. 26.

¹⁷³ 1UD\$ = 576.60 FCFA.

the state and 26.4% of total state revenue¹⁷⁴. The creation of mining activities leads to the “expropriation” of agricultural land. The most dangerous impacts are related to artisanal mining and have had as a result the reshaping of the landscape, the loss of land, soil degradation, deforestation and loss of biodiversity, loss of wildlife, pollution of water resources, air pollution, radioactive contamination, and pollution due to noise¹⁷⁵. One of the great weaknesses of mining governance in Mali is the poor management of environmental impacts due to the exploitation of small scale mines and artisanal mines. We are in fact witnessing at present in this country the destruction of plant cover, the degradation of crop and pasture land, the pollution of surface and underground waters, and air pollution¹⁷⁶. Mining activity is also accompanied by several types of conflicts. The main types of conflicts identified are conflicts between mining companies and affected communities in the areas in which they operate; conflicts between mining companies or outsourcing companies and their workers (the case of most companies). There are also conflicts related to migration or artisanal mining in border areas affected by land disputes between communities living on either side of the country’s borders.

3.4.2 Migratory flows in the mining sector

The countries in the West Africa sub-region are characterized by a high degree of population mobility. Migratory flows can be observed in several directions. Thus, host countries are also countries of departure. There is consequently a large flow of migrant populations between Mali and its neighboring countries, namely Burkina Faso, Côte d’Ivoire, Guinea, Niger and Senegal. Migration flows in mining areas have increased significantly in recent years due to the economic crisis which has hit most countries, but also due to travel related to political instability which can lead to armed conflict (Côte d’Ivoire, Mali). When one does a typology of migratory flows, it can be seen that there is considerable mobility within states and between states. The situation in Mali is illustrative of this observation. As a result, it is necessary in this presentation, to distinguish between internal and international migration flows.

Figure 15: Distribution per region of mining-related activities carried out by women (%)

Mining-related activities	Kayes	Koulikoro	Sikasso	Total
Washing minerals	43,7	39,0	48,1	43,7
Sale of foods	0,8	–	–	0,3
Digging	5,9	–	–	2,1
Sinking	34,5	38,1	41,7	38,0
Mineral Transportation	1,7	5,7	0,9	2,7
Carrying of water	10,9	1,9	2,8	5,4
Restoration	1,7	–	–	0,6
Mineral Grinding	–	12,4	6,5	6,0
Others	–	1,9	–	0,6
Undeclared	0,8	1,0	–	0,6
Total	100,0	100,0	100,0	100

Source: Direction Nationale de la Géologie et des Mines/CPS Mines. 2011. *Mines et développement socioéconomique au Mali: enjeux et perspectives. Orpaillage*, p.46

¹⁷⁴ République du Mali. Initiative pour la transparence dans les industries extractives. “Réconciliation des flux de paiement effectués par les entreprises extractives et des revenus perçus par l’Etat pour l’année 2012”. Final Report, 2014, p. 28.

¹⁷⁵ Butaré, I. and S. Keita. 2015. “Aspects environnementaux liés au développement du secteur minier en Afrique de l’Ouest” n.a. Online: <http://www.africabusinessmarket.com> (Consulted on March 15 2015).

¹⁷⁶ Diawara, A. and A. Keita. 2015. “Aperçu sur les petites mines et les mines artisanales au Mali: cadre juridique, gouvernance et perspective au Mali” Produced for International Institute for Environment and Development (IIED) (Not published).

Internal migration represents the main stream of migratory flows in the mining sector in Mali, and concerns above all artisanal mining. The areas where artisanal gold mining takes place are located in three regions (Kayes, Koulikoro and Sikasso). However these areas are populated by citizens from all regions of the country and from the District of Bamako, the capital. The mobility of artisanal operators would seem in fact to be an essential feature of gold mining in Mali. As shown in a study on children work in gold mining in Mali, nearly half of the artisanal operators respondents came from another mining site¹⁷⁷. Migration in artisanal mining zones involves workers of both sexes, but also children as well as adults.

Figure 16: Distribution per region of mining-related activities carried out by children (%)

Mining-related activities	Kayes	Koulikoro	Sikasso	Total
Digging	17,2	1,4	1,7	7,8
Carrying of water	28,7	5,6	3,4	14,2
Carrying of food	4,6	1,4	–	2,3
Small errands	4,6	–	–	1,8
Sinking	16,1	20,8	1,7	13,8
Gathering remaining minerals	2,3	1,4	1,7	1,8
Baby-sitting	1,1	–	–	0,5
Mineral grinding	1,1	12,5	1,7	5,0
Carrying minerals	3,4	20,8	3,4	9,2
Washing minerals	1,1	26,4	33,9	18,3
Others	2,3	–	–	0,9
Undeclared	17,2	9,7	52,5	24,3
Total	100,0	100,0	100,0	100

Source: Direction Nationale de la Géologie et des Mines/CPS Mines. 2011. *Mines et développement socioéconomique au Mali: enjeux et perspectives. Orpaillage*, p.46

Adults working in the artisanal sector¹⁷⁸ are made up of artisanal gold miners themselves (57.4%), merchants (24.3%), and farmers (12.2%). Over a third of these workers had already worked on another site. Among these, 76.3% are Malians¹⁷⁹. With regard to industrial mining operations, the closing of mines can cause migration from one zone to another. Although there is no quantitative data available on this subject, this phenomenon has been observed with the closing of mining activities at the Morila gold mine site from which many former workers departed to the Kayes region where new mines were opened. The resumption of activities at the Syama Gold Mine was also the cause of departures from the town of Morila.

As mentioned, migratory flows in this sector are growing at present. This can be partly explained by the fact that artisanal gold mining sites in Mali have been kept open permanently, while neighboring countries have introduced measures to ensure that sites would be closed for a certain period of the year¹⁸⁰. The working

¹⁷⁷ Programme international pour l'abolition du travail des enfants (IPEC). 2010. *Etude transfrontalière sur le travail des enfants dans l'orpaillage au Burkina Faso, au Mali et au Niger. Rapport Volet pays Mali*, 120 p.

¹⁷⁸ Information concerning children between 5 and 17 years old working on artisanal mine sites in Mali of which many are migrants suggests that approximately 55.4% in 2010 were of Malian origin, While some have followed their parents others have followed Koranic teachers. *Ibid.* p. 35.

¹⁷⁹ *Ibid.* p. 37.

¹⁸⁰ It is precisely the internal and international migratory flows in artisanal sites which the authorities had taken into consideration in the Interministerial Order which prohibited artisanal mining activities during the wintering period in Mali: Arrêté interministériel No. 2014-1663/MM-MIS-MEEA-MDV du 6 Juin 2014 portant interdiction de l'activité d'orpaillage pendant la période d'hivernage au Mali (15 Mai – 30 Octobre).

adult migrants are to be found in industrial mines and in the small scale mining sector but above all mainly in the artisanal sector. In industrial mines, the data available from the Ministry of Mines show that the number of jobs held by expatriates has evolved as follows: 226 in 2009, 243 in 2010, 312 in 2011 and 298 in 2012¹⁸¹. As for the number of direct jobs created for nationals in mining companies and outsourcing companies, it has evolved as follows: 7394 in 2008, 8807 in 2009, 9145 in 2010, 11,087 in 2011 and 11,958 in 2012¹⁸². Expatriates (Europeans, Americans, and Africans) are employed by various mining companies. They are most often in the position of management executives or engineers. It is important to underline, however, that in recent years the number of Malian executives engaged in the management of mining companies has increased significantly and they now make up the majority at this level.

Several small scale mines operate in the gold mining sector or producing cement. They belong to Chinese and Indian companies and many of their employees are nationals from the country of origin of these companies. There is however no data available concerning these foreign workers. In the artisanal mining sites for gold, the migrants are mainly from Niger (8.4%) Burkina Faso (5.3%), Guinea and Côte d'Ivoire, with the latter two constituting a cumulative proportion of 9.9%¹⁸³. Certain sites are populated by a very large number of migrants. This is the case, for example, of the village of Massiogo (Kadiolo circle) which hosts more than 16 different nationalities, with a population of 23,000 inhabitants, which is twice that of the municipality of which it is part. There are many foreign children working on the artisanal mining sites in Mali. According to a study produced in 2010 by the ILO's International Programme on the Elimination of Child Labour (IPEC), 22.1% of these children are from Burkina Faso, 0.8% are Nigerians, while the Guinean and Ivorian constitute 21,7%. In reality however, these figures are not exhaustive because and as is the case of the study from which they are taken, they are limited to citizens of Burkina Faso, Côte d'Ivoire, Guinea and Niger. Another study conducted by the services of the Ministry of Mines, the Observatory of Sustainable Human Development and Fight against Poverty and the National Institute of Statistics, confirms but without the support of numerical data, the presence of nationals from many countries at the artisanal gold mining sites of Mali. It is suggested by this study that "nationals from Ghana and Nigeria are present in four of the six districts concerned. The other countries are: Niger, Gambia, Liberia, Mauritania and Sierra Leone. The Sikasso Region receives migrants on its artisanal mine sites from the largest number of countries of the sub region"¹⁸⁴.

3.4.3 Issues raised by migration flows in the mining sector

Migration flows in the mining sector raise a number of issues, some of which can also be observed in the areas where industrial mining takes place, but these problems occur with even more severity in artisanal mining areas.

Difficulties in applying legal norms

Due to the porosity of borders, it is difficult for state services to exercise control over migration flows. As well, artisanal gold mining sites fall outside the scope of the application of national and international standards concerning labour and the protection of human rights (and notably the rights of children and women), environmental protection and the fight against the spread of disease. The artisanal mining areas represent genuine grey areas within broader communities and are often beyond the reach of the state. In these areas, working conditions are often extremely poor (non-compliance with standards for the safety, use of highly toxic chemicals, etc.). Such situations favour the spread of illegal practices and even crime.

¹⁸¹ Ministère de l'Industrie et des Mines, Cellule de Planification et de Statistique, Recueil des indicateurs sectoriels, Mines et Géologie 2013.

¹⁸² Moore, S. 2014. *Mali : Réconciliation des flux de paiement effectués par les entreprises extractives et des revenus perçus par l'Etat pour l'année 2012*, Final Report, Extractive industries Transparency Initiative (EITI), December 2014, p. 29.

¹⁸³ IPEC, International Programme on the Elimination of Child Labour (IPEC), *Op. cit.*, p. 37.

¹⁸⁴ Direction Nationale de la Géologie et des Mines/CPS Mines, Observatoire du Développement Humain Durable et de Lutte contre la Pauvreté et Institut National de la Statistique. 2011. *Etude mines et développement socioéconomique au Mali: enjeux et perspectives. Orpaillage*, Rapport de l'étude, p. 25.

Violence and conflicts on mining sites

Violence on mine sites manifests itself in the form of conflicts, on the one hand between local and migrant people, and on the other, between the miners and the holders of mining titles. Migratory flows create strong pressures in the artisanal mining areas between the indigenous peoples of the communities and foreigners. The concept of alien can encompass both people from other countries and from other Malian areas. Conflict can exist on the one hand between indigenous peoples and people from other national communities and on the other hand, between indigenous peoples and the people from other countries. Conflicts among nationals may occur in the artisanal mining areas, but also in the areas where industrial activities take place. The latter case may result from migration due to mine closures or the opening of new mines. By way of illustration, several former employees of the Sadiola gold mine¹⁸⁵, which is in the closing phase, migrated to the Kayes region where new mines were opened. This situation caused violent conflict in July 2009 in the locality of Loulo between the inhabitants of the villages concerned and those responsible for the mine. While the villagers did not attack foreigners directly, the main reason for the conflict was the demand for reserved quotas for employment of young people from surrounding villages in the recruitment of workers. Concerning migrants from other countries, they may be accused by indigenous communities of acquiring land or introducing practices which are contrary to the customs of the host community. In certain areas of Mali, systems were introduced in order to struggle against foreign migratory flows and to privilege indigenous people. In this regard, Tilo Grätz shows how in the locality of Kobadan, the indigenous population has instituted *niaro* which stipulates that «that local artisanal miners are usually the mine owners and they must employ workers whose needs they must meet; moreover, they can receive a significant share of profit, whether they have worked with them or not»¹⁸⁶. He suggests that those responsible for the policing of the artisanal gold mining sites have said that the *niaro* system was a reaction to the uncontrolled flow of foreigners who «have taken more than they have given»¹⁸⁷. The pressures in border areas are compounded by land disputes. In this regard observers have witnessed conflicts between border villages of Mali and Guinea. This was the case in February and June 2015 when conflicts broke out between the village of Sananfara in Mali and the border village in Guinea which both claim ownership of an artisanal gold mining site.

The influx of many people into the areas where artisanal gold mining takes place has increased pressure on land which is considered rich in gold deposits. According to the research conducted for this study, we are seeing more and more conflicts between artisanal miners and the holders of mining titles who now denounce what they call “the invasion of mining titles”. The artisanal miners for their part believe that the state delivers titles or permits in areas where they already operate. This type of conflict which is increasing at present came to the serious attention of the Malian authorities following violent conflicts that erupted on July 3rd, 2014, in the artisanal gold mining areas of Kobada and Foroko (Kangaba Circle, Koulikoro region) between artisanal miners and the company African Gold Group which apparently suffered losses worth approximately one billion FCFA¹⁸⁸.

The consumption of alcohol, drugs, security and health issues

The consumption of alcohol and drugs is widespread in mining areas. With regard to drugs more generally, a widespread traffic can in fact be observed. The products concerned are mainly Indian hemp and psychotropic products. The Malian press reports regularly that there have been cases of drug trafficking arrests. According to officials responsible for the security services, there is a link between drug trafficking and the trade in artisanal weapons (manufactured in Mali) and small arms smuggled in illegally from abroad¹⁸⁹.

¹⁸⁵ In view of the fact that the production of ore ended in April 2009, the sub-contracting company responsible for this activity was obliged to dismiss an important number of workers who then migrated to other areas.

¹⁸⁶ Grätz, T. 2004. “Les frontières de l’orpaillage en Afrique de l’Ouest, “ in *Autrepart* (30), 135-150.

¹⁸⁷ *Ibid.*

¹⁸⁸ *Le journal* 22 Septembre, July 14th 2014.

¹⁸⁹ Konaté, A. 2014. *Analyse des aspects sécuritaires sur les sites d’orpaillage*, Presentation to the Forum National sur l’orpaillage, september 18-20.

The rare studies in existence undertaken by different bodies all reveal that the issue of migration in mining areas in Mali is not at all well documented, in spite of the fact that those in positions of responsibility are unanimous in concluding that this is an area characterized by many severe problems. One can only conclude by underlining that migration is a very important phenomenon in mining areas, notably in zones where artisanal mining activities are practiced. This reality and the issues which it raises should be better known and better managed because of their repercussions on the surrounding communities in which it can negatively affect stability and security. In particular migratory flows concerning mining can be the cause serious difficulties for women and children who are active in the sector and whose work is very painful and precarious. Above all else it should be stressed that the importance of the flows of migrants in artisanal mining zones in West Africa is in fact a reflection of the deeper and pressing problems of social and economic development of the countries and the regions concerned. It must be suggested that as well as strengthening cooperation among states, it is important to encourage individual states to take the necessary measures to better implement the international standards that govern work-related migration and working conditions in the mining sector. These conclusions allow us to raise the specific following recommendations with regard to artisanal mining in West Africa:

- Encourage that there be created at the level of the UNECA, a sub-regional partnership on the issues concerning development and migration, specifically with regard to the mining sector.
- Provide support to Mali and the other countries of the sub region to ensure the implementation of international legal instruments, including those signed under the aegis of the ILO.
- Provide specific support in preventing the worst forms of work practices on mine sites and the protection of workers, including women and children.
- Facilitate the right to physical and mental health, and the right of patients to access health care and protection against any form of work likely to harm their health or physical development.
- Facilitate access to health services without discrimination, and access to an adequate supply of safe and potable water.
- Support measures which further the protection against violence, sexual abuse and mistreatment of women.

3.5 Papua New Guinea: comparisons between different types of migrant labour¹⁹⁰

3.5.1 Bougainville, Ok Tedi, Porgera, Misima mines

Papua New Guinea (PNG) has had a history of relatively small scale mining operations since the late 19th century. The Bougainville copper, silver and gold mine¹⁹¹, which started operations in 1971, marked the beginning of a new era of large-scale open-pit mining that brought:

novel forms of work and new complexities of management control to the PNG mines. A more or less permanent 'employment relations' machinery appeared for the first time, involving company personnel and recruitment departments, trade unionists, politicians both local and national, and government agencies¹⁹².

As pointed out by Imbun and Morris, mining capital was drawn to PNG because of the availability of mineral resources, not for the availability of a low-wage workforce. In fact, the lack of sufficient trained workers at

¹⁹⁰ By Catherine Coumans, Mining Watch, Asia-Pacific Program Coordinator.

¹⁹¹ The Bougainville Copper Ltd. mine was established by Conzinc Riotinto of Australia (CRA).

¹⁹² Imbun, B. Y. and R. Morris. 2001. Labour and mining in remote areas: toward an assessment of benefits. In *Mining in Papua New Guinea: analysis & policy implications*. B.Y. Imbun and P.A. McGavin, eds. University of Papua New Guinea Press.

various remote mine-sites has been a major factor in the use of migrant labour in PNG, both from other parts of PNG and from abroad. And use of migrant labour has been a major factor in emerging conflict at mine sites. A review of the labour practices of foreign investors in the mining sector in Papua New Guinea, starting with the Bougainville mine and covering the subsequent Ok Tedi, Porgera, and Misima¹⁹³ has been undertaken by, among others, Imbun (1999, 2000, 2001), Morris (2001), and Hess (2001). These initial large-scale industrial mines, were owned by companies headquartered in the United States, Canada and the United Kingdom (often with Australian subsidiaries) as well as in Australia. Of these, Ok Tedi, and Porgera¹⁹⁴ are still operating and attempts to reopen the Bougainville mine, which closed in 1989¹⁹⁵, are under way. The Ramu Nickel mine, which started operations in 2012, is majority Chinese state-owned¹⁹⁶.

The Bougainville project had relied during construction on labour crews brought in from other parts of PNG¹⁹⁷, as well as a core of expertise from Australia, the home country of the mine's proponents. The subsequent Ok Tedi project¹⁹⁸ relied during construction more heavily on non-national workers brought in by the mine. For the three years of construction in the early 1980s, a foreign workforce of some 1150 workers were imported (Jackson 1993)¹⁹⁹. These workers "were on individual employment contracts" which "effectively precluded them from collective bargaining"²⁰⁰. Among the construction workforce, 18.3% were Asians, in particular a large number of Filipinos occupied blue collar positions:

The employment of Asians was favoured by mine management on the grounds that they were to be paid lower wages than Australian workers, and were expected to be more disciplined, and less-unionised²⁰¹.

The individual contracts provided a range of benefits that reflected differential treatment, with the best packages going to the Australian employees who were concentrated in the white-collar jobs²⁰². When the mine went into operations, Anglophone, particularly Australian, expatriate labour continued to hold the most lucrative positions leading to resentment among PNG workers who were living with "poorer conditions and payments" at Ok Tedi than in Bougainville, where labour was not under individual contracts, in spite of the fact that both mines were unionized²⁰³. Major strike action at the Ok Tedi mine in 1988, leading to rioting, did eventually bring about improvements in the labour conditions at the mine such as "the steady increase

¹⁹³ The Australian owned Lihir gold mine still awaits detailed research on labour relations.

¹⁹⁴ Note that ownership of these mines has transitioned over time. For example, Canada's Placer Dome's 95% share of the Porgera Joint Venture mine transitioned to Canada's Barrick Gold as the result of a merger in 2006, and in 2015 half of Barrick's share in the mine was sold to China's Zijin Mining Group Co. Ltd. The remaining 5% is owned by Mineral Resources Enga (MRE), which is owned by the Enga Provincial Government (2.5%), and the Porgera Landowners (2.5%).

¹⁹⁵ The Bougainville mine closed as the result of ten-year long and extremely violent conflict related in part to local landowner claims that they were suffering impacts and not receiving enough benefits from the mine.

¹⁹⁶ The Ramu Nickel mine is majority owned by MCC. Smith (2013) describes the complex ownership in the following way: "MCC is the China Metallurgical Group Corporation a state-owned enterprise. The majority owner of the Ramu NiCo Project is China Metallurgical Corporation (MCC), which, together with three Chinese nickel consumers that act as "silent" partners (the "3 Js": Jinchuan Group, Jinlin Ji'en Nickel Industry Corporation, and Jiuquan Iron and Steel Group), owns 85 per cent of the venture. Most of the balance is owned by the original holder of the mining lease, Highlands Pacific (a Brisbane-based mineral exploration company listed on the PNG and Australian stock exchanges), with 8.56 per cent. Smaller stakes are held by the Mineral Resources Development Company (MRDC, <http://www.mrdc.com.pg>), a PNG government agency which holds project equity in trust for other national stakeholders, in this instance for the local landowners and the local-level governments in the mine-affected area with 3.94 per cent; and the company Mineral Resources Madang Ltd (MRM) with 2.5 per cent, which holds project equity in trust for the local landowners."

¹⁹⁷ Significantly, but outside the scope of this project, the high level of migrant workers brought in from other parts of PNG (30%) during the construction of the Bougainville Copper Ltd. mine in 1971 and 1972, was a major source of long-term conflict with local landowners (Imbun 2000) ultimately forcing the closure of the mine amidst extreme violence in 1989, indicating that tensions resulting from the use of non-local labour brought in by a company are not limited to labour migration across national borders.

¹⁹⁸ Ok Tedi Mining Ltd (OTML) ownership, when registered in 1981, was PNG Government 20%, Australian miner BHP 30%, Amoco Minerals 30%, Kupferexplorationsgesellschaft 20%.

¹⁹⁹ From a chart provided in Imbun, B.Y. 2000. *Industrial and Employment Relations in the Mining Industry*. UPNG Press 2000. Papua New Guinea – BUAI Digital Project. Online <http://www.pngbuai.com/600technology/mining/default.htm> (Consulted on December 7th 2015)

²⁰⁰ Hess, M. 2001. "What about the workers? Mining and labour in PNG". In *Mining in Papua New Guinea: analysis & policy implications*. B.Y. Imbun and P.A. McGavin, eds. University of Papua New Guinea Press.

²⁰¹ Imbun, B.Y. 2000. *Op. cit.*

²⁰² Hess, 2001. *Op. cit.*

²⁰³ *Ibid.*

in PNG employees among its senior ranks”²⁰⁴ and some other concessions such as additional houses for employees and chartered flights out for those whose families were not on site.

The Porgera Joint Venture²⁰⁵ mine, which started operations in 1990 after two years of construction, employed workers from other parts of PNG during construction and operations (mainly ex-Bougainville workers). Having learned lessons from the conflict-ridden Bougainville and Ok Tedi mines, and due in part to a policy of prioritizing Engan and Porgeran workers, the percentage of expatriate workers between 1990 and 1996 decreased from 26% to 17%²⁰⁶. For skilled migrant workers who were brought in this usually meant short term and uncertain work as they were “shadowed” by Porgerans meant to replace them²⁰⁷. Nonetheless, the lack of PNG representation in professional and management levels remained a source of tension, standoffs and conflict. The top twenty-five management jobs at the Porgera mine remained non-local by 2000²⁰⁸. In contrast, Placer Dome’s Misima mine, with a “minimal expatriate presence” eventually avoided the labour turbulence of Porgera²⁰⁹. It is estimated that 90% of the entire mine workforce was made up of Misima islanders²¹⁰.

3.5.2 Ramu Nickel mine

The history of migrant labour brought in to work at remote mines in Papua New Guinea, since the 1970s, appears to be one of growing awareness, by mainly Western and Australian mine proponents, of the risks of serious conflict with local landowners and a subsequent effort to limit the use of migrant labour by these mine proponents. This trend was reversed with significant consequences in the case of the Ramu Nickel mine that went into production in 2012²¹¹. The lateritic nickel mine is located inland at Kurumbukare with a refinery using High Pressure Acid Leach technology on the coast at Basamuk, necessitating a 134 kilometre-long pipeline to transport the nickel ore, an early source of concern for local landowners. The refined products are destined for China for final processing. The mine aims to produce 32,800 tonnes of nickel per year and to last between 20 and 30 years. The mine came into serious conflict with local coastal landowners over its plans to dump the mine’s tailings into Astrolabe Bay via a submerged pipe. The landowners launched a law suit, which they ultimately lost but which delayed the mine by about two years²¹². The Ramu Nickel mine was, in 2013, China’s largest outbound direct investment (ODI) in the Pacific at US\$1.4 billion²¹³. It is “managed by a state-owned enterprise, China Metallurgical Corporation, and financed by China ExIm Bank”. Barclay and Smith note that the project is supported by a Chinese Government aid grant that finances a major road in the mine area and that “villagers from ‘mine affected communities’ [are] receiving scholarships and training opportunities under Chinese Government aid grants²¹⁴.” As noted by Smith (2013) who undertook to study labour relations at the mine:

While many issues, such as conflict over land, internal migration, and the limited involvement of the Papua New Guinean state, are constant, one aspect specific to Chinese resource investment is the use (or non-use) of

²⁰⁴ Hess. 2001. *Op. cit.*

²⁰⁵ The Porgera Joint Venture mine was started in 1990 under majority ownership by Canada’s Placer Pacific through its subsidiary Placer (PNG) Pty Ltd.

²⁰⁶ Imbun, B. Y. 2001. Human resource management in Papua New Guinea mining: evidence from Porgera. In *Mining in Papua New Guinea: analysis & policy implications*. B.Y. Imbun and P.A. McGavin, eds. University of Papua New Guinea Press.

²⁰⁷ *Ibid.*

²⁰⁸ *Ibid.*

²⁰⁹ Hess. 2001. *Op. cit.*

²¹⁰ Imbun, B.Y and Morris. *Op. cit.* In 1994 there were roughly a thousand workers at the Misima mine, of which only about 125 were non-nationals of PNG (Imbun 2000).

²¹¹ For ownership details see footnote 196.

²¹² This early dispute between the landowners and the Ramu Nickel mine is significant as it set the scene for later conflict. It also clearly signaled the willingness of the PNG government to bend or amend the countries legislation to meet investor demands. See *Papua New Guinea Re-writes Laws to Facilitate Submarine Tailings Disposal, a.k.a. Ocean Dumping of Mine Waste* at <http://www.miningwatch.ca/support-mining-over-democratic-principles-papua-new-guinea>.

²¹³ Smith. 2013. *Op. cit.*

²¹⁴ Barclay, K. and G. Smith. 2013. “The International Politics of Resources: China, Japan and Korea’s Demand for Energy, Minerals and Food”, Special Issue. *Asian Studies Review*. Volume 37, Issue 2, pages 125-140.

host country labour, and the high proportion of Chinese labour employed at the mine sites. This practice differs from the relatively limited, short-term use of expatriate labour common to Western mining projects in developing countries²¹⁵.

The Ramu project was responsible for numerous conditions that would increase conflict between Chinese migrant workers and locals, making working conditions stressful, and at times unsafe, for both. In nearly all instances, weak governance by the PNG state and local levels of governance exacerbated the situation. Unlike the PNG mines discussed previously, the percentage of Chinese workers to local workers was always much higher, and rather than using fly-in fly-out (FIFO) provisions for expatriate workers, Chinese workers were housed in enclaves in Kurumbukare and Basamuk:

At the beginning of the production phase (late 2012), more than a thousand workers were employed by the project, nearly two-thirds of them Chinese. Many more local and Chinese workers were employed at the peak of the construction phase in 2009 (around 4,000 workers; reliable estimates are not available). The percentage of Chinese workers has remained fairly constant, at more than 60 per cent²¹⁶.

Local landowners continuously expressed their frustration that the country's immigration and labour laws were not being followed. Had these laws, concerning such things as language requirements placed on expatriate labour and types of work preserved for PNG workers, been followed, they might have improved the conditions for all workers and reduced conflict²¹⁷. At times frustration boiled over into rioting, the destruction of Chinese owned businesses, and personal injury to Chinese workers, including the reported deaths of six Chinese migrant workers between 2001 and 2011²¹⁸. In 2009, Dr. Rhonda Nadile of the Department of Labour and Industrial Relations exposed some of the immigration irregularities, such as the issuance of work permits to Chinese workers for the Ramu mine in spite of the fact that these workers did not meet the country's language requirements. She is reported to have said in an open forum:

despite strong opposition from the Department of Labour and Industrial Relations over the legality of the issue, the National Government directed the department to issue the permits "because the agreement has been signed to develop the Ramu nickel project. (...) the National Government overlooked the labour laws because the Ramu nickel project was far more important²¹⁹.

Survey's conducted by Smith and his researchers found that, mirroring findings by researchers at other Chinese overseas enclaves, a large source of tension between Chinese and local workers was as a result of the language barrier²²⁰. Weak governance not only impacted immigration, but also all other aspects of the working conditions at the Ramu mine, increasing tensions among workers:

in a perfect regulatory regime, such pressures would not be a source of tension, but local and provincial governments in PNG have limited capacity to enforce their own regulations governing wages, workers' safety or land titling, similar to the situation at other Chinese mining enclaves in Africa (Haglund, 2009: pp. 641–45). Other than police, whose incomes are generally supplemented, or paid in full, by the mining company, and a single health worker at the Basamuk clinic, the government has no presence at the mine site. These pressures are at the heart of the grievances of local workers²²¹.

²¹⁵ Smith notes that the relatively short term use of expatriate labour at Western mining projects is "generally limited to the construction phase when the local supply of skilled labour is insufficient."

²¹⁶ Smith. 2013. *Op. cit.*

²¹⁷ Smith finds that: In some regions, hybrid forms are emerging. In New Caledonia, where the local population is insufficient to staff the numerous mine sites, laws have been passed to allow Chinese construction workers at the Koniambo nickel mine to be employed under different working conditions from local and (French) expatriate labour. Workers of a further 30 nationalities (including Korean, Indian, Indonesian and Filipino workers) also operate outside the country's labour laws.

²¹⁸ PNG blogger speaks out on explosive anti-Chinese feeling in PNG. Online: <https://pngexposed.wordpress.com/tag/ramu-mine/>.

²¹⁹ (n.a). 2009. "PNG bent for mining rules", 20/05/2009, *The national/PacNews*, Online: <http://www.pina.com.fj/?p=pacnews&m=read&o=6568538304a136da9dff5a22e4d3fc>.

²²⁰ Smith. 2013. *Op. cit.*

²²¹ *Ibid.*

In particular, health and safety conditions were a major concern for both migrant and local workers. Smith notes the role of a contracting system where the mine brought in numerous unrelated Chinese-based contractors and their crews:

Each contractor is independent and has no long-term involvement in the project, [which] results in a short-term, limited liability approach to project management. It leads directly to pressuring local and Chinese workers to undertake longer hours to fulfill contracts ahead of time, and conversely to reduce expenditures on wages, safety equipment and accommodation... Our surveys reveal a disturbing array of health and safety issues, with common complaints being entirely preventable diseases such as dysentery and typhoid, and equally avoidable industrial accidents, such as eye injuries from welding and electrical accidents. Instances of penny-pinching behavior abound; those relating to the provision of uniforms, transport to the mine sites and failure to replace damaged safety equipment are sources of resentment.

Smith found that while Chinese workers are better paid than local workers, they have also suffered the majority of workplace injuries and deaths. In fact, the low-grade nickel mine, run on a “low cost” model created many shared grievances between Chinese and local workers. For example, both Chinese and local workers were very dissatisfied with their salaries. But especially PNG workers, who were familiar with better working conditions at gold and copper mines in the country, rated conditions at the Ramu mine low.

An extended historical look at the impacts of cross-border migrant labour in mines in PNG on local workers and on the migrant labour workforce, can provide insights that may be of use in looking at similar trends across the Pacific. But it is also important to recognize the ways in which PNG is unique. PNG has an extraordinarily rich linguistic and cultural diversity. For this reason, some of the impacts on local communities and workers, and on imported labour, that may be otherwise associated with cross border migration specifically, may in PNG also be associated with migration of labour from other part of the country. This was especially apparent in the case of the Bougainville copper mine where migrant labour brought in from other parts of PNG were the main source of tension and conflict that ultimately closed the mine down. Additionally, PNG has an unusually high degree of land ownership in the hands of traditional indigenous landowners, who wield considerable political power. This has a strong effect on national public policy and on how migrant labour is approached:

although quite contrary to the national equity principles, the PNG experience demonstrates that ethnic affirmative action in employment and training opportunities results in running economical and safe mines. This practice would have generated controversy and legal challenges if it was practised in mines in Australia or other developed countries. In PNG such discriminatory employment policies are passively but grudgingly accepted by the entire population as proper and ‘fair’²²².

Understanding this reality led Western and Australian mine owners to seek to minimize conflict with local landowners through such policies as Fly-In and Fly-Out (FIFO) of expatriate labour²²³ and by hiring and training local workers. Ignoring this reality led to much higher levels of conflict associated with the Chinese-owned and managed Ramu Nickel mine where percentages of migrant labour from China were much higher than in other modern mines in PNG. Barclay and Smith note that there are indications that this combination of a reliance on migrant Chinese labour and “contracting locals under poor conditions” led to a build-up of resentment “erupting in anti-Chinese riots.” They point out that “riots that have included both some kind of anti-Chinese element and a connection with resource investment have occurred in Tonga [and] Solomon Islands” in recent years²²⁴.

²²² Imbun. 2000. *Op. cit.*

²²³ Note that FIFO policies have also led to conflict with local landowners in some cases where landowners, for example in the remote area of the Porgera mine, sought the establishment of a town with all of a town's facilities as a means of development.

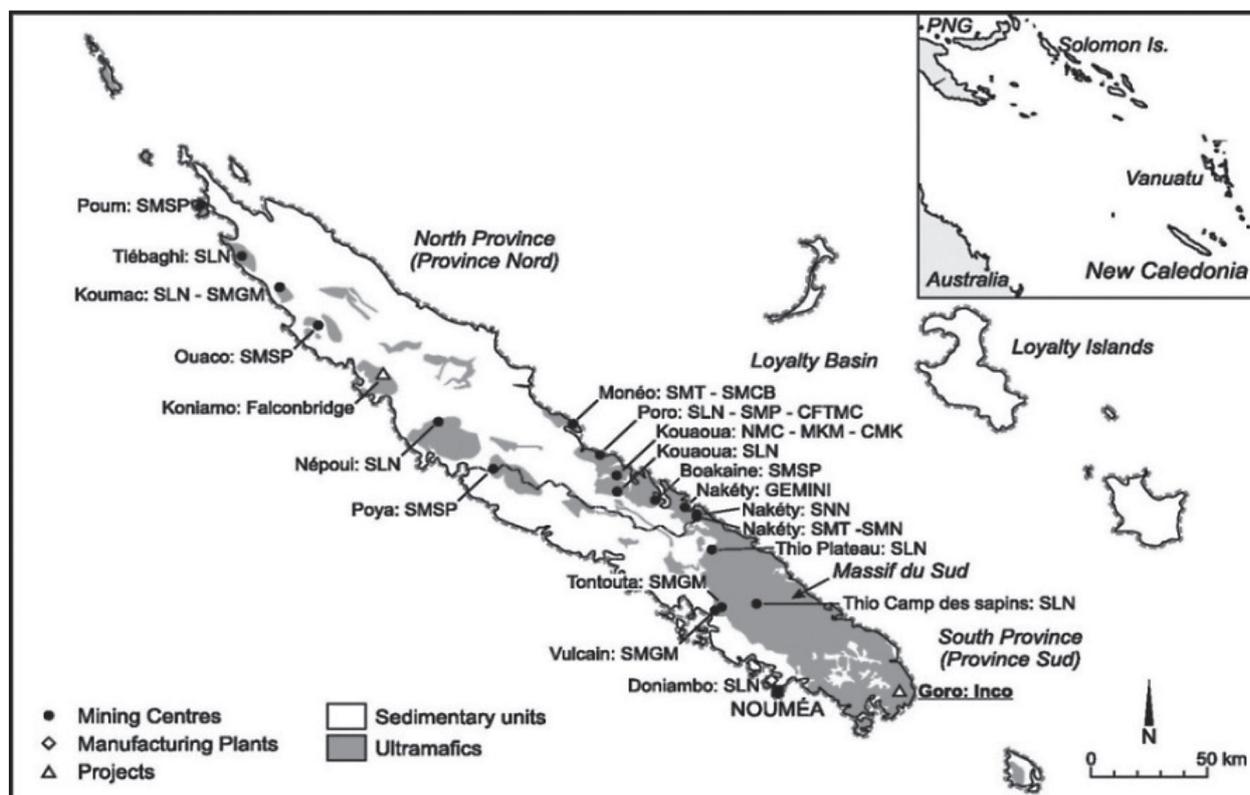
²²⁴ Barclay and Smith. *Op. cit.*

One of the conclusions that can be drawn from the cases discussed here is that cross boundary migrant workers at mine sites in the Asia Pacific region face a number of vulnerabilities and risks. If their employer brought them into the country in a way that did not meet the national regulations or policies of the host country, then they can be accused of being in country illegally with serious personal and financial consequences. They may face unacceptable working and living conditions with little or no opportunity to seek remedy as foreigners. They may be in a position where they are receiving different wages (higher or lower) than workers with another nationality (either local or expatriate) doing the same work. This can lead to tension and potentially dangerous conflict. And they can be the subject of discrimination and even attack by locals who may feel that they have been overlooked for jobs at the mine site. These observations have led to a series of recommendations to be found at the end of the study.

3.6 New-Caledonia: Migrant workers in the construction of two nickel processing plants²²⁵

New Caledonia is a French overseas territory currently involved in a decolonization process triggered by the Matignon-Oudinot Agreements of 1988 and confirmed by the Noumea Accord of 1998 signed between the French state, the pro-independence and pro-France parties. These agreements contain provisions for the organization of a referendum between 2014 and 2019 which will define the country's future and orchestrate the transfer of powers from the French State to New Caledonia. The territory has been divided into three provinces (North, South and Loyalty Islands) with a view to promoting a better economic, social and political equilibrium among the regions. The Noumea Accord provides for the legal and political recognition of

Figure 17: Mining centres in New Caledonia



Source: Wells et al., 2009

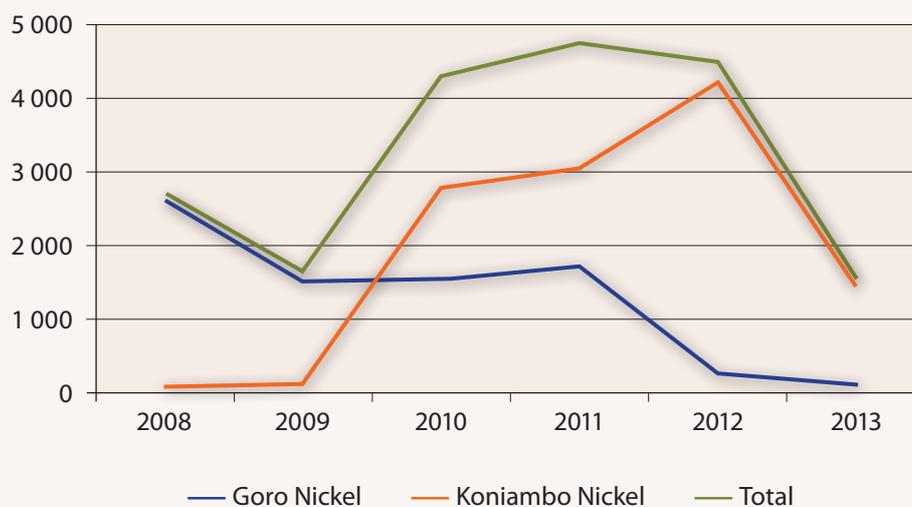
²²⁵ By Claire Levacher, a social anthropology PhD candidate at the Institut de recherche interdisciplinaire sur les enjeux sociaux (IRIS) of the Ecole des Hautes Etudes en Sciences Sociales (EHESS), Paris. Linguistic revision by B. Campbell.

historical ties with the land, i.e. the historical legitimacy of the Kanak people on the land of New Caledonia. The Noumea Accord also provides for the development of a ‘mining plan’ through Article 39 of New Caledonia’s Organic Law which stipulated that the ways in which natural resources were to be exploited were to be redefined. This sector represents the country’s second most important economic resource after State transfers. It was the subject of tough negotiations in the lead up to the signature of the Noumea Accord in order to establish a nickel-processing plant in the north of the country, the objective of which was to promote a better economic and social equilibrium between the North and South provinces. The mining plan made no mention at all of the construction of another nickel-processing plant on the Goro site in the South Province. Thus, since 2002, in addition to the Société Le Nickel (SLN), the historical operator, two new processing plants were built. The Goro Nickel mining project is managed by Vale, a Brazilian company, in the south of the country. In the north, the Koniambo Nickel SAS (KNS)²²⁶ was established and 51% of this venture is held by the North Province through a partnership between the Société Minière du Pacifique Sud (SMSP) and Glencore, a Swiss-based multinational commodity trading company. The construction of both of these two large projects was carried out by low-skilled and skilled migrant workers during the construction and assembly periods. In one case, it gave rise to social and political criticism because of the implications of the presence on migrant workers for the development and employment of New Caledonia workers. In both cases, certain social and health problems arose especially concerning life on base-camps.

3.6.1 Migrant Workers in the Mining Sector in New Caledonia

The first processing plant to undergo a building phase was Vale in the south of the country which undertook the construction phase between 2005 and 2008. The climax of the recruitment process was reached in 2008 with the hiring of around 8,500 individuals on the construction site, including 3,500 migrant workers. The KNS mining project in the north underwent this same phase from 2009 until 2013. The apogee of recruitment was reached in July 2012 with 7,000 workers including some 3,500 foreigners. In 2012, foreign workers at the sites of Vale and KNS represented 4,500 people and most of whom were involved with the

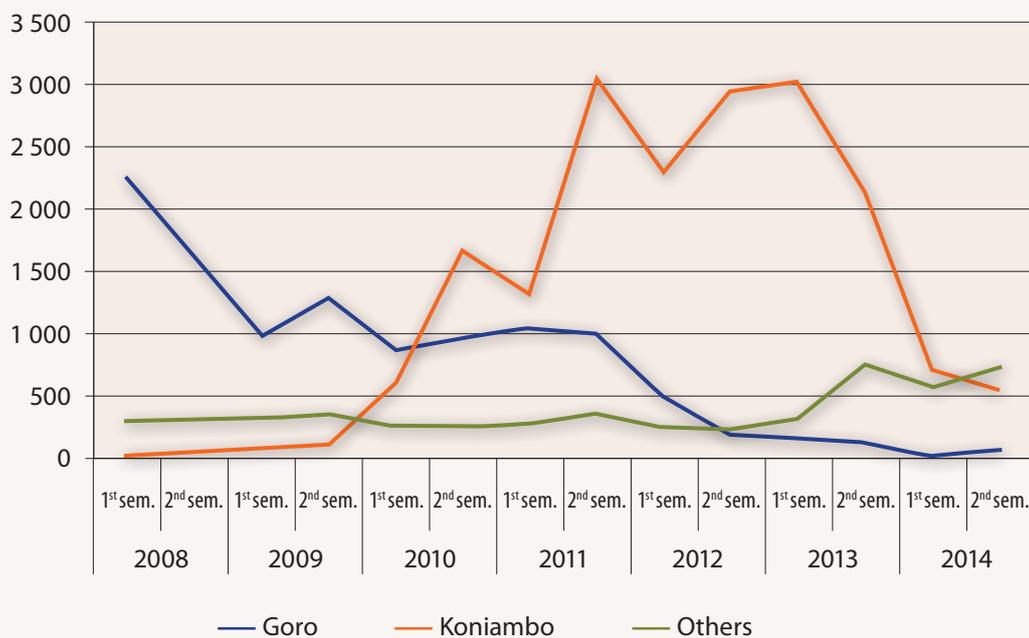
Figure 18: Evolution of the employment positions occupied by expatriate workers in New Caledonia for Vale and KNS since 2008



Source: CEROM, 2015: 16

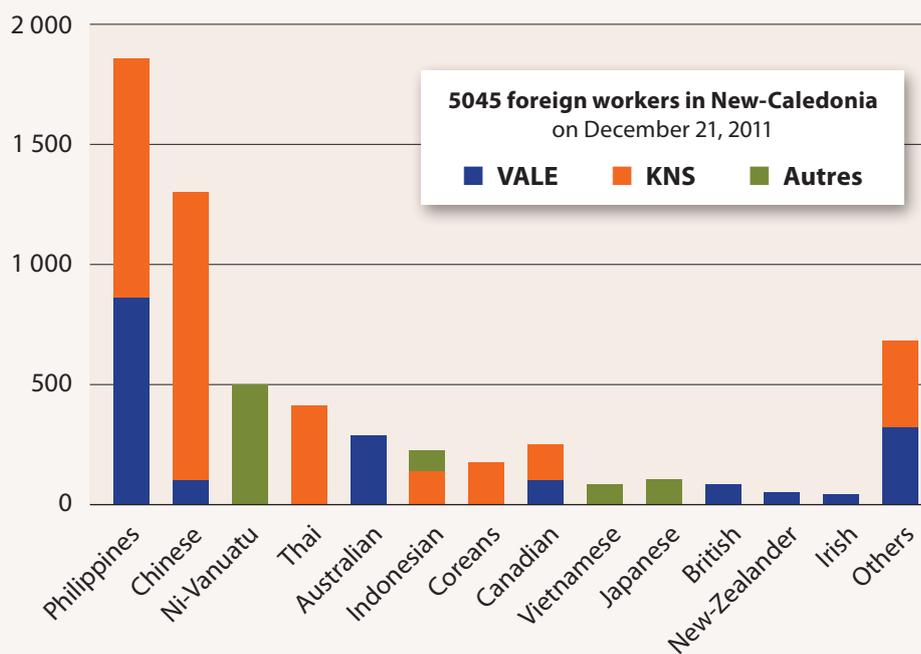
²²⁶ Initially the south project was launched by the Canadian company, Inco Ltd, purchased by Vale in 2006. The North project was a partnership between SMSP and the Canadian Falconbridge, which was bought by Xstrata in 2006 and then by Glencore in 2013.

Figure 19: Work licences delivered for mining activities and individuals in New Caledonia since 2008



Source: Direction du travail et de l'emploi, 2014, translated by the author

Figure 20: Number of foreign workers employed by Vale and KNS

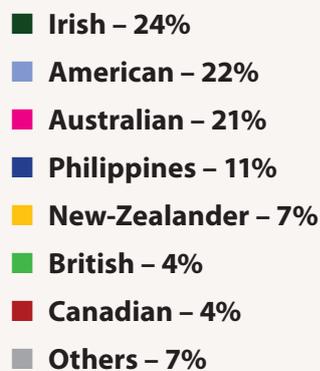
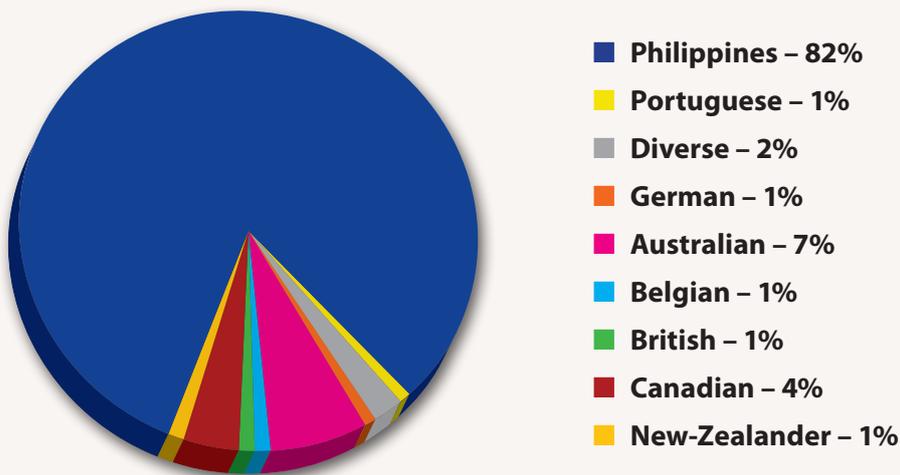


Source: An abstract of the newspaper Les Nouvelles Calédoniennes, 6th of February 2012.

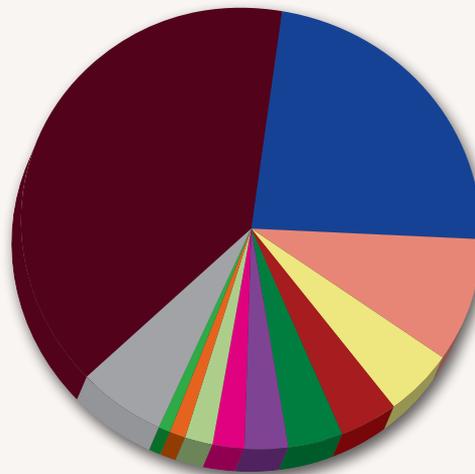
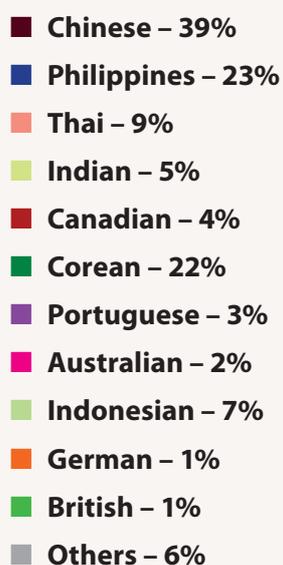
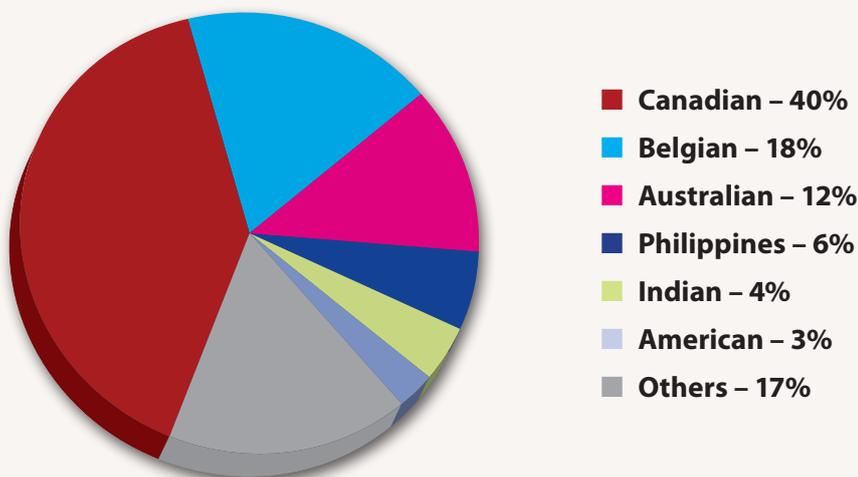
KNS project. Since then, the number of the low-skilled workers has rapidly diminished as the construction phases of both projects have ended. Consequently, at present, only foreign skilled labour continues to supervise production activities.

The decision to have recourse to foreign labour has depended on which companies were involved in the construction process, the countries of origin of these companies and the nature of skills required. The migration of skilled and low-skilled labour is organized for the most part by these corporations and subcontractor companies. For example, in 2012 on the Vale site, the extension of the mine required the construction of a new residue storage area which was built by Irish workers. A small number of workers emigrate as individuals in order to work on the mining assembly sites. The building phases of these large projects had no real lasting effect on the rate of individual immigrants to the country which increased only over last two years. In this regard, the countries of origin of individuals who immigrate are not the same as those who come to work in mining projects.

Figures 21-22: Migrant workers nationalities during Vale construction phase in 2007 and 2012



Source: Direction du travail et de l'emploi, 2007, 2012, Translated by the author

Figures 23-24 Migrant workers nationalities during KNS construction phase in 2008-2012

Source: Direction du travail et de l'emploi, 2008, 2012, translated by the author

In the north, around 49 nationalities coexisted during the building phase of the project, while the number in the south was 29. People from the Philippines represented the most important component of the low-skilled labour in the south. This is no doubt due at least in part to the fact that the first units of the processing plant were built in the Philippines. In the north, skilled workers of Canadian origin and low-skilled Chinese and Filipino workers represented the most important contingents of foreign labour during the building phase. The last Filipino workers left New Caledonia in 2012.

3.6.2 Working status and recruitment of foreign labour

The presence of foreign professionals in the mining sector in New Caledonia is regulated by two types of dispositions which are subject to the same rule, that of “local employment”. The notion of local employment is derived from the political status of New Caledonia as set out in the Noumea Accord. It is a crucial element of New Caledonia citizenship, which is different from French citizenship in that it distinguishes people from New Caledonia, people from France recently arrived in New Caledonia and foreigners. Citizenship in New Caledonia is non-exclusive, and consequently if you are a citizen you are automatically a citizen of France, but the opposite is not so obvious. One has had to be living in the country for a given period to be considered a citizen of New Caledonia. This restricted citizenship opens special rights to vote in domestic elections and consequently to determine the future of the country, as well as to work in certain areas of the economy. Since the passing of the Local Law n°2010-9 of the 27 July 2010, the status of citizen facilitates access to employment. For the non-citizens, this law also defines the terms of the duration of residency for different employment categories in accordance with the criteria for local recruitment in New Caledonia. This classification, which ranges from three to ten years, is set out for every job in a table of professional activities²²⁷. The principle behind this system aims to ensure that for each job created, an evaluation of the number of qualified persons and availability among the Caledonian citizens has been carried out. The higher the number and availability, the longer the time of residency is required for a non-citizen to get the job. For domestic, national or international companies, this law implies that when skills are identical, the recruitment of a Caledonian citizen constitutes the rule. Should there arise a situation of the absence of a qualified citizen, the employer has the right to hire a person but has to justify the duration of the period of residency in New Caledonia. If no applications are received from a qualified citizen or from an individual who has been granted adequate time of residency, the company has to report the lack of applications to the “local employment joint commission”. This joint commission was created by local social partners (salaried workers, employers and trade-unions) in order to establish and update the table of professional activities, to confirm the lack of candidates and to handle dispute procedures²²⁸. When the absence of qualified applicants is recognised by the commission, an official report is produced which allows the company to recruit outside of New Caledonia.

During the building phase of the Goro Nickel mining project, the employment of foreign workers was severely criticized by local trade unions. According to them, the notion of “local employment” would have to be reviewed and the existing labour regulation revised to ensure that New Caledonia’s inhabitants were given priority of access to jobs offered by the mining companies both during construction and exploitation periods. The main reason for these demands was that since the Noumea Accord, the government of New Caledonia is responsible for establishing domestic legislation concerning powers transferred from France to the country. Without such provisions in the labour code proposed in 2008, the status of migrant workers was regulated by the section of a local law concerning International Service provisions (PSI law)²²⁹. This law applies to “companies located outside of the territory (of New Caledonia), carrying out provision of services with seconded staff to execute the building and installation of structures and infrastructure reserved for mining and processing activities. The goal for operators is to have rules which reduce the apparent cost of work for the construction of plants”²³⁰. The “seconded staff” concern a jobholder who “executes his employment contract outside from his usual workplace for a ‘temporary duration”, and/or who is “sent in New Caledonia by the company which employs him”. It can be either “in the case of a contract concluded between the corporation and the recipient of the service provider”, or “in the same corporate entity as the employer having activities in New Caledonia”, or, “in the case of the provision of personnel for an enterprise established or operating in in New Caledonia”. The duration of the stay of foreign jobholders is limited to twelve months renewable for three to

²²⁷ Direction du travail et de l'emploi. (n.a). “Emploi local”. Gouvernement de la Nouvelle-Calédonie. Online: <https://dtenc.gouv.nc/emploi-local> (Consulted December 7th 2015).

²²⁸ Commission paritaire de l'emploi local. (n.a). Gouvernement de la Nouvelle-Calédonie. Online: <http://www.medef.nc/rerelations-sociales/nos-mandats/121-cpel-commission-paritaire-de-l-emploi-local> (Consulted December 7th 2015).

²²⁹ Loi du pays n° 2002-021 du 20 septembre 2002.

²³⁰ Syndex. 2005. *Nouvelle-Calédonie Nickel 2010: une nouvelle ère industrielle*, Union des syndicats ouvriers et employés de la Nouvelle-Calédonie, 39.

six months for unqualified staff, and for three years, renewable for one year, for supervisory personnel²³¹. The deliberative Assembly or Congress of New Caledonia explained the importance of migrant workers on the basis of three kinds of arguments. Constructions of the south and north processing plants required specialized skills. They were both urgent and as such depended on ‘waves of workers for temporary needs’. Moreover, it was argued that migrant labour would be strictly controlled. According to Isabelle Merle, “Under no circumstances was the possibility of access to long-term residency in New Caledonia at the end of the work contracts envisaged”. Debates in the Congress had as their objective to ensure the protection of local employment by “avoiding the continued presence of foreign labour and competition between unqualified workers”. In this context, at no time, was access to political rights ever considered²³².

In accordance with the immigration law²³³, the recruitment procedure for migrant professionals entails the submission of a request for a work licence to the New Caledonia government. It necessitates having in hand a job offer from an employer in New Caledonia and a long stay visa (up to three months) before entering the territory. In the mining sector, this procedure is regulated through the International Service Provision or PSI law. The company which wishes to hire workers from the country of origin of the enterprise in order that they may come to New Caledonia has to ensure that no local candidates could apply for the positions offered. To hire a foreign worker, the company has first to submit the job posting to employment agencies – *CAP EMPLOI* in the North Province and *Service Emploi Formation* (SEF) in the South Province. These two agencies work with the New Caledonia labour and employment Department (Direction du travail et de l’emploi) and the Department of state regulations and general administration (Direction de la Réglementation et de l’Administration Générale). The first has the responsibility for the examination of applications for work licenses. The examination of applications entails verifying the conformity of the skills of the applicant with those needed for the job sought and confirming that there is no local job-seeker in New Caledonia who is in a position to apply for the job. As well, this department has to ensure the respect of minimum wages, of the right to paid holidays, of social rights of migrant workers in general and to verify that the employer has made arrangements for the migrant worker’s accommodation²³⁴. The Department of regulations and general administration deals with temporary residency and visa applications; it formulates recommendations and verifies compliance with applications. This French immigration authority manages all foreigners living or entering New Caledonia; it decides what visa requirements need to be satisfied and advises the labour and employment Department that a work permit has been accorded. The visa does not depend directly on the work permit, although the work permit depends on the visa. As such, the work permit can be delivered for the duration of the contract or the stay or the visa. When the work permit is granted, a decree is published by the government of New Caledonia and the permit is delivered.

During the mining construction phases of the two mine sites, a centre for visa coordination was created in order to process applications more rapidly. Its establishment was negotiated by these three bodies for the Vale project and it operated between 2006 and 2008. Then a second one was created with the KNS project in 2009²³⁵.

²³¹ Loi du pays n° 2002-021 du 20 septembre 2002, art 90-2. Original version in french: « Est considéré comme détaché au sens du présent titre tout salarié qui, pendant une période de temps limitée, exécute son contrat de travail hors de son lieu de travail habituel, dans le cadre d’une prestation de services définie à l’article précédent, et qui est envoyé en Nouvelle-Calédonie par l’entreprise qui l’emploie : – soit dans le cadre d’un contrat d’entreprise conclu entre son employeur et le destinataire de la prestation de services ; – soit dans une entité appartenant au même groupe que son employeur et exerçant son activité en Nouvelle-Calédonie ; – soit dans le cadre d’une mise à disposition d’une entreprise utilisatrice établie ou exerçant son activité en Nouvelle-Calédonie. Le détachement, y compris les congés, ne peut excéder une année pour le personnel d’exécution et trois ans pour le personnel d’encadrement, les ingénieurs et techniciens. Les durées de détachement visées à l’alinéa précédent peuvent être prolongées respectivement de six mois et d’un an au plus ».

²³² Merle I. 2012. “Autour de la condition en Nouvelle-Calédonie. Le recrutement des travailleurs asiatiques entre les deux guerres et aujourd’hui sur les chantiers de mines”, *Programme Gouvernance minière*, 11, Nouméa, CNRT Nickel et son environnement.

²³³ Ordonnance No. 2002-338 relative aux conditions d’entrée et de séjour des étrangers en Nouvelle-Calédonie.

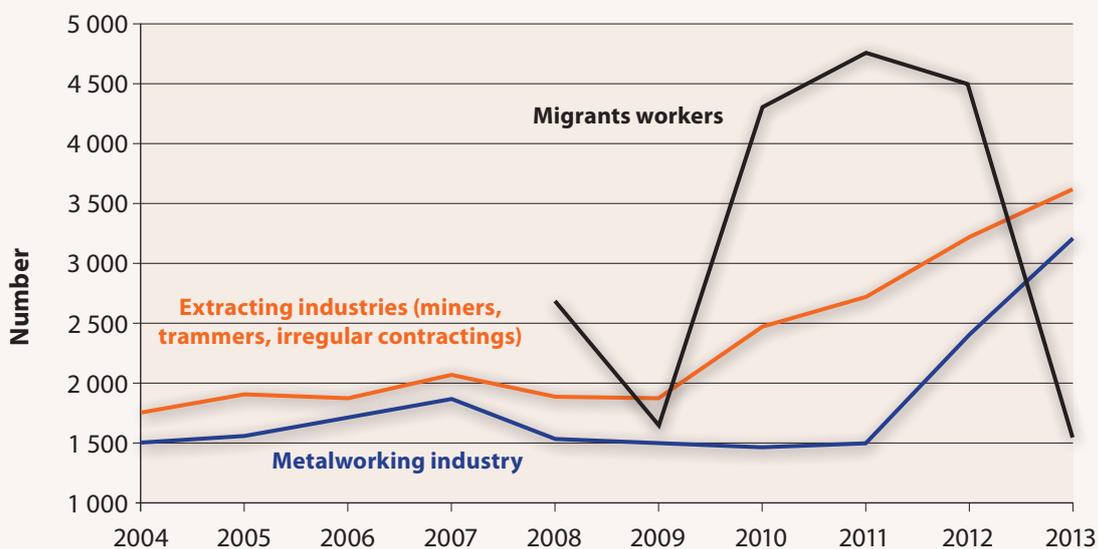
²³⁴ Direction du Travail et de l’emploi. 2011. *Main d’œuvre étrangère*. Online: https://dtenc.gouv.nc/sites/default/files/documents/emploi_local/fiche_thematique_main_doeuvre_etrangere.pdf (Consulted on December 7th 2015).

²³⁵ Morel-Lab A. 2014. *Les passeurs de langues, acteurs de l’interculturel en milieu professionnel plurilingue. Le cas des projets miniers en Nouvelle-Calédonie*, Doctoral Thesis, Université de Nouvelle-Calédonie.

At present, the Vale and KNS mining sites are no longer in the construction stage but have reached the expansion stage. Consequently, the number of migrant workers has obviously diminished compared to construction phases. The PSI law still applies, and the implications are clear concerning local employment particularly in the south. In 2002, at the beginning of construction, Vale planned to hire 25% of domestic workers and 75% of Filipino workers. As a result of social movements organised to demand 'local employment', workers from the Philippines in the end represented 30% of the construction site work labour versus 60% which was filled by the local workforce. Today, 80% of Vale's work force is local personnel. KNS employed 1800 workers in 2010 including 18% of foreign staff and 82% of local staff²³⁶. These ratios can be explained not only because of the existence of partnerships established between public institutions and mining companies, but also as a result of the progress of local education. In this regard, several programmes have been set up by the government of New Caledonia such as professional training courses for the mining sector at the University of New Caledonia or the Mobility Canada and Mobility Québec programmes created in 2010 in partnership with Vale and KNS. The goal was to attract young people not enrolled in higher education, in order that they might take training courses in General and Vocational Colleges in accordance with specific skills required and positions available²³⁷. Ultimately, the Cadre Avenir programmes set up after the Matignon Accord in 1988²³⁸ provide training in the mining sector in spite of the fact that the number of candidates in this area is weak²³⁹. Additionally, both Vale and KNS have developed programmes in order to train both salaried employees and subcontractors. In 2014, 90,000 hours of training courses had been given for both of these areas on the Vale site.

Although these measures could have been more substantial, the construction stages of the two mining sites have had a considerable impact on employment in New Caledonia, not only in terms of direct jobs created

Figure 25: Progression of employment in the mining sector in New Caledonia since 2004



Source: ISEE, 2013, p. 23 Translated by the author.

²³⁶ *Les Nouvelles Calédoniennes*, le 28.04.2010.

²³⁷ Salaun M. 2013. "Partir au Québec, revenir au Pays. Récits d'expériences de Calédoniens formés au Cégep", *Programme Gouvernance minière*, 15, Nouméa, CNRT Nickel et son environnement.

²³⁸ This programme has the purpose to prepare New Caledonia natives to work as a priority in the territory public administrations by helping them to study in France.

²³⁹ Institut pour le Développement des Compétences en Nouvelle-Calédonie E.O. 2011. *Enquête Mines et Métallurgie*, Gouvernement de la Nouvelle-Calédonie.

but also in terms of indirect and resulting employment²⁴⁰. The increase in the number of positions in the mining sector became visible in 2010 with the beginning of Vale's production phase. The SLN site is still the first employer of the country and jobs in extractive activities have increased by 77% since 2004. They involve 2,500 direct employees, and employ 1,500 workers indirectly in related activities, including 307 wheelers in 2014. The processing plants hired 1,418 people in 2009 and 2,126 in 2014. On the whole, between 2009 and 2014, the total number of jobs created in the mining sector was 7,318 compared with 3,418 in 2009. The New Caledonia Institute of statistics estimated the mining sector was responsible for 17% to the country's Gross Domestic Product in 2007. Depending on the exchange rate used, this figure was expected to increase to approximately 25% of GDP when the two plants come into full production.

3.6.3 Working conditions, health and social problems

During their stay in New Caledonia, foreign employees are subjected to local regulations. The PSI law required adjustments to the French labour code and exceptions to the statutory working time (39 hours/week), rest period, paid holidays (5 weeks) and remuneration rules. Low-skilled workers may have to work up to 60 hours per week, if needed and if demanded by the employer. They are paid the minimum wages of New Caledonia²⁴¹ – with compensation for additional hours – minus the rent for their room in the base-camp²⁴². They have rights to the same minimal rest period as other professionals in New Caledonia, to the same paid leave, union and striking rights, and are subjected to the same rules concerning security and hygiene. Whether the job is skilled or not, foreign workers are considered as equals with French employees, except concerning social security affiliation. In most cases, regardless of the type of health coverage, all migrant workers are required to join the local social security system and to pay a monthly fee which is deducted from their salaries and paid directly to the social security fund of the employer. The only personnel who did not have access to the New Caledonia social security programme were the low-skilled Filipino workers employed during the building phase at Vale. This is explained by certain observers by the fact that their contracts were very short²⁴³.

The labour code in New Caledonia stipulates that companies which hire foreign personnel and grant them temporary contracts have to ensure their living and housing conditions (art. 342-18). Base-camps built for the construction phase on the Vale site have in fact been maintained since. These base-camps have dormitories for the low skilled employees and individual rooms for the supervisory staff. On the assembly site of KNS, Chinese people had their own dormitories adjusted to their customs. Similarly, the cafeteria was also divided in four areas of services and two of them were reserved for Chinese, Koreans, Thai and Filipino workers with special meals from Asia. For the supervisory staff, housing conditions can be negotiated by contract between the individuals and the companies which hire them and send them to New Caledonia. During the construction phase of the KNS project, several houses were built outside the site in nearby villages to accommodate high-skilled personnel. Living conditions also depend on the kind of visa delivered and whether the employee comes to New Caledonia with his/her family or not. In the latter case, a residence can be furnished for the family, while a single employee is housed at the base-camp. It is the same logic which applied with regard to the Vale project: individuals can have accommodation in Noumea and have to take the Vale ferry every morning to go to the mining site. Base-camps provide a place to stay for the local workforce. This situation is subject to rules similar to fly in-fly out situations for foreign employees who came with their families as they live on a base-camp 4 days a week and can return home for 3 days of rest or 10 days on and 4 days off, depending on the site and the type of work. It should be noted that the movements of some of the foreign workers living in the Vale and KNS base-camps, outside the base camp and their movements from one place to another were strictly controlled and organized with road transport.

²⁴⁰ Syndex. 2015. *Nickel, métal du diable ou vecteur de développement? Pour une régulation de la croissance minière et métallurgique calédonienne*, Union des syndicats ouvriers et employés de la Nouvelle-Calédonie, 59.

²⁴¹ The amount of the gross minimum allowance is defined in 2015 at 152,912 FCFP or € 1,281 for 169 work hours per month.

²⁴² These were created for single personnel and construction workers.

²⁴³ Royer J.-F. 2011. *Les flux migratoires externes de la Nouvelle-Calédonie de 1989 à 2009*, Institut national de la Statistique et des Études économiques, Nouvelle-Calédonie.

For example, in 2007, every first Sunday of the month, Filipino workers came from the base-camp of Vale to the area of the Touaourou tribe to attend mass. Foreign supervisory staff has the possibility to leave more easily to visit their families and consequently go home every weekend.

Life on base-camps has raised several issues concerning health, especially regarding the condition of women. For some men whose wives work on a construction site, base-camps were seen as places of lust. At the beginning of the Vale building phase, rumours circulated to the effect that women prostituted themselves on base-camps with foreign workers in order to make extra money. Following this, there was a lot of debate concerning the proliferation of abortions and sexually transmitted infectious diseases which Asian labourers arriving on site were said to fester. Rumours took on such proportions that a security company was set up in charge of identifying, following and reporting suspected women, 'so that, even if the facts concerned events which had taken place outside working hours, women workers were evicted from the building site'²⁴⁴. In a similar manner, on the KNS construction site, husbands, who were worried about the reputation of the base-camp, asked for paternity tests of their wives who lived in base-camp²⁴⁵. Some other health issues concerning cannabis or alcohol consumption have also led Vale and KNS to restrict sales and the number of beers allowed per individual, as well as to undertake blood tests on personnel before they enter the mine or the plant sites.

For mining companies, other central issues involve ensuring hygiene, security and responding to environmental concerns. Recent social issues have led companies to take temporary measures concerning domestic violence and harassment at work. For example, since July 2012, KNS has set up programmes to assist staff concerning marital violence and sexual harassment at work by inviting an association 'Women and partner abuses' to lead information session for employees. A strategy of actions has been deployed by a steering committee composed of human resource representatives, Koniambo Nickel SAS communication and medical departments, the head of a mine crew, a health and a social worker from the North Province social actions Department²⁴⁶ (Direction des actions sanitaires et sociales de la province Nord).

To conclude, the presence of migrant workers in New Caledonia is above all related to two large mining projects, those of Vale and KNS in the south and in the north of the country respectively. During the construction phases, migratory movements were very important but they have diminished since the end of the KNS construction phase in 2012. The foreign workers employed have been regulated by the PSI law which provides the legal framework for work and wage conditions, housing and the social services available to migrant workers. Even if this law was thought to be compatible with the principle favouring local employment, it nevertheless gave rise to situations of blockades, in particular in the south. Since 2008, local employment is regulated by the labour code, of which the PSI law is part. As such, if new mining construction sites are created, the law would still be applicable.

In the case of the KNS project, part of the concerns raised in this study were recognized before the beginning of construction on that site. A survey which had been carried out underlined local expectations concerning local employment, risks of disappointment due to inadequate resources for training, and fears concerning an influx of social changes which would result from the presence of the foreign workers²⁴⁷. Even if the north mining project is seen as part of the decolonization process, recommendations underlined that the North Province should better develop information and communication strategies regarding the role of the project in provincial development and concerning the employment possibilities created during construction and production phases, including the number of jobs and qualification requirements. According to the recommendations of the same survey, the implementation of transparent and joint recruitment procedures was

²⁴⁴ Salomon C. 2014. "Métiers d'homme, métiers de femme: l'emploi des femmes kanak à Vavouto", *Programme Gouvernance minière*, Nouméa, CNRT Nickel et son environnement, 11.

²⁴⁵ *Ibid.* 28.

²⁴⁶ (n.a). 2014. "Action ciblée contre la violence", 02/04/2014, Koniambo Nickel SAS, *VKP Infos*, Online: <http://www.koniambonickel.nc/actualite/ressources-humaines/action-ciblee-contre-la-violence-b6045> (Consulted on December 7th 2015).

²⁴⁷ Sourisseau J.-M. (dir.), Tuyienon R., Gambey J.-C., Djama M., Mercoiret M.-R., Sourisseau E. 2008. *Les sociétés locales face aux défis du développement économique*, Koné; Païta, Province Nord de Nouvelle-Calédonie ; IAC; CIRAD, 145 p.

seen as a way to respond to the expectations of local Caledonians who consider local employment as legitimate, in order to avoid possible blockages²⁴⁸. These recommendations seem basic, but in the south very few such strategies were adopted by the province concerning the project until several obstructions occurred in 2006.

Even though no large-scale construction projects are currently being considered and although most low-skilled foreign workers have now left New Caledonia, certain challenges regarding mining work conditions and base-camp living conditions have still not been addressed by public policies and/or employers/workers associations. For example, even if foreign workers have access to social rights, they are rarely taken into consideration by local trade unions. Moreover, issues concerning prostitution and alcohol consumption, have not yet been the subject of in depth studies. Presently there are no specialised bodies to monitor health and social conditions at the KNS and Vale sites and consequently no measurements concerning risky behaviour and its negative outcomes on mining sites exist. Regarding the conditions of women, some policies have been introduced over the last few years. Since the middle of the 2000s, the government of New Caledonia has gradually been involved with the Convention on the Elimination of All Forms of Discrimination against Women (CEDAW). In 2006 an observatory to monitor the conditions which women face was created and in 2008 a committee was set up to monitor the application of CEDAW²⁴⁹. Although hurdles to identify specific missions of the observatory have prevented the setting up of policies concerning the rights of women in general and on mining sites more specifically, the CEDAW implementation report recommends the establishment of guidelines for the strategies of companies with regard to education, prevention of discrimination against women, and the conducting of media campaigns concerning harassment at work and marital violence, as well as an increase of the budget devoted to promoting women's rights in government agencies and NGOs.

²⁴⁸ *Ibid.* 103.

²⁴⁹ Gouvernement de la Nouvelle-Calédonie. 2013. *Rapport sur la mise en œuvre de la Convention sur l'élimination de toutes les formes de discrimination à l'égard des femmes en Nouvelle-Calédonie*, Gouvernement de la Nouvelle-Calédonie, Nouméa.

Conclusion and recommendations

The findings of the overview presented in this report raise a series of considerations and while it is clearly not possible to summarize all of them, the following appear to merit particular attention.

There is clearly a very important lack of information concerning the number and working conditions of low-skilled migrant workers in mining. When data exists the information it provides is very fragmented which makes it impossible to provide a comprehensive picture of the numbers involved and the working conditions of migrant workers.

With regard to working relations and conditions concerning skilled workers, research and interviews with regard to the situation in Australia led to the following observations. The key point is that temporary foreign labour should be employed to fill genuine skill shortages and the government and industry should plan local training to remedy those shortages. Interviews with workers' organisations also allow us to conclude that unions prefer permanent migration over temporary foreign labour and recommend that temporary foreign labour should be paid current market rates for the job so they do not undercut local wage levels. Positions should be targeted at the higher skill levels where genuine shortages can be demonstrated rather than low skill level jobs that may be left unfilled because the employer seeks to pay lower wages. Temporary foreign workers need to be protected from exploitation by an effective regulatory system that ensures their legal rights are being observed, that is a correct job and correct pay. In this regard, research for this study suggests that there is global lack of unionization in this economic sector and that foreign workers are less likely to be unionized, as well as the absence of access to health care for workers employed under the 457 visa. There is an argument that temporary foreign workers should be able to change jobs so they are not totally dependent on the sponsorship of the first employer. Temporary foreign labour should not undercut local wages and consequently market rates of wages should be paid rather than just a floor/minimum specified. Temporary foreign labour should be recognised as inherently more vulnerable to the risk of employer exploitation; so there needs to be effective oversight by regulators.

With regard to migrant workers in low-skilled mining jobs, the Malian case study brought out elements which are true more generally for the sub-region and in fact also of other African sub-regions. There are situations which call for the attention not only of the governments host to migrant workers but also of those of the neighbouring countries concerned. For example, due to the porosity of borders, it is at present difficult for state services to exercise control over migration flows. National and international labour standards and human rights (and notably the rights of children and women) are mostly not applied on artisanal gold mining sites, nor is environmental protection or the fight against the spread of disease high on the agenda. Artisanal mining areas represent genuine grey areas within broader communities and are often beyond the reach of the state. In these areas, working conditions are often extremely poor (non-compliance with standards for the safety, use of highly toxic chemicals, etc.). This type of situation favours the spread of illegal practices and even crime. These realities and the issues which they raise should be better known and better managed because of their repercussions on the surrounding communities in which they can negatively affect stability and security. As noted, being a migrant worker employed in mining can be the cause of serious difficulties and can mean the violation of their rights for women and children whose work is very painful and precarious. More fundamentally, the importance of the flows of migrants in artisanal mining zones in West Africa and the fact that these flows are growing may be seen as a reflection of the deeper and pressing problems of social and economic development of the countries and the region concerned. They raise the issue of the urgency to formalize and better regulate small scale and artisanal mining. As well as strengthening cooperation among states, the observations presented suggest that it is important to encourage individual states to take the

necessary measures to better implement the international standards that govern work-related migration and working conditions in the mining sector.

There are a number of concerns associated with migrant labour related to mining in the Asia-Pacific region. These issues include: irregularities in workers' recruitment and deployment as a result of weak governance in the host country (for example in the case of the Ramu Nickel mine in Papua New Guinea); poor working and living conditions for migrant workers; unequal treatment between migrant and local labour; and a rise in local conflict associated with migrants. Data from the cases in this report illustrated these concerns. While the different mine sites described in the case study of Papua New Guinea which relied on low-skilled migrants brought in as part of crews served as illustrations of variation, these examples also pointed to several common characteristics. One is the application or non-application of existing regulation. As documented, immigration irregularities, such as the issuance of work permits to Chinese workers at one mine in spite of the fact that these workers did not meet the country's language requirements have been the cause of important tensions. Issues around weak governance have also impacted on other aspects, such as working conditions. The limited capacity of local authorities to enforce their own regulations governing wages, workers' safety or land titling is clearly a problem.

However, while studies point to the significance of China in regard to migrant work in mining in the region, there is a dearth of the kind of in-depth investigation conducted by Smith (2013) and Imbun (2000; 2001) in Papua New Guinea into the actual living conditions of the migrant Chinese workers, or, for that matter of migrant mine workers from other countries. Mongolia and Burma are but two of the countries bordering China that are sources of natural resources for the Chinese economy. In spite of the involvement of Chinese migrant labour in these countries, there is a paucity of data providing even such basic information as the number of Chinese workers in the mining sector and very little has been written about the conditions under which these workers labour. It will be consequently recommended that in view of the lack of information in this area, much more attention and effort should be given to producing reliable data on the numbers of mining migrants present in the countries of the region including details as to their origin, legal status and skills, collected by governments and made public, and that this should be done not only with regard to Asia but wherever the phenomenon of migrant labour in the mining sector occurs.

To summarize more generally, with regard the employment generating effects of this sector it is important to note that mining activities create more jobs indirectly than are created directly. This fact compounds the difficulty of determining the number workers employed in the sector. For the purposes of this study of migrant workers, it is above all direct jobs created which were considered but reference was also made to indirect job creation. The information available suggests that the situations of workers in this sector who migrate as individuals or as part of work crews cover enormous variations and fluctuations due to the nature of the industry which are compounded by the enormous variation in country locations. These variations also reflect the development patterns of the migrants' countries of origin and notably of the absence of sufficient employment possibilities. Issues concerning in particular low-skilled migrant workers in the mining sector are inextricably linked to issues of social and economic development in the countries of the sub regions from which they originate.

To conclude, while this study has only been able to present an overview of an extremely complex subject which is characterised by numerous variations within and among regions and sectors of the industry, the information available concerning the numbers and working conditions of migrant workers in the mining sector appears to suggest that the improvement of these conditions including safety, security, wages and migratory status is directly related to the nature of the regulatory frameworks which apply. While their presence with regard to high-skilled workers underlines this point, their absence, lack of enforcement or weak enforcement appear as central factors explaining the high level of risk and the precariousness in terms of personal safety, security and livelihoods which very often characterises the situation of low-skilled migrants.

On the basis of this study, a series of recommendations for the ILO's Tripartite constituency may be put forward:

To Employers and their organizations

- Mining companies need to be aware of the labour and immigration laws of the countries in which they will operate and ensure that any cross boundary migrant workers they employ, or bring into the host country, are in compliance with the laws.
- Mining companies need to understand the socio-cultural context in which they will be operating and ensure that their labour practices will not be a source of conflict with the local host community.
- Mining companies need to be mindful of the impacts they will have on a host community and consider ways to provide benefits. Employment is a major potential benefit. If members of the impacted community need training or education in order to be employable this should be a priority for the company.
- Mining companies should provide fair wages and decent and safe living conditions.
- Mining companies should not discourage workers' unions.
- Mining companies should ensure that they respect the human rights, particularly the labour rights, of their employees.
- Mining organizations should prepare guidance on the risks faced by migrant mining labour and recommendations for their member companies to ensure migrant workers' rights are protected.
- Mining companies should:
 - develop local expertise with each mine construction project;
 - disclose information on migrant labour regularly;
 - train local workers in plant construction and staff sinking;
 - develop local expertise in construction supervision;
 - ensure expatriate workers are medically examined annually as provided for by statutes;
 - conduct in depth studies concerning prostitution and alcohol consumption in mine sites and set up specialised bodies to monitor health and social conditions of all workers and notably migrant workers.

To workers' organizations

- Workers' organizations should commission primary quantitative and qualitative research to have better basic data on cross border migrant labour for purposes of mining in their specific region.
- Based on the data gathered, workers' organizations should prepare guidance for corporations, workers and governments so that migrant workers' rights will be better protected
- Based on the data gathered workers' organizations should report regularly on migrant jobs which local workers can conduct and maintain a data base of all migrant specialized workers.
- Local trade unions should ensure the respect of the social rights of migrant workers.
- Workers' organizations should raise awareness among migrant workers concerning their right to be affiliated to a union and concerning their rights as workers in their host country.

To Governments

- Need to ensure that they have regulations in place to protect the rights of migrant labour in their countries and they need to ensure that they enforce those regulations.
- Liaise closely with the governments of origin of migrant labour on medical history and occupational exposure of migrants.

- Compel companies to disclose migrant labour.
- Strengthen campaigns to build public awareness in the artisanal mining areas concerning national and international labour standards and concerning the protection of human rights in general and of women and children in particular.
- Adopt legislative and regulatory measures which are necessary for the implementation of international legal instruments relating to the migration of people and workers.
- Adopt legislative, regulatory and administrative measures in order to better regulate artisanal mining and to give it a much more formal character.
- Adopt legislative, regulatory and administrative measures in order to better regulate recruitment agencies practices and review them on a regular basis.
- Strengthen the institutional capacities of the services responsible for security, health and environmental control in the artisanal mining areas, as well as in the small scale and large scale industrial sectors.
- Enhance cross-border cooperation of the States and also among the communities affected by migration.
- Undertake further more in depth studies on the issue of migration in the mining sector in order to remedy the fragmented nature of the existing data.
- Produce and make public comprehensive and up to date data on low-skilled as well as high-skilled migrants in the mining sector.
- Review on a regular basis existing legislation on employment permits.
- Provide local training related to mining work.
- Ensure that temporary foreign labour should not undercut local wages and that market rates of wages be paid rather than just specifying a floor/minimum.
- Ensure that temporary foreign labour be recognised as inherently more vulnerable to employer exploitation and that consequently there needs to be effective oversight by regulators.
- In keeping with the signing of the Convention on the Elimination of All Forms of Discrimination against Women (CEDAW), governments should work with companies to establish guidelines for the strategies of corporations with regard to education, prevention of discrimination against women, and the conducting of media campaigns concerning harassment at work and marital violence.
- Provide facilities at borders for migrants and victims of trafficking
- Devote an increased budgeted amount to promoting women's rights in government agencies and NGOs to eliminate all forms of discrimination against women among migrant workers in the mining sector.
- Conduct further research related to sex migration around mining sites.

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