



Sustainability Impacts of Chinese Outward Direct Investment: A review of the literature

IISD REPORT

Prepared as a contribution to the project on Promoting Sustainable Development of Chinese Enterprises for “Going Out”



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January 2016

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About this report

In order to accelerate the pace of “going out responsibly” as well as to cultivate a group of world-class responsible multi-national corporations, a joint project on Promoting Sustainable Development of Chinese Enterprises for “Going Out” is being implemented by a coalition of partners led by United Nations Development Programme (UNDP). This literature review study has been developed in support of this project by the International Institute for Sustainable Development (IISD).

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Acknowledgements

The authors would like to thank all of the IISD colleagues whose input and advice helped us understand these issues more clearly, and helpful advice from Yunwen Bai, Deborah Bräutigam, Xiaohong Chen, Aron Cramer, Alexander Demissie, Saliem Fakir, Kevin Gallagher, Peiyuan Guo, Sean Hinton, Isabel Hilton, Rhys Jenkins, Peter Lacy, Jianxiong Liu, Peggy Liu, Sharmala Naidoo, Walter Ross, Cynthia Sanborg and Moritz Weigel.



Foreword

The rapid expansion of China's overseas investment in the past two decades has attracted a great deal of attention. The scale and impact of Chinese investment, especially in developing countries, has triggered both gut reactions and sound analysis. Both tend to be critical of the performance of Chinese investors, and the reaction to this criticism in China has mostly been defensive.

Nobody possesses the whole truth about the impact of Chinese investment on sustainable development on the countries hosting these investments. Further, the situation is undergoing a natural evolution; situations that were negative a few years ago may be positive today. Early experiences are integrated into planning for new investments as a large cadre of investors and project managers learn the lessons from both their successes and failures.

Chinese reaction to the steady criticism of their overseas investments ranges from suspicion of hypocrisy on the part of its critics, through admission that there have been a range of problems in the past and that some of these still persist, to an insistence that what counts is the trend, not the fixed photograph of the situation as it is today.

They observe—with some justification—that social and environmental issues relating to investment are by no means confined to Chinese investment, pointing, for example, to massive problems faced by Canadian mining projects in Africa and Latin America. They like to underline that the history of investment from Europe and North America is not very different and that, in the former case, there continue to be shades of a colonial approach to some African countries. China, at least, never sought to command or govern these countries.

The reaction to better-documented criticism, case examples and specific flash points revolves around China's track record of addressing the problems and improving practice next time around. Chinese authorities tend to believe that there is a tendency among critics to seek out the negative, to highlight the problems and to attribute dark political motives to Chinese investment. In some instances, this defensive posture discourages debate, making the building of objective assessment impossible and the search for convergence difficult.

As a contribution to a wider project undertaken by the United Nations Development Programme (UNDP) in partnership with key Chinese stakeholders, IISD was asked to survey the literature relating to the sustainable development impact of China's overseas investments. This volume presents the results of that survey—surprisingly, an exercise that has never previously been undertaken in any comprehensive form. We are grateful to UNDP for making this work possible.

IISD surveyed a wide range of literature—academic papers, articles in more popular magazines and newspapers, books and, to the extent possible, the “grey” literature. We covered sources in the Chinese, English and Spanish languages. The material benefited from a thorough peer review from several experts and scholars familiar with the issues and with a special focus on Chinese overseas investment. This process allowed us to review and correct some of the text, to identify further relevant material, to validate our findings and to identify promising material for future work.

The results are presented in this volume, with all the caveats appropriate for a project with limited scope and duration. We very much hope that it will be the first of a series that is updated and expanded as new literature comes on stream and as other languages are added.

Not surprisingly, the opinions expressed in the different sources surveyed covers a wide spectrum of views. The survey offers a picture of a field that is evolving rapidly, with many early “teething” problems gradually being addressed and resolved. Two interesting conclusions might be drawn from the survey.



The first is that the benchmark by which China assesses the performance of its own investors has evolved a long way over the past years. Increasingly, the framework of sustainable development has emerged as the basis for judgment and aspiration, as notions fundamental to sustainable development success take on ever-greater importance. It is now accepted that Chinese—and indeed all—investment will and should be judged on the basis of the contribution it makes to sustainable development in the investor’s home country and in the countries and communities hosting the investment. The days when an investment was deemed acceptable as long as it conformed to local laws and practices are long past.

Instead, notions relating to the social and environmental “license to operate” are becoming more important—in large part because of the perceived fairness of an investment and the balance of benefits that it yields—and are becoming ever more central to the sustainability of the investment. Put simply, an investment relationship that is perceived to be unfair is also unstable and carries the seeds of future problems, whereas one that is seen as positive for all sides, balanced and yielding a fairly distributed range of benefits, will also be inherently more stable.

The second central conclusion from the survey is that there are issues inherent to the international investment relationship that are common to all or most investment, and there are issues that adhere to investments because they are Chinese. Not nearly enough effort is made to distinguish between the two.

Certainly the sentiment is prevalent in China that issues relating to their investment are often judged as problematic because the investment emanates from China, and not because the issues are fundamental to the nature of international investment relationships.

What is clearly needed is a neutral, international platform where the issues relating to overseas investment and sustainable development can be discussed and greater mutual understanding generated. Such a platform would help dissipate the impression that China is being unfairly singled out for criticism. It would, instead, help distinguish between issues that attach to Chinese investment simply because it is from China and broader challenges that China shares with other investor nations. It would also permit mutual learning in a neutral setting.

China’s overseas investment is evolving and improving its sustainability impact. We hope this literature survey will offer insight into the way the global community sees this investment and provide a guide to how practice might be improved while mutual understanding is reinforced.

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Executive Summary

Outward direct investment (ODI) by the People's Republic of China has grown very rapidly since 2004, and in 2014, China's ODI flows attained USD 123.1 billion. The past decade has witnessed remarkable growth in Chinese outward investments, and there are a growing number of academic studies, policy papers and media reports discussing the operations and impacts of Chinese companies overseas. This literature review aims to develop a comprehensive understanding of the sustainable impact of Chinese outward investments. The specific objectives of this literature review are:

1. Providing a balanced view of the current state of knowledge of the sustainable development impact of Chinese outward direct investment.
2. Providing an overview of the diverse perspectives and concerns relevant to Chinese policy-makers and companies "going out."
3. Providing insights into the Chinese policy and business strategy measures that would improve outcomes and address concerns.
4. Providing direction on further avenues for research and possible future collaboration.

In this review exercise, a total of 384 papers are collected, including 262 in English, 83 in Chinese and 39 in Spanish, based on an inventory of the available research drawing on academic databases, think tanks and international organizations, and a search of non-governmental organizations' reports, private sector reports and newspaper articles.

The review of the literatures identifies the following 12 impacts under four broad categories (Table ES1).

Table ES.1: Sustainability Impacts of Chinese ODI

Economic Impacts	Infrastructure development	Chinese investments in developing countries contribute to the needed infrastructure development of the host economies; and yet there are mixed views on the quality of Chinese services in the Information Communication and Technology and construction sectors.
	Economic development	Chinese investments' contribution to the economic development and the revenue of host governments are generally acknowledged. Concerns over the control of China on the host economy, trade imbalance and Chinese firms' business practices are widespread, especially for developing countries.
	Local industry linkages	Concerns raised around the local linkages of Chinese operations in host countries are usually around the limited spillover effect and increased market competition. Comparisons with companies based in Organisation for Economic Co-operation and Development (OECD) countries find that Chinese companies may have fewer but deeper local linkages than their OECD counterparts.
	Market competition	Government and business from host countries have expressed concerns about the competition between Chinese goods and local industries.
	Technology, knowledge & skill transfer	The literature highlights large-scale positive instances of knowledge and technology transfer, and yet there are mixed evidence and views on the extent of skill transfer through the conduct of Chinese companies overseas.
	Resource curse	Chinese investments in the resource-rich, but poor countries may exacerbate the resource curse of the host countries. This is a phenomenon for Chinese companies as well as for firms from OECD countries.



Community Impacts	Employment creation	While it is recognized that Chinese enterprises hire local people, the focus of the debate is more on the position and opportunities for training and advancement. Host governments also impose measures to encourage the employment of locals.
	Employment conditions	There exist wide accusations of Chinese overseas companies providing poor labour conditions. A comparative study of Chinese companies and their counterparts from OECD countries concludes that there are no substantial differences related to working conditions between Chinese companies and those from other countries.
	Welfare of local residents	Chinese investments contribute to the income generation and poverty reduction of the host community; and yet they sometimes lead to an increase in income inequality. Chinese companies have started to conduct corporate social responsibility (CSR) activities with overseas host communities.
Income or price support	Environmental pollution and ecosystem destruction	Concerns from local community and government towards Chinese operations overseas are widely expressed. Chinese illegal logging activities also lead to devastating effects on the local environment. The environmental impact assessments (EIA) conducted by Chinese companies overseas are usually problematic. Chinese companies, especially state-owned enterprises, start to work on environmental protection and management.
	Renewable energy	China is already the leading global investor in renewable energy infrastructure, and is increasing its outward investments in renewable energy, particularly solar and wind. The literature identifies the following elements contributing to this trend: China's domestic manufacture capacity, policy support and China's own reputation consideration.
Provision of goods or services below market value		Chinese investments in the natural resource extraction sector, the “no-strings-attached” approach, as well as Chinese companies' lack of transparency themselves escalates corruption and negative impacts on governance in less-developed host countries. Yet double standards exist in evaluating Chinese impact on governance.

The literature also digs deeper into the cause of these impact issues, and the following points are commonly discussed:

Host country characteristics and policies

- The effect of Chinese foreign ODI can be positive or negative, depending partly on the quality of institutions of the host economy. Often, the lack of an efficient implementation system, the ambiguity of regulations and policies, and conflict in the political system will exacerbate the negative impacts of foreign investments. Bilateral trade agreements also have impacts on the sustainable development of China as well as host countries.

Chinese companies and policies

- The “Chinese-style” aid and investment approach with “no-strings-attached,” and the relatively fewer standards on environmental and social protection, are usually welcomed by the host government, especially governments in developing countries.
- The literature finds that Chinese companies operating overseas may ignore social and environmental impacts due to competitiveness and profitability.
- Cultural conflict and language barriers may also lead to Chinese companies having less effective communication and more conflict with host communities; moreover, CSR is still a relatively new concept for Chinese companies, and thus insufficient knowledge and experience may be potential obstacles for successful Chinese CSR performance overseas.



A review of papers, reports and Chinese legal documents also finds the recent adjustments of Chinese policies and regulations from Chinese governments, development banks and financiers, Chinese companies, private institutions and non-governmental organizations. Governments, industry associations and the private sector have started to pay attention to including sustainable development concepts into Chinese companies' overseas operations. China Development Bank and China ExIm Bank, the two development financiers of Chinese outward investments, as well as the Shanghai and Shenzhen Stock Exchange Markets, also carry out guidelines and cooperate with international counterparts to promote green finance and CSR. Chinese companies operating overseas and private institutions/non-governmental organizations also adopt measures to voluntarily engage in CSR.

On the objectivity of the literature reviewed, we find that:

- The majority of the English academic literatures focus on the following issues: 1) the impacts of Chinese ODI on sustainable development to the host countries, based on empirical research and anecdotal data; 2) an examination of Chinese financial institutions and development policies, comparing them to those of the OECD countries.
- Latin American academic researchers and supra-national institutions usually take the perspective from host countries, and the discussions are usually around: 1) the impacts of Chinese ODI, usually based on empirical research/case study at a specific host country; 2) how host governments should address to these impacts and better regulate foreign investments.
- Chinese academic literatures often review the sustainable impacts of Chinese ODI through the perspective of Chinese companies and policy-makers. The discussions include: 1) the importance of including sustainable development concepts into policy and operations of companies; 2) the actual achievements of overseas CSR activities; 3) the reasons for Chinese companies not caring enough about sustainable development of host countries; and 4) recommendations about government/company policies and regulations on sustainable development/CSR.
- International governmental organizations and non-governmental organizations usually have their own mandates and expertise, with a particular focus or advocacy objective. Media reports often have their own standpoints and thus are less neutral than academic papers.

The literature-collection exercise strives to include the most updated, solid and objective studies on the sustainability impacts of Chinese outward investments. Future research on the sustainable impacts of Chinese outward investments should focus on cross-geography and cross-industry comparisons, as well as comparative analysis over time, Chinese investments in Asian countries and the manufacture industry, studies of specific Chinese firm cases across different countries and regions, Chinese companies/governments' learning curve, and Chinese private companies and immigrants.



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List of Acronyms

BIT	Bilateral investment treaty
CBA	China Banking Association
CBBC	China-Brazil Business Council
CCICED	China Council for International Cooperation on Environment and Development
CDB	China Development Bank
CICA	China International Contractors Association
CNPC	China National Petroleum Corporation
CSR	Corporate social responsibility
DRC	Democratic Republic of Congo
EIA	Environmental impact assessment
EITI	Extractive Industries Transparency Initiative
ECLAC	Economic Commission for Latin America and the Caribbean
FDI	Foreign direct investment
GDP	Gross Domestic Product
HIPC	Highly Indebted Poor Country
HSE	Health, security and the environment
ICT	Information Communication and Technology
IDB	Inter-American Development Bank
IGO	International governmental organisation
IISD	International Institute for Sustainable Development
IMF	International Monetary Fund
LAC	Latin American and Caribbean
MENA	Middle East and Northern Africa
MEP	Ministry of Environmental Protection
MNC	Multinational corporation
MOFCOM	Ministry of Commerce
NGO	Non-governmental organization
OECD	Organisation for Economic Cooperation and Development
ODI	Outward Direct Investment
PBOC	People's Bank of China
POE	Privately owned enterprise
PRGF	Poverty Reduction and Growth Facility
SASAC	State-Owned Assets Supervision and Administration Commission
SSE	Shanghai Stock Exchange
SOE	State-owned enterprise
SRI	Socially responsible investment
SSA	Sub-Saharan Africa
SZSE	Shenzhen Stock Exchange
UDUAL	Unión de Universidades de América Latina y el Caribe
UN	United Nations
UNAM	Universidad Nacional Autónoma de México
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nations Development Programme
ZTE	Zhongxing Telecommunication Equipment Corporation



1.0 Objectives and Approach

1.1 CHINA'S ODI FLOWS AND INTRODUCTION OF THE PROJECT

Foreign direct investment (FDI) is “cross-border investment by a resident entity in one economy with the objective of obtaining a lasting interest in an enterprise resident in another economy” (Organisation for Economic Co-operation and Development [OECD], 2013). This review is focused on outward (foreign) direct investment (ODI) by businesses from the People’s Republic of China.

These investment flows have grown from a modest base of a few billion dollars annually, just a decade ago, to over USD 123.1 billion in 2014. This puts China among the world’s three largest outward investors. By the end of 2014, 18,500 domestic investors had set up 29,700 establishments in 186 countries and regions, of which 84.7 per cent were in developing and transition economies and 15.3 per cent were in developed economies (Chinese Academy of International Trade and Economic Cooperation, SASAC, & UNDP, 2015). Key sectors include mining, leasing and commercial services, wholesaling and retailing, manufacturing, logistics and transportation. Asia is by far the largest destination, followed by Europe, Latin America, Oceania, North America and Africa.

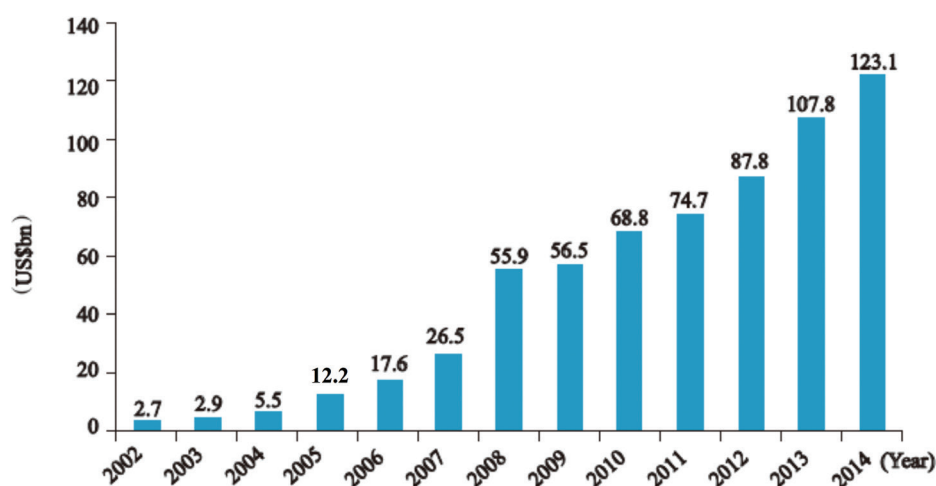


Figure 1: China ODI flows, 2002–2014 (in billions of USD)

Source: Ministry of Commerce, National Bureau of Statistics & State Administration of Foreign Exchange (2015).

Note: Data from 2002 to 2005 are for China’s non-financial ODI only; data from 2006 to 2014 are for China’s ODI across all industries.

There have long been concerns about the impacts of FDI on the achievement of sustainable development in host countries. On one hand, FDI brings much needed investment and can accelerate the diffusion of technologies, management know-how and best practices; on the other hand, there are fears that the pressure to compete to attract FDI may lead to a competitive lowering of environmental and social standards—or a “race to the bottom” (UNCTAD, 2004).

At the same time, multinational businesses increasingly recognize that, to be accepted and to succeed, they must create economic opportunities for host economies and that they should build productive relationships with government bodies, neighbouring communities, customers, workers and suppliers. From a policy standpoint, the mutual interest in successful investment relationships can offer a leverage point for addressing gaps in host country public services and regulatory enforcement, which are barriers both to sustainable development and business success (Duffy, 2008).



With the rapid growth of ODI from China following so quickly from the China's own industrialization and economic reforms, and as a new player to investment in many countries, there has been a growing interest in the question of whether China's ODI is contributing to or undermining sustainable development in host countries, and how the outcomes and perspectives on Chinese investment can be improved. In particular, there are concerns that many of the destinations of Chinese outward investments, especially those natural resource economies in Africa with weak governance systems (such as Angola, Congo-Brazzaville, Equatorial Guinea and the Democratic Republic of the Congo [DRC], which have consistently appeared at the bottom of Transparency International's Corruption Perception Index [2007]) are particularly vulnerable to negative impacts from FDI.

Thus, a body of reporting, research, analysis and commentary has been gradually built up—both positive and negative, and of varying quality—from Chinese domestic sources, host countries, international institutions and media about the general and specific issues related to Chinese ODI.

1.2 RESEARCH QUESTIONS AND DEFINITIONS

This literature review is based on an inventory of the available research and draws on academic databases and a search of international governmental organization (IGO) and non-governmental organization (NGO) reports, as well as newspaper articles. The objectives of the review are:

- Providing a balanced view of the current state of knowledge of the sustainable development impact of Chinese ODI.
- Providing an overview of the diverse perspectives and concerns relevant to Chinese policy-makers and companies “going out.”
- Providing insights into the Chinese policy and business strategy measures that would improve outcomes and address concerns.
- Providing direction on further avenues for research and possible future collaboration.

The concept of “sustainable development” has been defined in many ways, and the most frequently quoted definition is from *Our Common Future*, also known as the Brundtland Report (Brundtland, 1987): “*Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.*”¹ There are three aspects of sustainable development: environmental, economic and social well-being.

Although “governance” is not included in the sustainable development concept, it is an important aspect when evaluating the impacts of ODI. This literature review thus analyzes the literature on China's ODI impacts along four dimensions: economic impacts, community impacts, environmental impacts and impacts on host country governance. On many occasions, “governance” is also understood as “corporate governance,” which describes the risk management scheme, shareholders' maintenance, etc. With its focus on Chinese ODI's impact on host countries, this literature review will not touch upon the corporate governance of Chinese companies.

It is also important to note that this literature review will focus on Chinese “investment,” which is company-driven, rather than “aid.” Aid is government-driven, while companies act as “implementation partners,” even though it is sometimes hard to draw a clear line between the two. Eight forms (modalities) of foreign aid are discussed in a 2011 White Paper issued by China's Information Office of the State Council (2011), including complete projects (or “turnkey projects”), goods and materials, technical cooperation (such as the Agricultural Technology Demonstration Centres), human resource development cooperation, Chinese medical teams working abroad,

¹ For more on the concept of sustainable development, see <https://www.iisd.org/sd/>



emergency humanitarian aid, overseas volunteer programs and debt relief. The three forms of financing are: grants, interest-free loans and concessional loans. This literature review will include those projects using concessional loans from the ExIm Bank, usually taking the form of turnkey projects, into the ODI discussion.

1.3 LITERATURE SELECTION CRITERIA AND SOURCE OF COLLECTION

The following three criteria were adopted to evaluate the quality of the literature for selection:

1. **Reliability:** Is the paper based on empirical evidence, including case studies or/and surveys on the ground?
2. **Objectivity:** Is this research an objective analysis of the sustainable impact of China's outward investments?
3. **Time-effectiveness:** When was the paper published? Are the data and analysis relevant to the current situation, or is it historic context?

With those three criteria in mind, we undertook the literature collection process from diverse sources in English, Chinese and Spanish:

- **Academic databases:** Many of the academic papers were acquired from international academic databases, including the ProQuest, EBSCO, JSTOR Wiley and Academic Search Premier, as well as the leading Chinese ones, such as the CNKI.net and Wanfang Data. In addition, we reviewed outputs from research centres with a particular focus in these areas, such as the East Asia Institute (EAI) of National University of Singapore, the Centre for Chinese Studies, Stellenbosch University and the Centro de Estudios China-Mexico of the Universidad Nacional Autónoma de Mexico (UNAM).
- **IGOs:** Relevant literature was also sourced from international organizations, including the World Bank, International Finance Corporation, the Organisation for Economic Co-operation and Development (OECD), African Development Bank, Asian Development Bank, Economic Commission for Latin America and the Caribbean (ECLAC), other United Nations (UN) agencies, and the Inter-American Development Bank (IDB).
- **NGOs:** Studies conducted by international and host country NGOs and think tanks were reviewed, including the Brookings Institute, IISD, Oxfam, the German Development Institute, and the Unión de Universidades de América Latina y el Caribe (UDUAL).
- **Private sector:** Reports produced by private firms, like Accenture, KPMG, Rhodium Group and Standard Chartered Bank were reviewed, as were the self-published corporate social responsibility (CSR) and sustainability reports of some Chinese enterprises.
- **Media reports:** Media reports from major international news agencies and magazines, host country newspapers (Daily Nations, Farmweekly, ABC News, etc.), and Chinese news and magazines (such as the Caixin.net, China Daily, Xinhua News, etc.) were also examined, although a comprehensive media review was not undertaken.

Keywords used as search terms to identify relevant literature are set out in Table 1.

Four literature reviews of the same topic have been identified (Hofman & Ho, 2012; KPMG, 2013; Koch-Weser, 2012, 2014). Both involved more limited reviews, as explained in Box 1, which also provides a summary of the work.

**Table 1:** Keywords used as search terms

Themes	CSR, sustainability, Chinese ODI/outward investment/FDI, “going aboard,” environmental impact, geographical distribution, economy, community, social, governance, corruption, development finance
Industry	Mining, telecommunication, infrastructure, timber, forestry, finance, oil, construction, agriculture, new energy, textile, manufacture, ICT, trade
Location	Africa, Latin America and Caribbean, Asia, Europe, North America, Pacific
Others	Labour protection, labour union, cross-border measurement and assessment, greenfield, procurement, society, strategic management, religion, disputes, ESG, governance, chain-value added, local disputes, technological transfers, community development, job creation, training, wage, labour welfare

Box 1: Existing literature reviews on the impact of Chinese outward investments

Hofman and Ho (2012) reviewed 97 papers, reports and news articles focusing on Chinese land-based outward investment, and reached three conclusions:

1. The available data on China’s land-based investments are highly inconsistent, fragmentary and, at times, completely absent.
2. Data quality is a critical issue: there is a lack of in-depth research “on the ground” through qualitative fieldwork and quantitative surveys.
3. There are few scientific sources: of over 90 sources identified and reviewed, only three were published through international, academic peer review.

Hofman & Ho (2012) note that China’s outward land-based investments are part of what can be termed “developmental outsourcing.” Different from a conventional interpretation of outsourcing, this concept refers to global off-shoring in which the state plays a key role in planning, intervention and regulation.

KPMG (2013) studied 47 media reports on Chinese companies’ outward investment impacts, and ranks the significance of the types of impacts based on the frequency of media mentioning. The report finds that:

1. Media reports on the negative cases of Chinese overseas operations are more frequent than the positive cases (63 per cent negative cases versus 37 per cent positive cases).
2. Compared with Chinese media, international media have a higher coverage of Chinese overseas operations (79 from international media versus 44 from Chinese media).
3. International media covers more negative Chinese operation cases, while Chinese media reports more positive cases of Chinese overseas operations (72 per cent of the cases reported by international media are negative cases versus 45 per cent of cases reported by Chinese media).
4. Articles/reports from international media on average cover more cases in each report than Chinese media reports (each report/article from international media covers 3.95 cases on average versus 1.91 cases per article from Chinese media)

Koch-Weser (2012) conducted a literature review on China’s energy engagement in Latin America. The author finds that the in-depth debate of this topic has been confined to a small group of scholars, primarily in Washington and Beijing. The literature overall is still early-stage. Empirically, scholars have paid inordinate attention to China’s engagement in the oil sector, particularly in Venezuela. Analytically, scholars have struggled to find common ground for dialogue, variably discussing political, technical and economic issues. In China, meanwhile, scholars focus most on the risks and opportunities faced by China’s national oil companies engaging in the region.

The key debates have been around: (1) China’s resource security and profit-seeking motives, (2) lending practices, (3) the competitiveness of China’s national oil corporations and (4) the development impacts of Chinese energy engagement in Latin America. Specifically, there have been heated discussions around the development impact of China on Latin America’s commodity boom, encompassing issues of sustainability and governance. Although energy is touched on only tangentially, the impact of energy-related lending and the increasing number of energy investment projects raise new questions regarding developmental benefits and the corporate governance practices of Chinese firms.



Koch-Weser (2014) offers an extensive review of 138 English, Chinese, Spanish and Portuguese sources on Chinese outward mining activity, highlighting a subset of issues especially relevant to policy-makers. These include China's effect on global commodity markets, the country's outbound investment policies and the much-debated impact of Chinese demand on resource-rich economies. The review discovers that:

1. The English-language scholarship on China's global mining activity can be divided into three types: (a) general reviews of China's industrial policy, global mining acquisitions and impacts on commodity markets; (b) country- and region-specific studies of China's impacts on resource-rich economies, ranging from fieldwork at mining sites to discussions of China's macro-economic impact; and (c) industry-level studies of mining and metals. Government and industry reports supplement this research.
2. Scholarship on Chinese mining activity is growing and spans journals across Latin America, foremost Brazil. Of note is theoretical work on "dependency" theory, and related quantitative studies examining the region's commodity boom and its declining manufacturing competitiveness vis-à-vis China. Lacking from the Spanish and Portuguese literature is case study analysis based on fieldwork.
3. China has a legion of mining experts at state-run institutes, often affiliated with the Ministry of Land and Resources. They publish short, normative pieces that focus on a specific subsector or issue. Rather than reflect on theoretical scholarship, their work provides insight into China's policy-making.

The review also focuses on the following themes:

1. China's impact on global commodity markets. Underlying China's mining activities are three factors: (a) demand, (b) efficiency and (c) global supply capabilities. Questions of demand and efficiency revolve around China's ability to tackle excess capacity in the short run, rebalance the economy in the medium term and deal with structural constraints on metal intensity in the long run. On the supply side, there is general agreement that China will diversify the mineral supply (e.g., fringe production, commodity markets). Yet, more so than for oil, there is also the potential for China to "lock up" supply.
2. China's outbound investment strategies. China's outbound investment in minerals has given rise to debates about the degree of state influence over Chinese miners in terms of driving and patterning investment. Several scholars point to the relative autonomy of individual companies. Moreover, debates over investment patterns—regarding whether to invest, and if so, who, what, where and how—elicit interesting discussions among Chinese scholars.
3. Developmental impacts. At the macro-level, theoretical arguments about China's impact on resource-rich economies mark a return to older theoretical paradigms of "dependency" and "resource curse." China's impact varies by indicator and method used. China lags the West in governance practices, yet the extent and causes are debatable.

Limitations: All four reviews are valuable in terms of understanding the sustainable impact of Chinese companies' overseas operations in particular industries (agriculture, as in Hofman and Ho's research and mining and energy as in Koch-Weser's) or from a specific type of author (media, as in the KPMG report). Our literature review, however, is the first exercise examining various business sectors, across geographical locations, and from different types of authors.

1.4 OVERVIEW OF THE LITERATURE

A total of 384 papers were collected, including 262 in English, 83 in Chinese and 39 in Spanish. See Table 2 for details of the literature reviewed by different author types, time of research completion, geographical location, business sector, research method and language.

The examination of the research methods used to explain and evaluate the impacts of Chinese ODI finds that, among the 262 documents in English, about 41 per cent are based on empirical evidence, which is to say, author-led surveys, including interviews, questionnaire surveys, focus groups, case studies based on field research in host countries, as well as datasets from reliable sources. The majority are based on anecdotal data, with information not grounded in facts or careful study, but rather using reports or observations from unscientific observers. In the other languages, 77 per cent of Spanish literature and 16 per cent of Chinese literature reviewed is based on empirical research. This literature review relies solely on robust research studies in analyzing impacts and uses the more anecdotal papers, especially media reports, as a means of identifying the issues to discuss.



It is, of course, hard in this review to assess the objectivity of the research, but we would caution the reader on the basis of the hypothesis that the authors' backgrounds may influence their view about the localized impact of Chinese ODI. More specifically:

- Generally speaking, academic papers project a more neutral perspective.
- Think tanks, IGOs and NGOs usually have their own mandates and expertise, and thus may have a particular focus or advocacy objective.
- The Spanish literature focuses more on Latin American host countries' perspectives, while the Chinese literature provides a unique perspective from Chinese companies and policy-makers, and puts more emphasis on the improvements of Chinese operations and regulations.

In relation to the date of the publication, we put more emphasis on papers completed after 2010, as sources of relevant information on the current situation. This does not imply, however, that sources before 2010 have no value, but they need to be interpreted carefully, given the changing landscape of investment volumes, locations and practices over time. Papers completed before 2010 were collected and reviewed to obtain an understanding of these changes, and the evolution of policy and company initiatives undertaken to address to them.

In terms of geographical locations of Chinese outward investments, Africa attracts the most research and studies, followed by Latin America and the Caribbean (LAC); Asian and OECD countries receive less attention from researchers comparatively (even though, compared with Africa and LAC, Asian countries attract much more in ODI flows). All 39 Spanish sources discuss Chinese investments in LAC regions. While the majority (78 per cent) of Chinese sources do not have a geographical focus and discuss Chinese ODI generally, among the Chinese papers with geographical focus, like the English literature, Africa still receives most attention.

Table 2: Overview of literature reviewed

CATEGORIES	SUB-CATEGORIES OF LITERATURE	# OF ENGLISH LITERATURE	# OF SPANISH LITERATURE	# OF CHINESE LITERATURE
Author Type	Academia (published)	122	24	34
	Unpublished academic thesis	3	0	24
	IGO	30	9	1
	NGO	65	4	10
	Media (op-eds and news)	35	1	7
	Legal documents	0	0	6
	Private Sector	7	1	1
Time of Research Completion	Before 2000	0	0	1
	2000–2004	0	1	6
	2005–2009	65	4	31
	2010–2015	197	34	45
Geographic Location	LAC	46	39	2
	Asia	18	0	2
	Africa*	127	0	12
	OECD countries	18	0	3
	Global	53	0	64



Business Sectors	Natural Resource Extraction	50	13	12
	Infrastructure Construction	24	3	4
	Trade	7	0	5
	Manufacturing	11	7	5
	ICT	16	0	8
	Agriculture and Forestry	50	3	1
	General Sectors (Other sectors)	104	13	48
Research Methods	Empirical evidence	108	30	16
	Anecdotal evidence	154	9	67
Language	English	262	N/A	N/A
	Chinese	N/A	N/A	83
	Spanish	N/A	39	N/A
Total			384	

*Note: Africa includes sub-Saharan Africa, Northern Africa and the Middle East.

Box 2 provides 20 high-quality sources (10 in English, 4 in Chinese and 5 in Spanish) according to the criteria above. These sources are selected based on a wide range of geography, industry and author's background.

Box 2: High-quality sources

Selected English Literature:

- Bosshard, P. (2008, 05 29). *China's environmental footprint in Africa*. Retrieved from <http://www.pambazuka.net/en/category/comment/48442>
- Bräutigam, D. & Zhang, H. (2013). Green dreams: Myth and reality in China's agricultural investment in Africa. *Third World Quarterly*, 34(9), 1676–1696. doi:10.1080/01436597.2013.843846
- Cissé, D. (2012). "Going global" in growth markets – Chinese investments in telecommunications in Africa. Retrieved from <https://scholar.sun.ac.za/handle/10019.1/21145>
- Cooke, F. L. (2012). The globalization of Chinese telecom corporations: Strategy, challenges and HR implications for the MNCs and host countries. *The International Journal of Human Resource Management*, 23(9), 1832–1852. doi:10.1080/09585192.2011.579920
- Grimsditch, M. (2012). *China's investments in hydropower in the Mekong Region: The Kamchay Hydropower Dam, Kampot, Cambodia*. Retrieved from www.bicusa.org/en/Document.102893.pdf
- Huang, X. & Staples, W. (2014, June). *Community engagement by Chinese firms in Australia: Practices and benefits*. Retrieved from <http://mams.rmit.edu.au/xnjztnvfxek.pdf>
- Irwin, A. & Gallagher, K. P. (2012). *Chinese investment in Peru: A comparative analysis*. Massachusetts: Global Development and Environment Institute (GDAE), Tufts University.
- López, A., Ramos, R. & Starobinsky, G. (2010). *A study of the impact of China's global expansion on Argentina: Soybean value chain analysis*. Cuadernos de trabajo del CECHIMEX 2
- Mol, A. P. (2011). China's ascent and Africa's environment. *Global Environmental Change*, 21(3), 785–794.
- Shen, X. (2013). *Private Chinese investment in Africa: Myths and realities*. Baltimore, MD: Johns Hopkins University and Paris: The World Bank.
- Vliet, G. V., Magrin, G., Yang, W., Maoundonodji, G., Dittgen, R. ... Tavares, M.A. (2011). *Chinese and American oil companies and their environmental practices in Chad: A quiet confluence of streams or silence before the battle?* Working Paper 2. Rising Powers and Global Standards. Retrieved from http://www.risingpowers.net/medialibrary/docs/RisingPowers_WP2_Van%20Vliet%20et%20al.pdf



Selected Chinese Literature:

- Xu, C. (2009). Innovation, internationalization and CSR: Development of Haizheng HISUN. *Economic Review*, 2009(1): 44-47
- Xu, E. & Zheng, P. (2006). Corporate social responsibility in international operation. *Research on Economic and Management*, 2006(3): 53-58
- Xu, J. (2014). CSR: Shock absorber of Chinese Electronic Corporation going abroad. *China Power Enterprise Management*, 2014(2): 86-87
- Zhan, S. (2009). *CSR of Chinese enterprises in Africa*. China Academy of Social Sciences Institute. Retrieved from http://www.cicpa.org.cn/Column/Industry_gout/Macro_information/200901/t20090106_14957.htm

Selected Spanish Literature:

- Bittencourt, G. & Reig, N. (2014). China and Uruguay. Case studies for Chery and Lifan automotive companies. In E. Dussel Peters (coordinator), *Chinese foreign direct investment in Latin America: 10 case studies* (pp. 227-272). ALC-CHINA NET, UDUAL, UNAM, Cechimex, Mexico.
- De Freitas Barbosa, A., Cristina Tepassê, A. & Neves Biancalana, M. (2014). Economic relations between Brazil and China from the performance of State Grid and Lenovo enterprises. In E. Dussel Peters (coordinator), *Chinese foreign direct investment in Latin America: 10 case studies* (pp. 61-132). ALC-RED CHINA, UDUAL, UNAM, Cechimex, Mexico.

Dussel Peters, E. (2014). Chinese foreign direct investment in Mexico: Cases of Huawei and Giant Motors Latin America. In E. Dussel Peters (coordinator), *Chinese foreign direct investment in Latin America: 10 case studies* (pp. 273-341). ALC-CHINA NET, UDUAL, UNAM, Cechimex, Mexico.

Fairlie, A. (2014). Chinese foreign direct investment in Peru: Cases of China Fishery Group and Chinalco. In E. Dussel Peters (coordinator), *Chinese foreign direct investment in Latin America: 10 case studies* (pp. 133-226). ALC-RED CHINA, UDUAL, UNAM, Cechimex, Mexico.

Sanborn, C. & Dammert, J. L. (2013). Extraction of natural resources, economic development and social inclusion. Discussion Paper DD / 13/14. Peru: Universidad del Pacífico.

1.5 THEORETICAL FRAMEWORK

Drawing on Peter Dicken's (2003) framework on the impacts of multinational corporations, the literature review looked for material on the impacts of Chinese ODI on economic, environmental and community well-being in host countries, and on the quality of governance. The first part of the literature review considers 12 areas of potential impact within these four themes, while the second part looks at the analysis of potential explanatory factors for understanding these impacts, and the trends in their incidence.



Economic Impact	<ul style="list-style-type: none"> • Infrastructure development for host country • Economic development (macroeconomic development, debt sustainability) • Local industry linkages • Market competition • Technology, knowledge and skill transfer • Resource curse
Community Impact	<ul style="list-style-type: none"> • Employment creation (income inequality, income generation) • Local residents welfare (food security, dislocation) • Employment conditions (labour relations)
Environmental Impact	<ul style="list-style-type: none"> • Environmental pollution and ecosystem destruction • Renewable energy
Impact on Governance	<ul style="list-style-type: none"> • Governance, corruption and transparency

Figure 2: Theoretical framework of the literature review

In addition to these impact issues, others are also mentioned, such as cybersecurity issues and illegal fishing; however, these are mentioned in fewer than five of the documents reviewed (around 1.5 per cent of the literature) and are thus not chosen as topics of discussion in this literature review.

1.6 OVERVIEW OF THE IMPACTS

Table 3 below captures the literature existence over the industry (infrastructure construction [Inf], information communication and technology [ICT], agriculture and forestry [Agr], natural resource extraction [NR] and manufacture [Manu]) and geography (Africa, Asia, LAC and OECD countries) variables. “Y” represents literature describing this issue under the specific industry or place; pink rows show that this is a cross-sector or cross-geography issue. This table helps us further understand the landscape of the existing literature.

Table 3: Literature landscape according to impact issues and industry, geography variables

CATEGORIES	IMPACT ISSUES	INDUSTRY					GEOGRAPHY			
		Inf	ICT	Agr	NR	Manu	Africa	Asia	LAC	OECD
Economic Impact	Infrastructure development for host countries	Y	Y		Y		Y	Y	Y	
	Economic development	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Technology, knowledge and skill transfer	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Local linkages	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Market competition			Y		Y	Y	Y	Y	
	Resource curse				Y		Y		Y	
Community Impact	Job opportunities (income generation, income inequality)	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Local residents' welfare (food security, dislocation)	Y	Y	Y	Y		Y	Y	Y	Y
	Employment conditions (labour relations)				Y	Y	Y	Y	Y	
Environment Impact	Environmental pollution and ecosystem destruction	Y		Y	Y	Y	Y	Y	Y	Y
	Renewable energy				Y		Y	Y		
Impact on Governance	Transparency, corruption, etc.		Y		Y		Y			



Table 3 further indicates the following interesting points on the literature landscape:

- There are four cross-industry and cross-geography issues, three under the economic impact—Chinese operations’ impact on the economic development, local linkages and technology transfer to host countries—and one under community impact—creating job opportunities.
- Two impact issues are cross-geography: the welfare of local residents and the impact on environmental pollution and ecosystem destruction; both issues are not cross-industry, however. Impacts on the welfare of the local residents are not seen in literature describing specifically the manufactural activities of Chinese companies overseas, while environmental impact is not identified in the literature describing the ICT sector.
- There are two potential explanations for the missing squares: the first is that this issue is not relevant to the specific industry or place. For instance, the Chinese investments’ impact on exacerbating the resource curse of host countries is only relevant to the natural resource sector, and thus other industries are left blank. The second explanation is that some relevant papers and reports were missed in the literature exploration and collection stage of this literature review, and thus these could be the starting points for future research.
- Does the amount of investment flow to a specific industry and geographic location influence their research attention? No evidence is found to support this hypothesis. According to the data from Chinese National Bureau of Statistics, in 2013, Chinese investment outflow in the natural resource sector was USD 24,807 million; manufacture was USD 7,197 million; construction was USD 4,364 million; agriculture was USD 1,813 million; and ICT was USD 1,401 million. Regarding geographical location, Asia attracted USD 75,604 million, LAC attracted USD 14,359 million and Africa attracted USD 3,307 million in 2013 (National Bureau of Statistics of China, n.d.). The manufacturing investment amount is higher than the construction industry, and yet the manufacturing industry does not receive as much research attention as the construction sector.

This extensive literature review exercise collected and reviewed 384 sources in three languages and from authors with various backgrounds, covering a wide range of sustainability impact topics in depth, including economic, community, environment and governance impacts. The literature-collection exercise strives to include the most updated, solid and objective studies on the sustainability impacts of Chinese outward investments. The critical and objective review of these literatures on the impact issues, causes of impacts and Chinese policy adjustments provides a comprehensive picture of the sustainability impacts of Chinese outward investments.

1.7 LIMITATIONS

Since this literature review is the most extensive early attempt to comprehensively collect and analyze the existing research on the sustainability impact of Chinese companies’ outward investment, it is inevitably characterized by some limitations.

The first is the limitation of language capacity. The language capacity of the research team (i.e., Chinese, English and Spanish) limits the ability to examine literature written in other languages. The majority of the literatures examined in this review are in English, Chinese and Spanish, due also to the limitation of time. Literature in French, Portuguese, Indonesian, Vietnamese, Swahili and other prevailing host country languages (and also to some degree in Spanish) was therefore not examined. It remains difficult to identify literature by local agencies.

Second, due to the tight timeline, the overall coverage of the literature reviewed may not be considered fully comprehensive. Important regions, such as Russia, West Asia, Middle East and Northern Africa are not well addressed.



2.0 Impact Analysis

2.1 ECONOMIC IMPACTS

Both English and Spanish sources discuss the impact of Chinese investments on the economic development of host countries around five major issues: infrastructure development, economic development, backward and forward linkages to local industries, market competition, technology, knowledge and skill transfer, as well as the resource curse effect. Chinese researchers, however, have barely touched on the economic impacts of Chinese companies to host countries, and two pieces of Chinese research mention the Chinese contribution to driving the economic development of host countries (Wang, 2014; Zhan, 2009).

2.1.1 Infrastructure Development

A key theme in the literature is the contribution of Chinese investments to the critical economic infrastructure, such as transportation and telecommunications, of host countries, especially in developing countries. This relates to direct investment in the infrastructure construction and ICT sectors and the spillover effect of Chinese investments in the natural resource industry.

- Many authors observe that **Chinese activities in developing countries contribute needed infrastructure development** to the host economy and improve local residents' access to basic infrastructure (Alden & Alves, 2009; Grimsditch, 2012; Schiere & Rugamba, 2011; SIPA, 2007; Urban et al., 2012).
- Many authors also point out that Chinese investors are **willing to invest in countries with poor investment environments**, indeed often where traditional investors and donors are cautious of investing (Cissé, 2012b; Corkin, Burke & Davies, 2008; Urban et al., 2012). There is particular interest in “oil-for-infrastructure” or “Angola Mode” deals and in the role of Chinese infrastructure investment in Africa (Alden & Alves, 2009) (also see Section 2.4 on governance).
- However, reports also highlight **concerns with the quality of Chinese services**, especially in the ICT and construction sectors (Corkin et al., 2008; Dalton, 2014; Gagliardone & Geall, 2014; Konjin, 2014; New Security Learning, 2011; Zhao & Zhang, 2014).

English language literature is particularly focused on infrastructure development in African and Asian countries; Spanish papers discuss this issue in LAC countries; and yet no literature was identified discussing this impact in OECD nations.

Infrastructure development is a critical issue for developing countries, especially in sub-Saharan Africa, where it has become a bottleneck for economic development (Davies, 2011; Foster et al., 2009; Yepes, Pierce & Foster, 2007). The infrastructure development of developing countries, especially in sub-Saharan Africa, currently lags behind developed countries on most standards, including paved road density, electricity generation capacity, household access to electricity, water and sanitation (Foster et al., 2009; Yepes et al., 2007). Davies (2011) also argues that the lack of cross-nation infrastructure in Africa also restricts their import and export businesses, and is a constraint to the development of agricultural and manufacturing industries: “the inability of economies to integrate themselves with neighbouring countries to promote wider markets continues to be a serious obstacle to trade.”



Many authors observe that Chinese activities in developing countries contribute needed infrastructure development to the host economy and improve local residents' access to basic infrastructure (Alden & Alves, 2009; Grimsditch, 2012; Schiere & Rugamba, 2011; SIPA, 2007; Urban et al., 2012). China's direct investment in the construction of roads, bridges, railways and hydropower, etc., has increased local communities' access to transportation and electricity in developing countries (Grimsditch, 2012; Urban et al., 2012). Chinese investments in industries such as natural resource extraction and ICT also contribute to the host economies' infrastructure development. For instance, Alden and Alves (2009) observe that Chinese infrastructure contracts with African countries guaranteed by oil repayments, also known as "oil for infrastructure" or "Angola Mode," are contributing to laying the foundations for Africa's economic take-off and indirectly contribute to the poverty reduction in host countries. According to the SIPA (2007) study, China's concentrated ODI in African telecommunication infrastructure has "accelerated development to a degree that would be otherwise impossible." Schiere and Rugamba's (2011) report further argues that Chinese investment in infrastructure "is essential to alleviate supply-side impediments to African integration."

Similar to the "Angola Mode," in some LAC countries, Chinese investments in other industries usually have spill-over effects on infrastructure development. In Latin America, China's ODI concentrated on raw material processing and the energy sector from 2000 to 2011 (Dussel Peters, 2013). In Peru, Chinese natural resource company Chinalco's Temorocho project includes investments in improving transportation infrastructure to be used by Chinalco and by the community; the project includes the construction of a residential area where about 5,000 residents from the village of Morococha will move in since the company plans to build a mine in Morococha (Sanborn & Dammert, 2013). Chinese investment in Brazil grew significantly during the last decade, mainly in agricultural and extractive activities, but with some degree of spillover into the related infrastructure development (Bittencourt, 2012).

Many authors also point out that Chinese investors are willing to invest in countries with poor investment environments, indeed often where traditional investors and donors are cautious of investing (Cissé, 2012b; Corkin, Burke & Davies, 2008; Urban et al., 2012). Cissé (2012b) highlights that Chinese telecommunication companies operate in rural areas in Africa, where their Western competitors often hesitate to invest and operate, bringing local people the benefit of low-cost, wide mobile network coverage. Corkin et al. (2008) note that Chinese services and goods can also be cheaper than traditional market players, bringing affordability benefits to consumers and the public of some of the poorest developing countries and communities. Another example is the mining industry in Southeast Asia: the work usually requires stable electricity supply, and thus local communities are reported to benefit from the access to electricity and water generated by the dams that accompany the mining activities, such as at the Nam Ngum 5 Dam in Laos, and the Shweli 3 and the Tarpein 1 Dams in Myanmar (International Rivers, 2012; Urban et al., 2012).

However, media and research reports also highlight concerns with the quality of Chinese services, especially in the ICT and construction sectors (Gagliardone & Geall, 2014; Konjin, 2014; New Security Learning, 2011; Zhao & Zhang, 2014). Dalton (2014) reports that local people complain about poor mobile phone signals in ZTE-covered areas in Ethiopia, and that "the mobile-phone signal in those areas was so weak that people living in brick or stone houses often had to go outside to use their phones" (Zhao & Zhang, 2014). In response, ZTE blames the poor local electricity provision (Zhao & Zhang, 2014). Corkin et al. (2008) note that the quality of work by Chinese construction companies is widely perceived to be inferior, but highlights that, as with the price of the overall bid, the level of standards among Chinese companies varies; in some cases, very little distinguishes the quality and standards of Chinese construction companies from the other firms, whether local or foreign.



2.1.2 Economic Development

The contribution of Chinese enterprises to macro-economic development and the revenue of host governments are generally acknowledged.

- Key factors recognized are **investment, infrastructure and growing trade with China** (Gray, 2009; Nonfodji, 2011; Onphanhdala et al., 2013; Wang, Mao & Gou, 2014). The contribution to economic growth is most often noted in relation to developing countries, but has also been noted in OECD countries such as Australia (ABC News, 2011; Hinkley, 2011; Kent, 2013). Particular studies look at the economic development impact of Chinese investment into key sectors such as the Zambian mining sector (Li, 2010; Taylor, 2007). Several researchers have noted a synchronization of GDP growth rates between China and its trading partners in Africa and Latin America since 2000 (OECD, ECLAC & CAF, 2013).
- Researchers expressed concerns about **trade imbalances**, particularly where countries export basic commodities to China and import value-added products. They also express concern over China's potential **control over major aspects of the host countries' economy**, especially in land-related investments (Hinkley, 2011; Onphanhdala et al., 2013).

Economic development impact is identified in all geographical locations, including developing countries and OECD countries, and across all business sectors reviewed. Spanish sources put more emphasis on the impact of Chinese trade activities with LAC countries and the resulting growth synchronization effect. Chinese literatures only briefly mentioned China's impacts on the economic development of host countries.

At the macroeconomic level, researchers and host country governments generally acknowledge the contribution of Chinese investments, like the FDI from other countries, to the economic development of the host countries (Gray, 2009; Nonfodji, 2011; Onphanhdala et al., 2013; Wang, Mao & Gou, 2014). Wang, Mao & Gou (2014) point out that China provides ample capital as well as entry into the Chinese market to host nations, which boosts the economic development and trade of these economies. In Benin, for instance, China's investment in the farmland for the production of fuel crops is believed by the Benin government to "present a double advantage: that it generates affordable energy while creating an opportunity of development" (Nonfodji, 2011). In the Zambian mining sector, the literature finds that Chinese FDI has propelled the development of the Zambian copper industry (Li, 2010; Taylor, 2007): "Chinese investments in Zambia's copper industry ... rejuvenated an industry that had been dead on its feet in the 1990s" (Taylor, 2007). Brautigam (2008) adopted the "flying geese" model to explain how China's activities in Africa sped up the pace of industrialization. Ethnic Chinese have served as "flying geese" for Mauritians: the early industrial investments by Chinese manufacturers in Mauritius fostered a local industry that grew rapidly and, over 35 years, gradually transformed into a shared foreign/local affair (Brautigam, 2008).

A similar observation is made in Asia. The Lao People's Democratic Republic, for instance, hosts a large amount of Chinese investments in rubber plantations; the direct economic impact is the increase of Lao agricultural exports to China, which contributes to GDP growth and improved government revenues (Onphanhdala et al., 2013). The Lao government believes that rubber will "help lift the country from the ranks of the world's poorest nations," considering China's strong demand for rubber by 2020 (Gray, 2009). Indirectly, Chinese investments in the hydropower construction in the Greater Mekong Sub-Region, as Urban et al. (2012) argue, resulted in enhanced economic and political opportunities for this region with China. Increased investments on the Chinese side often comes



alongside increased trade and aid flows, which are crucial for poor countries such as Myanmar, Laos and Cambodia; increased trade flows are also particularly relevant for Vietnam and Thailand (Urban et al., 2012).

China's investments and trade with Latin America lead to higher trade intensity, especially more extensive intra-industry trade links and more symmetric structures of production (Calderón, Chong & Stein, 2007), which have further increased the synchronization of GDP growth rates between China and Latin America since 2000. In Central America, however, there is a lower synchronization with China (OECD, ECLAC & CAF, 2013).

Apart from developing nations, the contribution of China's investment to economic growth also appears in Australia (ABC News, 2011; Hinkley, 2011; Kent, 2013). The economic impact of Chinese investment in Australia is highlighted by Christopher Kent, Assistant Governor of the Reserve Bank of Australia (2013) at his speech to the Committee for Economic Development. Through analyzing the macroeconomic situation of China and Australia, Kent (2013) concludes that Australia's economy will benefit from the China's mining investment. On China's purchasing of Australian farmland, interviewees, especially government officials, believe that "outward investment would only bolster Australian agriculture" (ABC News, 2011), and that Chinese investment provides the working capital that the Western Australia area is short of (Hinkley, 2011).

Researchers expressed concerns about the trade imbalance and China's potential control over the host countries' economy, especially in Chinese land-related investments. Facing China's investment in Australia's agriculture, interviewees expressed concerns about China's potential control over the supply chain to fill the market (Hinkley, 2011). Onphanhdala et al. (2013) also observe that the large presence of China's investments in the major aspects of the economy of Laos may lead to a situation of monopoly power. There is also a huge trade imbalance between developing countries and China. Moreover, Patroba's (2012) analysis finds that China-Kenya trade is heavily balanced in China's favour: Kenya exports unfinished products to China and imports value-added products from China, which include significant counterfeit products. In terms of trade volume, based on the trade data from Kenya Bureau of Statistics, from 2008 to 2012, the total Kenya export to China ranges from 3.6 to 5 per cent of Kenya's imports from China (see Table 4 below for specific trade figures annually).

Table 4: China-Kenya trade figures

	2008	2009	2010	2011	2012
Total Kenya Imports from China (USD)	783,565,249	895,377,896	1,444,453,272	1,710,595,422	1,984,566,150
Total Kenya Exports to China (USD)	38,249,630	44,704,208	52,314,439	77,231,410	81,820,325

Source: Kenya Bureau of Statistics, statistics compiled by author

A recent International Monetary Fund (IMF, 2015) paper suggests that, in general, the impact of China on sub-Saharan African economies varies depending on whether the economy is a commodity exporter or importer. The prevailing monetary policy regime can affect dynamics in the short term.



2.1.3 Linkages with Local Industry

One key area of potential for positive economic impacts is the backward and forward linkages between foreign enterprises and local economies (i.e., the extent that they build up local supply chains and distribution networks).

- Most of the studies in this area focus on particular companies or clusters, such as CBBC/IDB, (2013), López and Ramos (2014), de Freitas Barbosa, Tepassê and Neves (2014), Bittencourt and Reig (2014) and Jian Hua (2007). They show variable levels of local linkages depending on industry and location, but it is **difficult to draw conclusions about whether this is specific to Chinese companies**.
- **Within the few comparative studies, there is mixed evidence as to whether the practice of Chinese companies differs from other multinationals.** Kubny and Voss (2010, 2014) look at linkages by Chinese companies in Vietnam and Cambodia; Dussel Peters (2014) examines 10 case studies of Chinese firms in LAC; Irwin and Gallagher (2012) look at mining companies in Peru; and Fessehaie and Morris (2013) examine Chinese in the mining sector in Zambia.
- Researchers provide some **potential explanation for limited local linkages**: the absence of local networks of specialized suppliers, cost and quality issues (Gu, 2009); and the cultural and language distance, which imply higher transaction costs (Amendolagine et al., 2012).

Both the English and Spanish sources report that Chinese companies with operations in host countries have weak links with local suppliers. Local sourcing is only mentioned in Chinese legal documents, providing guidelines for Chinese companies to increase local sourcing from host countries.

Another concern commonly discussed in the research and by the media is the fear of low levels of local economic linkages. Multinational corporations (MNCs) could establish backward (to the country's hinterland) and forward linkages (to export markets) with local economies (Kubny & Voss, 2014; Sandrey & Edinger, 2009). The literature identified on the topic of forward linkages is very limited, and thus the review will focus on the backward linkages of Chinese companies.

Kubny and Voss's (2014) interview with Chinese firms in Vietnam finds that these Chinese firms source rather low value-added products in Vietnam, such as packaging material, steel plates and pipes, cables, nuts, bolts, thread, spools and needles. More skill- and technology-intensive products such as cylinders and engine parts cannot be produced in Vietnam, because they need to meet certain requirements in terms of exact size, and thus are imported or sourced from foreign firms based in Vietnam or directly imported from China. A later and more detailed survey by Kubny and Voss (2014) in Vietnam finds that an average of 39 per cent (automotive/motorcycles: 46 per cent; textile/garment: 34 per cent) of Chinese companies' inputs come from firms based in Vietnam. Kubny and Voss (2010) also analyzed Chinese manufacturing investments in Asia. Based on empirical surveys and interviews in Vietnam and Cambodia, they claim that Chinese firms have little interaction with local firms, which reduces the potential gains from spillover effect, and that the effects of China's manufacturing FDI on the host economies are similar to the effects of investment by industrialized countries. The report calculates that the average share of local sourcing is 6 per cent, in Cambodia, which is very low, but, at 40 per cent, is significantly higher in Vietnam. The reason for the different rate is that the Vietnamese have a higher level of education (Kubny & Voss, 2010). Opposite views are presented by Sandrey & Edinger (2009), who argue that the emergence of a Chinese-funded



cluster zone could contribute to the backward and forward linkages in the economy. According to a case study conducted by China-Brazil Business Council (CBBC) and the IDB (2013) on Huawei's operations in Brazil, Huawei collaborates with more than 1,000 local suppliers.

In the LAC area, Dussel Peters's (2014) examination of 10 case studies of Chinese firms suggests that, so far, the productive linkages with local suppliers are very weak compared to foreign competitors already established, although some exceptions are reported. In Mexico, Dussel Peters (2014) examines the case of Huawei, and finds that the Huawei branch in Mexico specializes in services and equipment, performing little assembly and manufacturing, so it generally has minimal production linkages with local suppliers. Similar cases of limited linkages exist with the China National Offshore Oil Corporation and Sinopec in Argentina (López & Ramos, 2014), Lenovo in Brazil (De Freitas Barbosa, Tepassê & Neves 2014), and Chery (automotive) in Uruguay (Bittencourt & Reig, 2014). On the other hand, still in Mexico, Jian Hua (2007) provides a general outline of Sinatex operations, a textile-threads company established in Mexico in 2001. The author notes that the company has significant backward linkages with local suppliers, particularly in their purchases of cotton, polyester and lycra.

Based on the empirical studies on Chinese investments in Africa, researchers provide some potential explanation for the negative local linkages effect. First, the absence of local networks of specialized suppliers or, where they do exist, the high cost and often poor quality of goods means that many Chinese firms simply turn to the reliable, tried and tested, and cost-competitive established suppliers back in China (Gu, 2009). Second, the cultural and language distance imply higher transaction costs involved in a foreign subsidiary-domestic firm's relationship compared to those with the headquarters or other input providers in China (Amendolagine et al., 2012). Gu's (2009) fieldwork research interviews with Chinese private company CEOs in Africa finds that most firms sourced most of their supplies from China. CICA's (2013) survey of Chinese construction companies in Africa also finds that the lower capacity and skill levels of host country suppliers have been the major obstacles to localized procurement.

A detailed comparative study by Irwin and Gallagher (2012) finds that, when compared to its OECD counterparts, the Chinese state-owned enterprise (SOE) Shougang has fewer backward linkages throughout Peru as a whole, but may have deeper local links than its counterparts. More specifically, they find that trade union, government and company officials agreed that every mining company should import all of its heavy machinery, since Peru does not manufacture mining equipment; yet when it comes to secondary products, such as food preparation, Shougang bought more local goods and hired more local service providers, such as cheap, local caterers, while Antamina and Yanacocha, both mining companies based in OECD countries, sourced catering and support through multinationals like Sodexo. However the local impacts are difficult to compare. Antamina and Yanacocha have been encouraging their Lima service providers to purchase local inputs like uniforms, shoes, milk and vegetables; while Shougang's service providers may be Peruvian companies, but often source food and other products from Lima, rather than from suppliers close to the mine, when they are not locally available (Irwin & Gallagher, 2012). A similar conclusion is also drawn by Fessehaie and Morris's (2013) empirical research of the mining sector in Zambia; they find that, in contrast to traditional mining companies, the Chinese firm did vertically integrate some non-core functions, thereby barring local suppliers from some important supply links. However, capital and consumable supplies were outsourced, mostly from local suppliers within the region, and local suppliers found it easier to gain access to the Chinese supply chain than those of the traditional mines.



2.1.4 Market Competition

One concern from host country governments and businesses is the potential market competition Chinese investment may bring in, especially in industries like manufacturing and agriculture.

- **Concerns have been raised about competition between Chinese goods and local industries** (Kubny & Voss, 2010; Shen, 2013). Shen's (2013) survey of five host governments of Chinese investments in Africa also discovered that "increased competition hurting local industries" is a concern shared by four out of five host country governments. The Soweto market in Lusaka, Zambia has imposed measures to protect local vendors, by restricting the hours of trade or the product trading licenses for Chinese enterprises (Guo & Chu, 2014).

Market competition is mainly discussed in English literature; this topic is not identified in the Chinese and Spanish literature surveyed.

Chinese outward investments, especially in the manufacturing and agricultural sectors, may target the domestic markets of host countries, and may thus pose competition to local industries (Kubny & Voss, 2010; Shen, 2013). Shen's (2013) survey of five host governments of Chinese investments in Africa (Liberia, Ethiopia, Rwanda, Nigeria and Zambia) also discovered that "increased competition hurting local industries" is a concern shared by four out of five host country governments.

Kubny and Voss (2014) find that, of the surveyed Chinese firms in Vietnam, 72 per cent serve the Vietnamese market only and do not export any of their products, while nearly 90 per cent of the firms sell at least some of their products to local firms, and that Chinese firms sell 23 per cent of their products locally, which is slightly higher than the shares given for Japanese, European or American firms. In earlier research, Kubny and Voss's (2010) empirical study of Chinese manufactural investments in Southeast Asia finds that Chinese ODI in Cambodia is concentrated on the garment industry, and thus it is by nature export-oriented and efficiency-seeking. In Vietnam, however, Chinese ODI is mostly oriented towards the local market, with the exception of a few export-oriented companies in the garment industry.

Currently, there are two Chinese state-owned farms and approximately 30 private Chinese farms operating in Zambia, all of which target growing domestic demand; thus far, there is no evidence to suggest that either private or state-sponsored Chinese agricultural investments in Zambia are geared towards export and boosting food security in China (Guo & Chu, 2014). An often-discussed case is the increased market competition due to Chinese poultry farmers in Zambia (Guo & Chu, 2014; Rowlatt, 2011; Sayila, 2006). Chinese poultry farmers in Zambia face the concerns of local Zambian producers, who claim that they may lose their market share due to "unfair" competition (Sayila, 2006; Rowlatt, 2011), which is seen as a threat to local farmers' livelihoods. The Zambian farmers suspect the Chinese of using unconventional and artificial growth promoters that may be harmful to human health; however, the Zambian Poultry Authority have yet to find any evidence to support this claim (Sayila, 2006). The Soweto market in Lusaka, Zambia, has imposed measures to protect local vendors. Guo and Chu (2014) found that, in Soweto, Chinese chicken farmers are only allowed to trade from 2:00 am to 8:00 am in the morning, at which point they have to clear the premises to let local farmers sell their chicken; in the Tuesday market, Chinese producers have been prohibited from selling local fruit and vegetables such as tomatoes, onions and potatoes, and are restricted to only trading goods that Zambians do not produce, such as Chinese cabbage, spinach, mushrooms and tofu.



Joint ventures with local or international companies, as Chinese ODI often have in Argentina, do not increase competition in the local market (OPSur, 2011). OPSur (2011) finds that in 2010 China was the largest foreign investor in Argentina, particularly through mergers and acquisitions with local groups in the hydrocarbon sector. This did not mean a greater presence of foreign companies in the sector since Chinese purchases went to British and American companies. Moreover, several Argentine industrials increased their share in the industry. This all resulted in the concentration of capital and did not stimulate greater domestic competition. Bittencourt et al. (2012) provide statistical evidence pointing in the same direction: up to 2012, there were around 30 Chinese companies in Argentina. However, 95 per cent of FDI cases ran in conjunction with Argentine companies (joint ventures) by plant purchases or rents, which have not led to increased competition, or an extension of the production plant in the host countries.

2.1.5 Technology, Knowledge and Skill Transfer

The extent of technology and skill transfer by Chinese companies to host countries is a key topic of debate within academic, media and policy literature.

- The literature highlights large-scale positive instances of technology transfer through research and development, on-the-job training and establishing training centres, such as in the ICT and natural resource sectors (CBBC & IDB, 2013; Cissé, 2012a; Cheng & Liang, 2011; Cooke, 2012; Dussel Peters, 2014) and the agricultural sector (Buckley, 2011; Onphanhdala et al., 2013).
- The evidence on skill development through the practices of Chinese companies is mixed. Corkin, Burke and Davies (2008) find that Chinese construction companies do provide employees with on-the-job training, focusing particularly on machine operation. However, Shen's (2013) research based on surveys of the government officials of five African host countries (Liberia, Ethiopia, Rwanda, Nigeria, and Zambia) does not find substantial technology transfers from Chinese investments. Reasons given are that investment is currently resource-seeking and domestic-oriented—which is to say, aimed at strengthening domestic production in China—and thus technology transfers to host countries are quite limited. Skill mismatches and language barriers are also cited (Wang, Mao & Gou, 2014).

Both English and Spanish sources identify the existence of technology transfer as well as the expectation that more skill transfer will happen. The Chinese media discusses cases of Chinese skill transfer to African countries, and Chinese legal documents provide guidelines and policies on increasing skill transfer to host communities.

The extent of technology and skill transfer by Chinese companies to host countries is a key topic of debate within academic, media and policy literature. Chinese ICT companies Huawei and ZTE engage in technology transfer through establishing training centres in host countries. Both companies (Huawei and ZTE) develop joint training programs with universities and national telecom companies in developing countries to help them develop an “IT skill pool” (Cooke, 2012). ZTE has set up four training centres in Africa (Egypt, Ethiopia, Algeria and Ghana), focusing on technology transfer and promotion, professional consultation and academic research (Cissé, 2012a). Cheng and Liang (2011) calculate that, since its first project in Africa in 1997, Huawei Technology has provided training to 12,000 African engineers and workers every year. In Latin America, Huawei launched a set of



activities with two important institutions of higher education in Mexico, Tecnológico de Monterrey (ITESM) and Universidad Nacional Autónoma de México (UNAM). One of the main activities with ITESM is the donation of a core switch with high technology. The agreement with UNAM started in 2014 and seeks academic and science and technology exchange between UNAM and Huawei Authorized Network Academy, as well as for the training of 12 teachers and 150 engineering students specialized in internet protocol (IP) technologies, Long-Term Evolution (LTE), wireless transmission and cloud computing (Dussel Peters, 2014). Through investment in training programs, according to a manager from Huawei, the company gains local acceptance rather than human capital return: “they are practically sunk costs” (Cheng & Liang, 2011). The research and development centre of Huawei in Latin America would focus on modifications and adaptations of existing technologies, which results in innovation increases instead of technology innovation (CBBC & IDB, 2013).

In the agricultural sector, Buckley’s (2011) empirical research on Chinese agricultural interventions in Senegal also pinpoints that Chinese technical, methodical approaches to farming techniques help smallholder farmers improve productivity and reduce chemical and water inputs. Chinese agricultural investments in Laos, according to Onphanhdala et al. (2013), engage in technology transfer on diversified crops and are risk averse against disequilibrium; they promote agricultural modernization (e.g., tractors, fertilizer) and raise quality awareness for higher price. Rubinstein (2009) posits that the research conducted by Chinese agronomists in Mozambique might improve local food security.

In the mining sector, an Australian NGO, Total Environment Centre, also mentions the benefits of Chinese technology transfer to Australia by introducing a cost-effective mining technology, the Longwall Top Coal Caving, through the investment of Yanzhou Coal Mining Company of China (Total Environment Centre, 2007). Giant Motors Latin-America in Mexico goes through a process of dialogue and technical learning with its “strategic partner,” FAW Trucks, which has enabled Giant Motors Latin-America to acquire the technology (although on a minimum scale of production) on light, heavy and, recently, passenger vehicles (Dussel Peters, 2014).

Evidence of skill development through the practices of Chinese companies is mixed. In the construction sector, researchers identify that, as early as the 1970s, during the construction of the TAZARA railway, “African and Chinese workers not only laboured side by side but also engaged in what was known as ‘technical cooperation,’ as Chinese railway experts trained their African counterparts in the workplace and in technical training shops” (Liu & Monson, 2011). Corkin et al. (2008) also found that Chinese construction companies do provide employees with on-the-job training, focusing particularly on machine operation. Cheng and Liang (2011) also calculate that Sinohydro has trained 8,200 local workers in its 30 projects in Angola, including hydropower, agriculture, hospitals, schools and transportation. Not specific to Chinese investments, researchers find that the movement of workers from MNCs to local firms helps to disseminate advanced managerial practices, know-how and technology (Fosfuri, Motta & Ronde, 2001; Glass & Saggi, 2002) and unintentional outcomes of linkage relationships with local buyers and suppliers (Fortanier, 2007; Görg & Greenaway, 2003; Hansen & Schaumburg-Müller, 2006).

Chinese outward ICT investments also generate technology/skill transfer to host economies (Cheng & Liang, 2011; Huawei, 2012). Huawei developed the Africa Human Resource Pool and hired 60 per cent of its South African Office employees locally (Huawei, 2012). Cheng and Liang (2011) also point out that, since its first project in Africa in 1997, Huawei has hired over 65 per cent of its total staff from Africa, having created over 10,000 jobs indirectly. These locally hired employees, according to Huawei (2012), will go through the Huawei Training Centres, which engages in three domains of skill transfer: core network product line, wireless product line and network product line. Huawei has set up six training centres across the continent and provides training programs to Huawei employees as well



as to the general public (Cheng & Liang, 2011). Moreover, Huawei opened research and development centres at the universities of Campinas, São Paulo and Brasília in 2006 in order to support its efforts in customer services, and, in particular, to provide technical support and modify the design and characteristics of the products already provided by the Chinese companies in Brazil (CBBC & IDB, 2013). Gu's (2009) study of Chinese private investment in Africa also concludes that Chinese SMEs in Africa also engage in technology transfers.

However, Shen's (2013) research, based on surveys of the government officials of five African host countries (Liberia, Ethiopia, Rwanda, Nigeria and Zambia), indicates otherwise. According to Shen (2013), although three of them admitted that Chinese investment in their labour-intensive sectors facilitated local industrialization, none of them found substantial technology transfers from Chinese investments. This, according to Shen (2013), reflects the expectation of African governments on Chinese companies (see Table 5).

Wang, Mao and Gou (2014) provide two potential explanations for this phenomenon. First, Chinese FDI is currently "domestic-oriented," which is to say, ODIs intend to enhance domestic productivity and strengthen domestic production in China, and thus technology transfers to host countries from Chinese investors can be expected to be quite limited. Even for less-developed host economies such as African countries, technology transfers from Chinese investment are limited partly due to skill mismatch and language barriers.

Table 5: African perceptions of the economic impact of Chinese FDI

	COUNTRY				
	LIBERIA	ETHIOPIA	RWANDA	NIGERIA	ZAMBIA
Local job creation?	Yes	Yes	Yes	Yes	Yes
Local industrialization?	No	Yes	Yes	Yes	No
Technology transfer?	No	No	No	No	No
Overall	N.A.	Yes	Yes	Yes	Yes

Source: Shen (2013).



2.1.6 Avoiding the “Natural Resource Curse”

The “natural resource curse” refers to the phenomenon whereby countries and regions with an abundance of natural resources tend to underperform economically. This is an issue relevant to Chinese companies in the natural resources sector, as well as to traditional investors.

- A key concern is that China’s policy of “non-interference” leads to **no-strings-attached investment in countries with weak governance** (e.g., Sudan, Zimbabwe, Angola and Niger), which may bolster regimes and elite behaviours that are detrimental to development (Alden, 2007; Gonzalez-Vicente, 2011; Tull, 2006).
- There is **mixed evidence of the impact on trade volatility and declining terms of trade**. López (2013) and Rosales and Kuwayama (2012) argue that South American economies exporting natural resources have been less affected by the 2008–2009 global economic crisis thanks to China’s high economic growth. But the downside of this process is a tendency towards a “reprimaryzation” of the exports towards basic commodities and appreciation of the real exchange rate, leading to a decline in the profitability of other exports (so called “Dutch disease”).

There is a large amount of international literature about the problem in general and potential solutions, such as revenue transparency (Bosshard, 2008; Bräutigam, 2009; Gonzalez-Vicente, 2012; Kong, 2011; Tull, 2006; Zafar, 2007). In terms of geographical location, the focus of English literature tends to be predominately on the impacts on African host countries; Spanish literature describes the effects on LAC countries. There is little Chinese literature in this area.

Chinese companies are accused of exacerbating the “resource curse” of developing countries (Bosshard, 2008; Bräutigam, 2009; Gonzalez-Vicente, 2012; Kong, 2011; Tull, 2006; Zafar, 2007). The resource curse theory concerns the governance and economic challenges faced by resource-endowed and exporting countries, which tend to have less economic growth and worse development outcomes (López, 2013; Ross, 1999).

A few scholars have attempted to assess the impacts of Chinese ODI in resource rich and exporting African countries. Gu (2009) discusses the intrinsic and external aspects of the resource curse: the internal curses include the political and economic trends that resource-based economies tend to register, while the external curse refers to those aspects visible in the relationships between a resource-endowed country and the rest of the world. The internal curse, according to Gu (2009), includes “the prevalence of patronage politics in resource-rich countries, socio-economic structures that often prevent the development of democratic regimes, corruption, state-population confrontations over the use of natural resources at the localities where extraction takes place, the limitations of extraction to create upstream or downstream linkages with other industries, rampant economic disparity, and low governmental spending in enhancing economic capacities.” External aspects concern linkages with the global economy. These “include the declining terms of trade for resources, the Dutch Disease, commodity prices’ volatility, and peripheral countries excessive dependency on the development of core economies” (Gu, 2009).

Alden (2007), Tull (2006) and Gonzalez-Vicente (2011) further argue that, for countries with weak governance (e.g., Sudan, Zimbabwe, Angola and Niger), China exacerbates the curse because its investments may lead to “the stabilization of pariah regimes and elite behaviours that are detrimental to development” (Gonzalez-Vicente, 2011).



Growing global demand from China for natural resources and raw materials has had a mixed impact in host countries' international trade activities (López, 2013; Rosales & Kuwayama, 2012). López (2013) and Rosales and Kuwayama (2012) argue that South American economies exporting natural resources have been less affected by the 2008–2009 global economic crisis thanks to China's high economic growth, which kept the international demand for these products at a high level. The downside of this process is a tendency towards a “reprimarization” of the export pattern trend, which is detrimental to export diversification and to the incorporation of more knowledge and technological content in exports (Rosales & Kuwayama, 2012). Rosales and Kuwayama (2012) further argue that, in several countries, the export boom leads to a fall (appreciation) of the real exchange rate, leading to a decline in the profitability of the export sectors of commodities and favouring the non-tradable sectors and imports.

2.2 COMMUNITY IMPACTS

Job creation, employment conditions and the welfare of local residents are the three issues under community impacts that the English literature mainly focuses on. The Spanish literature reviewed mainly discusses the employment conditions from a more negative perspective, emphasizing the poor working and safety conditions provided by Chinese enterprises in LAC. Community impact is a major topic in the Chinese literature, with a geographical concentration on African nations. Quite opposite to the Spanish literature, when discussing the working conditions provided by Chinese enterprises, Chinese literature generally argues the labour welfare provided by Chinese enterprises for local employees is generally better than that provided by local enterprises, but more things can be done in the future (e.g., Liu & Goldstein, 2013). In terms of Chinese operations' impacts on the welfare of local residents, Chinese literature emphasizes that Chinese enterprises have actively participated in local charities and public affairs, including through donations, building schools and improving the medical environment (e.g., Zhan, 2009).



2.2.1 Employment Creation

Job creation is a critical concern for all host countries. There are mixed views and evidence on the impact of Chinese ODI on job creation for the host economy.

- Some of the literature voiced concerns that **Chinese investors in developing countries that prefer using Chinese employees over hiring local workers are common** (Alden, 2005; Cheng & Liang, 2011; Hanauer & Morris, 2014; Sautman & Hairong, 2009, among many others).
- However, there is **evidence of job creation in host countries**. All government interviewees from the five African countries (Liberia, Ethiopia, Rwanda, Nigeria and Zambia) in Shen's (2013) research acknowledge that Chinese investments contribute to local job creation. Wang, Mao and Guo (2014) also identify a trend of increased workforce localization with time. Based on their calculation, from 2007 to 2010, the share of non-Chinese workers among Chinese firms in Africa grew from 47 per cent to 71 per cent. Hanemann and Rosen (2012) estimate that 45,000 jobs in the EU are associated with Chinese direct investors. Kubny and Voss (2010) find that the labour-intensive manufacturing investments in the two countries create large numbers of employment opportunities in Cambodia and Vietnam.
- It is not only the number of jobs, but **the quality of the jobs that is sensitive for host countries**. The CCICED (2011) find that, among Chinese businesses operating in other Asian countries, there is often a preference for supervisors to be Chinese nationals. Liu (2013) confirms a similar preference with companies in Africa. However, there is evidence of increased hiring of local managers and technical staff. Corkin et al. (2008) find that Chinese companies are increasingly hiring African staff in administration and managerial positions. Chinese companies themselves also expressed strong incentives to locally hire their employees when operating overseas (Cooke, 2012; Ferner et al., 2011; Shen, 2013), and governments of many countries require Chinese enterprises to provide a certain proportion of employment opportunities for local workers directly and indirectly, particularly as a condition for awarding public contracts and concessions (CCICED, 2011).

Employment creation is discussed in all geographies and industries, although it is limited in relation to manufacturing investment. All authors reviewed, from all backgrounds, share views on this matter.

Job creation is a critical concern for all host countries. This is especially important in Africa, where approximately 60 per cent of the population is under 24 and where the urban population is growing at 7 per cent per year (Shen, 2013). It is not uncommon to see accusations that Chinese investors in developing countries prefer using Chinese employees over hiring local workers (Alden, 2005; Cheng & Liang, 2011; Hanauer & Morris, 2014; Sautman & Hairong, 2009, among many others). In Chinese-sponsored projects in Ethiopia, Sudan and Namibia, Alden (2005) discovers that the use of Chinese contract labour, rather than local workers, has been criticized locally. Chinese workers are preferred for “administrative efficiency” and to avoid the inflexibility of local workers and labour laws in host countries (Cheng & Liang, 2011). Giese's (2013) field research in Ghana discovers that most Chinese traders interviewed in Accra would prefer family labour or Chinese employees to local workers, although Ghanaian labour costs only a fraction of the cost of employing Chinese. Although the interviewees were well aware of widespread racial prejudice against blacks in China, they deny racism as a basis for such preference, and claim that the reason is, more simply, the lower transaction



costs for routine operations for Chinese associates with co-workers who share their own social and cultural background (Giese, 2013).

However, many researchers argue otherwise, acknowledging Chinese contributions to job creation in host countries. All government interviewees from the five African countries (Liberia, Ethiopia, Rwanda, Nigeria and Zambia) in Shen's (2013) research acknowledge that Chinese investments contribute to local job creation (refer to Table 5). Corkin et al. (2008) find that Chinese companies in Africa largely hire local workers, predominantly as unskilled casual labourers, but also increasingly in administration and managerial positions. A survey to their member firms by China International Contractors Association (CICA) finds that the local employment rate in Chinese contractors in Africa has reached 70 per cent (CICA, 2013).

Wang, Mao and Guo (2014) also identify a trend of increased workforce localization with time. Based on their calculation, from 2007 to 2010, people employed in Chinese firms globally increased from 684,300 to 1.103 million, with the share of local workers rising from 47 per cent to 71 per cent. The Ethiopian light railway undertaken by the CGC Overseas Construction Group will employ around 300 Chinese workers and more than 5,000 local workers (Wang & Moody, 2014). Hanemann and Rosen (2012) also estimate that 45,000 jobs in the EU are associated with Chinese direct investors.

In Asian countries, Chinese projects in various industries also provide local employment opportunities (Grimsditch 2012; Urban et al., 2012). Kubny and Voss (2010) find that the labour-intensive manufacturing investments in the two countries create large numbers of employment opportunities. In Cambodia, the 27 Chinese manufacturers surveyed have a total of 26,439 employees, 98 per cent of whom are Cambodian. In Vietnam, the 33 Chinese enterprises surveyed have provided a total of 10,020 jobs, 95 per cent of which are held by Vietnamese workers (Kubny & Voss, 2010). Cheng and Liang (2011) also point out that, since its first project in Africa in 1997, Huawei Technology has hired over 65 per cent of its total staff from Africa, having created over 10,000 jobs indirectly. In the natural resource extraction sector, Human Rights Watch (2011) discusses Chinese investments and job creation in Zambian copper mines.

The CCICED (2011) report on local employment in the apparel sector among Chinese businesses operating in other Asian countries finds that there is often a preference for supervisors to be Chinese nationals. Similar preference is confirmed in Liu (2013), whose interviews with 33 Chinese enterprises in Africa reveal that local managers account for about 30 per cent in those companies. In Cambodia, local employees account for less than 30 per cent of the intermediate and senior positions. However, communication difficulties and cultural differences between these Chinese nationals and local Cambodian workers sometimes lead to labour unrest and strikes, and Chinese supervisors cannot easily solve these problems. In Vietnam, however, 63 per cent of supervisory positions are held by Vietnamese staff. The major difference the study finds is the level of education in the two countries. In Vietnam, it is more economical to employ skilled local supervisors than Chinese as executives, but in Cambodia the skill gap is perceived as too high.

Chinese companies themselves also expressed strong incentives to locally hire their employees when operating overseas (Cooke, 2012; Ferner et al., 2011; Shen, 2013). For instance, both Huawei and ZTE make efforts to localize their human resources, and thus create job opportunities for the host economies (Cooke, 2012). Cooke's (2012) interview with managers from Huawei reveals that Huawei's long-term staffing intent is localization, with a motto: "internationalization through localization." However, key and high-risk positions, such as finance and purchasing, are likely to be staffed by Chinese in the foreseeable future in order to avoid local collusion; this is a strategic mind-set shared by ZTE (Cooke, 2012). Filling the key managerial and technical posts (e.g.,



sales managers, account managers) from the external market in the host countries is helpful to acquire “their skills in the field, knowledge of the industry and customer relationship management experience” (Cooke, 2012), as a method of developing informal social networks in the destination market. Many scholars (e.g., Ferner et al., 2011) argue that these social networks can lead to enhanced organizational performance and that attention should be given by organizations to develop, maintain and exploit such relationships.

Governments of many countries require Chinese enterprises to provide a certain proportion of employment opportunities for local workers directly and indirectly (CCICED, 2011). For instance, in Kenya, the construction of the standard gorge railway from Mombasa to Nairobi, undertaken by China Road and Bridge Corporation, is required to have 40 per cent local input, and is expected to create over 30,000 direct jobs for Kenyans and 13,000 new indirect jobs, largely through local firms that are expected to supply material and services necessary for the venture (Andae, 2014). The host country of the national stadium project in Costa Rica demanded that the project be completed within one year and that no Chinese workers should be involved (CCICED, 2011).

It is not only the number of jobs, but their quality that is sensitive for host countries (Shen, 2013). Job training and technology/knowledge transfer, as we discussed earlier, and the employment conditions, which we will discuss in the next section, are also among the legitimate expectations of host governments when promoting Chinese or any other ODI activity.

2.2.2 Employment Conditions and Labour Relations

Labour conditions and labour relations are a strong topic of concern, both in the public media and in academic and other studies.

- Considerable literature identifies the **poor employment conditions** that undercut domestic and international standards (Bosshard, 2008; Deutsch, 2010; Haglund, 2008; Human Rights Watch, 2011). Human Rights Watch (2011) reports that **Zambian workers in Chinese-run copper mines** suffer poor health and safety standards, excessive hours under threat of being fired should workers refuse to work in unsafe places. Baah and Jauch (2009) find that Chinese companies operating in several African countries tend to pay lower wages than local and other foreign firms, and often break regulations on contracts, working hours and breaks. Concern about labour conditions has led to strikes and labour unrest, and, in some cases, led to host governments closing down projects (Mol, 2011).
- Labour standards also relate to the **supply chain of companies**, as well as direct employees. Jansson’s (2011) research in the DRC highlights the issue of child labour among artisanal miners supplying Chinese companies.

The discussion of the impact of Chinese ODI on employment conditions is particularly focused on Africa and LAC, and in the natural resource extraction and manufacturing sectors.

Considerable literature identifies the poor employment conditions of Chinese companies that fail to meet domestic and international standards (Bosshard, 2008; Deutsch, 2010; Haglund, 2008; Human Rights Watch, 2011). The most often cited case is the labour condition of the miners in Zambia. Haglund (2008) provides a snapshot of the famous copper mine explosion in 2005:



In 2005, 49 workers were killed at the Chambishi copper mine in Zambia, during an explosion in the mines' explosives factory, and an investigation of the incident revealed the explosion was caused by inadequate safety measures. However reports indicate that the Non-Ferrous Company Africa (the Chinese SOE that owns and operates the Chambishi mine) was never penalized, and in 2007 President Mwanawasa gave the go-ahead for the re-construction of the explosive factory. The aftermath highlighted breaches in labour regulations, as it emerged that the company had not kept adequate records of workers. One employee recounts how identification of those perished required company representatives going into the nearby township to search for weeping families. (Haglund, 2008)

Empirical evidence is also collected by Human Rights Watch (2011) from Zambian workers in Chinese-run copper mines: miners report poor health and safety standards, including poor ventilation that can lead to serious lung diseases, hours of work in excess of Zambian law, the failure to replace workers' personal protective equipment that is damaged while at work and the threat of being fired should workers refuse to work in unsafe places. In the mining site of the China Metallurgical Group (in alliance with a Chinese Grade Trading company) in LAC, disputes often arise about unhealthy working conditions, lack of security, demands for higher payments and unfair dismissal (Observatorio de las Empresas Transnacionales, 2008). Even though the methodology and rigorousness is questioned by Yan and Sautman (2013), the latter find similar evidence in terms of safety, wages, hours, unionization and job security in Chinese mining firms in Zambia. Jansson's (2011) empirical research in DRC finds that child labour is an issue that has spawned much criticism directed at Chinese companies, as the latter purchase ore from groups of artisanal miners that often include children. At most Chinese companies, trade unions were not welcome and workers who joined trade unions risked losing their jobs (Baah & Jauch, 2009).

A comparison between the wages paid by Chinese employers and those paid by other employers in the same industry in the same country is carried out by Baah and Jauch (2009), and they discover that Chinese companies operating in Africa "tend to pay the lowest wages." Baah and Jauch's (2009) empirical studies in several African countries reveal that, in South Africa, Chinese-owned textile companies paid significantly below the country's minimum wage; likewise, Chinese construction firms in Ghana, Namibia and Angola pay their workers lower wages than local and other foreign firms and, in some cases, wages were below the applicable sectorial or national minimum standards; in Zambia, the Chinese copper mine paid its workers about 30 per cent less than other copper mines in the country; in Nigeria, on the other hand, some Chinese companies established good labour relations and were paying reasonable wages while others were not. The Nigerian case study further pointed out that, in some instances, Indian-, Lebanese- and Israeli-owned companies were paying even less than the Chinese (Baah & Jauch, 2009). Despite stipulations in national labour legislation, many Chinese employers ignored the provisions for breaks and forced their workers to either work continuously or with only a very short lunch break. In Malawi, for example, a significant number of workers at Chinese companies had to work for 12 hours without a break (Baah & Jauch, 2009).

A common feature of working conditions at Chinese companies was the absence of employment contracts and the arbitrary determination of wages and benefits by the owners or managers (Baah & Jauch, 2009; Grain, 2010). There was, therefore, no record of employment, which made enforcement of local labour laws difficult. Even in countries with clearly defined legislation and procedures for dispute resolution—for example, South Africa—the absence of contracts and records of employment often hindered enforcement (Baah & Jauch, 2009). Baah and Jauch (2009) also discovered that another common feature was the employment of African workers as "casual workers"; even in countries where labour laws provide for the classification of workers as permanent employees after a few months of employment—such as Angola—Chinese companies tended to continuously treat African workers as casuals, depriving them of the benefits that they are legally entitled to. There were,



however, some cases where strong unions managed to convert casual jobs into permanent ones, for example, at a Chinese company that manufactured explosives in Zambia (Baah & Jauch, 2009). Grain (2010) also reports that, on a farm owned by a Chinese SOE (Shaanxi Land Reclamation General Corporation) in Cameroon, workers are paid “about US\$2 a day without any benefits or even a contract.”

Irwin and Gallagher (2012) compare serious labour standard violations, annual fatalities and serious accidents, wages and benefits of a Chinese state-owned mining company, Shougang, with two OECD-based mining companies operating in Peru. The paper finds that, in comparison, Shougang does not have outstanding violations of local labour standards, the wages are slightly lower than its OECD counterparts; yet Shougang does stand out among foreign companies in serious accidents. Through the interview with Shougang’s union leader, Irwin and Gallagher (2012) identify that “while Shougang complies with labour standards in general, its ancient machinery endangers workers” (Irwin & Gallagher, 2012). As a union official put it, “Shougang doesn’t invest much money in safety measures like buying new machinery—much of it is 20 years old. They do just enough to get by” (Irwin & Gallagher, 2012). Shougang’s wages are lower than its counterparts, but this differential is both smaller and less central to worker welfare than others have suggested. Outside sources have lambasted Shougang for its low average salaries. Interviews suggest that Shougang did not stand out in using contractors illegitimately when compared to other foreign firms. Mining companies in Peru routinely attempt to save money by illegally hiring contractors for “principal labour” that is central to the production process (Irwin & Gallagher, 2012). Another study on the same case conducted by Irwin (2013) discovers that the Chinese company Shougang Hierro Peru has experienced a much larger number of strikes than any other foreign firms. Potential reasons Irwin (2013) identifies are: 1) the culture clash between Peruvian unions and Chinese management; 2) a cut in Shougang’s budget on eliminating bridges with workers’ unions; and 3) Shougang’s poor occupational safety and environmental protection record. A comparison with Doe Run Peru, a U.S. mining company, which has fewer labour strikes than Shougang despite its worse labour and environmental conditions, shows that the key in maintaining labour relations lies in careful communication with local labour unions (Irwin, 2013). It is worth noting that the single case of Shougang cannot represent the whole Chinese mining ODI in Peru, and thus we should be cautious about generalizing from this case.

The disclosure and criticism of Chinese labour conditions has raised the awareness of host country governments, and some Chinese natural resource projects in Africa have been closed down following the criticism of labour conditions (Mol, 2011). In 2006, Zambian authorities shut down Chinese-owned Collum Coal Mine Industries in Sinazongwe for establishing sub-standard working conditions and failing to implement environmental and safety regulations (Mol, 2011). In May 2007 the Zambian government closed a manganese mine in Kabwe, run by Chiman Manufacturing, a Chinese TNC, following local concerns over high levels of air pollution and failures to implement pollution control measures (Mol, 2011).



2.2.3 Welfare of Local Residents

While increased investment can bring economic benefits to local residents through infrastructure, economic growth, income generation and government revenues, there are also specific concerns about the direct impacts of business activities on local residents.

- Particular concerns relate to large-scale projects in infrastructure, extractives and agriculture where **local communities can be displaced or face environmental damage to their livelihoods**. Hydropower projects in particular can displace thousands of people, and, in some cases, the Chinese dam sites are located in conflict areas that are already prone to violence, such as some border regions of Myanmar and Laos (International Rivers, 2012). Ideally, social impact assessments should be carried out to evaluate and mitigate the negative impacts on the local population; however, this is often missing or done inadequately (Tilt, Braun & He, 2009).
- In recent years, there has been increasing focus on **the impact of land-related investments**, particularly in Africa. Fears related to large-scale Chinese investment in agriculture increasingly attract headlines referring to China and the global land grab (Baynton-Glen, 2012; Bräutigam & Tang, 2009; Bräutigam & Zhang 2013; Hofman & Ho, 2012; Rubinstein, 2009). However, research based on trade and investment data and empirical case studies finds “limited evidence of Chinese ‘land grabs’ in Africa” (Baynton-Glen, 2012; Bräutigam & Tang, 2009; Bräutigam & Zhang, 2013). Nevertheless there are cases of dispossession, in particular involving indigenous people, as illustrated in the case in Argentina (Mortarotti, 2012; Grain, 2011).
- **Chinese companies engage in community development projects**. There are many accounts related to individual companies building local facilities, donating to local causes and sponsoring education (Cooke, 2012; Huang & Staples, 2014; Huawei, 2009; Huawei, 2011; Meechaiyo, 2012).

The focus on community safeguards and on the risk of “land grabs” has been almost exclusively in the international literature. Chinese literature tends to focus on community development projects. This suggests a mismatch in expectations and approaches between international institutions and Chinese companies.

Increased investment may bring macro-level benefits (such as GDP growth and improved government revenues), and may create opportunities for economic development and livelihood improvement in rural areas, as discussed in Sections 1.2 and 2.1. For local residents, Onphanhdala et al. (2013) identify that Chinese investments contribute greatly to income generation (consumption smoothing) and poverty reduction in the short term.

The literature also finds that Chinese companies engage in community development projects. Based on their empirical research, Huang and Staples (2014) examine the corporate community engagement of Chinese companies in Australia. They conclude that Chinese firms in Australia have spent substantial time, effort and resources engaging communities. The Australian community also benefits, according to Huang and Staples (2014), in the areas of “infrastructure and facility development, community capability and resilience building, improving the quality of the community’s social life and wellbeing, the alleviation of social problems, and community development.” In the ICT sector, Huawei donates to local charity causes, provides relief to victims of natural disasters, sponsors education and employs local people (Cooke, 2012; Huawei, 2009; Huawei, 2012). Sinohydro has



engaged in community development projects in Laos with the Chinese NGO, Global Environmental Institute (GEI). Sinohydro worked with GEI on a biogas project that aimed to provide alternative income generation options for people affected by the company's Nam Ngum 5 Dam project (Meechaiyo, 2012). Meechaiyo (2012) reported that local residents benefit from this cleaner and more efficient energy use.

Investments in the construction sector, such as the hydropower development along the Mekong, also have a number of direct social ramifications (Urban et al., 2012). According to Adams (2000), the social impacts of dams can be defined as “impacts on the lives of individual people or groups or categories of people, or forms of social organisation.” The State of the World's Rivers database² by International Rivers reveals the following striking social ramifications: forced seizures of land from villagers at the Chibwe Dam in Myanmar; displacement of at least 10 villages and violence reported at the Myitsone Dam in Myanmar; allegations that local villagers were forced to work to construct buildings and roads for dam sites without remuneration at the Upper Paunlaung Dam and the Shweli 3 Dam in Myanmar; reports that assets of villagers—such as land, livestock and natural resources—were seized by the army at the Shweli 3 Dam; adverse effects on about 20,000 people at the Xeset 2 Dam in Laos; and resettlement of about 23,000 people at the Tuyen Quang Dam in Vietnam. In some cases, the Chinese dam sites are located in conflict areas that are already prone to violence, such as some border regions of Myanmar and Laos (International Rivers, 2012). Ideally, social impact assessments should be carried out to evaluate and mitigate the negative impacts on the local population; however, this is often missing or done inadequately (Tilt et al., 2009).

A case analysis on the Heilongjiang Beidahuang State Farms Group Business Trade CO, LTD—a Chinese SOE—on agricultural and industrial exploitation in the Province of Rio Negro, Argentina, finds that the agreements between Rio Negro province (Argentina) and the Chinese company seem to ignore international law on indigenous peoples and their resources, as well as provincial and national constitutions (Grain, 2011; Mortarotti, 2012). Box 3 below provides a collection of the legal violations of Chinese investments.

Box 3: Case study: The agreement between Heilongjiang Beidahuang State Farms Group Business Trade CO, LTD and the Rio Negro government in Argentina violates the welfare of indigenous people

The agreement between the provincial government of Rio Negro and the Chinese company Heilongjiang Beidahuang State Farms Group Business Trade CO, LTD was signed on October 15, 2010 (Mortarotti, 2012). The provincial government of Rio Negro presented this project as a “food production agreement” and as an investment for irrigation of the province's lower valley facing the refusal of the national government to provide resources to create irrigation infrastructure in the region (GRAIN, 2011). And yet Mortarotti (2012) refers to the following laws that were violated by this agreement: Law No. 26,160 (2006), the Constitution Article 75, Constitution of the Province of Rio Negro, the United Nations Declaration on Indigenous Peoples Rights, No. 169 ILO Convention on Indigenous and Tribal Peoples, No. 169 ILO Convention. These legal documents require consultation with local indigenous communities, obtaining consent from the local communities on the usage of the lands, ensuring Argentine indigenous peoples' participation in the management of their natural resources and other interests affecting them, and adopting appropriate measures to mitigate adverse environmental, economic, social, cultural or spiritual consequences, etc.

In the view of GRAIN (2011), the agreement is a surrender of land for industrial production of soybeans with a huge list of unconditional benefits favouring the Chinese state company. GRAIN (2011) also notes that various sectors of the Rio Negro community have reacted, including students, environmental organizations, unions and churches. Civil society groups that oppose the project include: the environmental organization Piuke de Bariloche, the Rural Reflection Group, Comahue Biological Association (a member of the Argentina Federation of Students of Biology), High School Agricultural Training, the Indigenous Advisory Council; the Regional University Center. The Permanent Forum for a Dignified Life has launched a campaign entitled “NOR SOY, NOR CHINA. Territorial and food sovereignty for Argentina.” Finally, Luis Beltrán (2011), of the Provincial Assembly for Food Sovereignty (Middle Valley, Province of Rio Negro), which brings together neighbours, organizations and communities across the regions of the Rio Negro province, rejected the agreements signed between the outgoing governor, Miguel Angel Saiz, and the Chinese corporation.

² Database available at <http://www.internationalrivers.org/worldsrivers/>



The literature also suggests that Chinese land-related investments result in income inequality and local people losing access to the resources. Onphanhdala et al. (2013) further explain that, in the longer term, Chinese investments could lead to expanding income inequality gaps between households within the village and among villages, based on the level of investment deepening with China. Cotula et al. (2009) argue that, as governments or markets make land available to prospecting investors, large-scale land acquisitions may result in local people losing access to the resources on which they depend for their food security—particularly as some key recipient countries are themselves faced with food security challenges. Gray (2009) reports that one impact of the Chinese rubber plantation established in Laos was that some Laotian farmers are losing their ancestral lands or being forced to become wage workers on what were once their fields. Chinese companies are also accused of getting rubber concessions from officials and not compensating farmers (Gray, 2009).

Land deals resulting in the dispossession by displacement of the rural poor is not a phenomenon only for Chinese investments and is asymmetric in terms of locations. Borras et al. (2011) find that, in the LAC region, land deals in general (including foreign and domestic land deals) have not resulted in mass dispossession—at least not on the scale that we see in many places in Africa and some parts of Asia (again, of course, we see some hotspots where the expulsion of populations from their lands has occurred, most especially in Colombia). On many occasions in LAC, according to Borras et al. (2011), land deals resulted in the incorporation—adversely or otherwise—of smallholder and farmworkers into the emerging commercial farm and plantations enclaves; the mixed outcomes in terms of incorporation (adversely or otherwise) are similar to what we see in the emerging land-oriented ventures in Asia and Africa.

Another key debate related to Chinese land-related investments focuses on whether the investment is self-serving and land-grabbing or mutually beneficial development cooperation (Bräutigam & Tang, 2009; Bräutigam & Zhang, 2013; Baynton-Glen, 2012; Rubinstein, 2009). Based on their literature review, Hofman and Ho (2012) find that Chinese land-grabbing investment is a recent discourse—the discourse was virtually non-existent before 2000—and that only gradually since the mid-2000s have articles and reports on Chinese “land grabbing” started to seep into the international literature. Now, the discourse over China’s “land grabs” has become highly politicized and split over issues of “neo-colonialist” exploitation versus “win-win” opportunities and “new economic diplomacy” (Hofman & Ho, 2012). Several sources mention a backlash from 2007 against the idea of large-scale Chinese investment in agriculture overseas, as reflected in headlines such as “China and the great global land grab” (Marks, 2008; see also: Bräutigam & Tang, 2009; Horta, 2008; Rubinstein, 2009). In addition, a top UN-Food and Agriculture Organization official warned that large-scale land purchases by the Chinese and other food importers risked becoming “a new kind of colonialism” (Marks, 2008). Many recent sources based on trade and investment data and empirical case studies claim to find “limited evidence of Chinese ‘land grabs’ in Africa” (Baynton-Glen, 2012; see also: Bräutigam & Tang, 2009; Bräutigam & Zhang, 2013). Even though a small number of Chinese agribusiness companies did pursue land acquisitions in Africa, in most cases the amounts of land in these negotiations were “far smaller than reported, and the projects themselves were either commercial, import-substitution production, or biofuels” (Bräutigam & Zhang, 2013).



2.3 ENVIRONMENTAL IMPACTS

In Spanish and English reviews, there are marked negative impacts on the environment coming from the operations of Chinese companies in the world. Chinese academia, NGOs, media and legal documents, however, focus on discussing the successful cases and providing recommendations/guidelines for Chinese companies to reduce negative environmental footprints in the future; and yet few pieces of Chinese literature discuss how Chinese enterprises actually affect the local environment or the outcomes of environmental protection measures taken by Chinese companies.

2.3.1 Environmental Pollution and Ecosystem Destruction

China's investments in developing countries, especially Africa and Latin America, are concentrated in areas that are environmentally sensitive and therefore carry high risks and have attracted significant attention.

- Much of the literature mentions the concerns, criticism and protests about Chinese investments in mining, infrastructure, forestry and agricultural projects (Gallagher, 2010; International Rivers, 2012; Martínez Rivera, 2013; Mol, 2011; Onphanhdala et al., 2013). Many studies and reports focus on particular cases, such as a Chinese state-owned petroleum company operating in a national park in Gabon (for example, see Bosshard, 2008; Corkin et al., 2008; Deutsch, 2010; Kong, 2011; Mol, 2011; Munson & Zheng, 2012).
- Others focus on key sectors such as forestry, where Chinese businesses have been implicated in illegal logging and not meeting environmental and social safeguards (Global Witness, 2009; Mak & AlAameri, 2012; Roque, 2009). Similar problems are highlighted in fisheries where illegal fishing contributes to the degradation of coastal areas (Horta, 2005; Jansson & Kiala, 2009; Lemos & Ribero, 2006; Roque, 2009).
- A key issue raised is that China imposes lower environmental benchmarks on its aid and investment projects than multilateral institutions or Western companies (Bräutigam, 2009; Mol, 2011; Munson & Zheng, 2012; Sautman & Yan, 2009; Van Dijk, 2009). A particular issue is the lack of firm guidelines governing environmental impact assessments and providing for them to be verified and reviewed for accuracy and completeness (Munson & Zheng, 2012). Several examples of problematic environmental impact assessments (EIAs) have been documented, in Argentina (Martínez Rivera, 2013), Australia (Validakis, 2014) and Cambodia (Grimsditch, 2012)
- Some studies provide evidence of adoption of international standards on health, security and the environment (Van-Vliet et al., 2011). For example, Fairlie (2014a, 2014b) documents the operations of an aluminum mine in Peru, highlighting the adoption of labour and environmental standards.

There is a marked difference in coverage of environmental impacts in the literature, with Spanish and English reviews tending to focus on negative impacts (of both Chinese and their own multinationals), while Chinese academia, NGOs, media and legal documents highlight successful cases (although often without measures of outcome) and provide recommendations for best practices.



Much of the literature mentions the concerns, criticism and even protests from academia, host country governments, the international community and the local community towards the environmental footprints of Chinese operations overseas. For instance, Smith (2009) mentions the concerns of local communities about China Shenhua Energy Company's Watermark project in Australia, including the impact of coal exploration and mining on underground and water resources, and the potential impact open-cut mining could have on the streams, alluvial aquifers and alluvial soils, as well as the potential impact of the untreated saline water. Economists at Large Pty Ltd (2013) estimates the potential impacts of the Watermark project on local agriculture due to increased cost and reduced availability of labour, water and freight; the impacts on air quality and coal dust; and impacts on external costs such as ecology, including threatened species and ecosystems, aboriginal heritage, human health and greenhouse gas emission.

Chinese infrastructure and agricultural projects overseas also receive criticism about negative environmental impacts (International Rivers, 2012; Martínez Rivera, 2013; Mol, 2011; Onphanhdala et al., 2013; among others). The Myitsone Dam project in Burma, for instance, received strong opposition from local ethnic groups and civil society activists (International Rivers, 2012). Local government organized an investigation of the environmental impact of the project, which found that potential environmental hazards include: the disappearance of the natural beauties of Myitsone; the possible loss of livelihood of national races and villages due to inundation at the upstream of the river; the destruction of many commercial plantations; serious local climate change that may claim the lives and property of local people; and possibly a devastating effect on the Ayeyawady River (International Rivers, 2012). The government suspended the project after the evaluation. Onphanhdala et al. (2013) found that Chinese's inappropriate use of chemical fertilizer can cause environmental pollution and conflicts among households (e.g., death of livestock) in the host community. Gallagher (2010) also discovered that increased demand for soy among the Chinese has been linked to the deforestation of more than 528,000 square kilometres in the Brazilian Amazon; such deforestation has threatened the livelihoods of many indigenous Brazilians and contributed to accentuating global climate change.

A widely discussed case is Sinopec's activities in Loango National Park in Gabon (for example, see Bosshard, 2008; Corkin et al., 2008; Kong, 2011; Munson & Zheng, 2012; Mol, 2011). The discussion has been around the negative impacts of Sinopec, the lack of proper EIA, and the cooperation of Sinopec with international and local communities. The Deutsch (2010) report provides a detailed discourse on this case, as shown in Box 4.



Box 4: Sinopec's activity in Loango National Park in Gabon: A case study on one Chinese company's environmental footprint and its cooperation with international and local civil society

Loango is one of Gabon's 13 national parks, home to healthy populations of endangered lowland gorillas and elephants, as well as manatees that breed in the crystal clear waters off its coast. In 2005, Gabon granted terrestrial oil concessions in Loango National Park to a subsidiary of Chinese national oil giant Sinopec. In 2006, an EIA was carried out by a Dutch company, but not implemented. Local communities were not consulted. Later that year, Sinopec established camp in the park, re-opened park roads, imported and hired staff, laid seismic line, cleared trails, laid dynamite and cables, and blasted, all in prime wildlife and tourist areas. Environmentalists and scientists working in Loango publicized the impact of Sinopec activities on biodiversity and tourism in Loango, and that Sinopec contractors had entered the park and were employing destructive exploratory tactics, including dynamiting gorilla habitats and a manatee breeding site (Haslam, 2006). One professor commented:

They're using dynamite, which is killing and scaring the wildlife, sending the gorillas deeper into the forest and outside the protection of the park where they risk becoming bushmeat. They're bulldozing roads through the park, polluting the waters with chemicals and slurry and hunting the wildlife to eat . . . I don't want to forbid the Gabonese from profiting from petrol but modern techniques exist, like horizontal drilling that would allow the oil to be extracted without setting foot in the park. (Haslam, 2006)

Sinopec responds they were not informed of Loango's status, nor provided guidelines for environmental protection, and acted similarly to other oil companies in Gabon. The World Bank, together with conservation groups based in Gabon, such as the World Conservation Society (WCS) and Brain Forest, managed to halt Sinopec's activities despite Chinese and Gabonese government resistance (Kong, 2011).

World Conservation, the World Wildlife Fund (WWF) and the Ministry of Environment of Gabon obtained U. S. Fish and Wildlife Service (USFWS) funding to work with Sinopec to establish environmental and social standards in Loango and audit compliance. The team found unnecessarily wide seismic lines, excessive tree cutting, illegal hunting activities by Sinopec staff, no effort to minimize the camp's environmental footprint, and no monitoring of impact on wildlife, habitat or tourism.

In 2007, the Gabon-WCS-WWF-Sinopec partnership was launched. The Government of Gabon passed park law establishing Agence Nationale des parcs nationaux (ANPN). ANPN was given authority to regulate activities in parks and set up environmental and social protection standards agreed for Sinopec in Loango. ANPN asked Sinopec to accept NGO collaboration, and the audit team moved into the Sinopec camp. The partnership agreed on several environmental standards and audit protocols, covering air pollution, noise, soil erosion, vegetation, bush meat, wildlife impact, staff regulation, community and tourism. In 2008, Sinopec completed exploration, finding too little oil for terrestrial extraction to be economical at that time.

In the area of forestry, the literature also shows that there exist many Chinese logging businesses in Burma, especially illegal ones, that cause devastating effects to the local environment and do not align with sustainable development concepts (Global Witness, 2009; Mak & Al-Aameri, 2012). In a study on Chinese investments in Mozambique, Roque (2009) found that most of the timber is illegally exported as unprocessed logs, a strategy pursued with the assistance of locals; thus, Chinese logging activities are frequently accused of not respecting sustainable development and being detrimental to environment. In addition, several sources report that Chinese illegal fishing is contributing to the degradation of coastal areas (Horta, 2005; Jansson & Kiala, 2009; Lemos & Ribero, 2006; Roque, 2009).

As always, there are challenges in making sense of the negative performance of Chinese companies without some comparative base. An empirical case study by Van-Vliet and Magrin (2012) discusses the Chinese National Petroleum Company's (CNPC's) Rônier project and the World Bank-supported Doba project undertaken by Exxon, a U.S. company, and finds that the Rônier project, as currently operated, appears to carry manageable environmental risks: it is comparatively limited in size and the host environment presents only moderate levels of ecological, economical and geopolitical vulnerability; its positive and negative local impacts are likely to be much weaker than Doba's, because the project, less publicized by the media, gives rise to fewer expectations and less migration, but it also creates fewer jobs and business opportunities (Van-Vliet & Magrin, 2012). Van-Vliet et al. (2011) also mention that CNPC is making significant headway in adopting international standards, especially on health, security and the environment (HSE). Van-Vliet et al. (2011) discuss the internal and external need for CNPC to follow the international standards: as a public MNC, CNPC has to compete or collaborate with firms from the OECD and their environmental standards, and competition and/or collaboration are exercising the same demands on HSE practices in the firm.



2.3.1.1 Lack of Implementation of Environmental Guidelines and EIA

China's investments in developing countries, especially Africa and Latin America, are concentrated in areas that are environmentally sensitive. While investments in the mining, oil, gas, hydropower and timber sectors generally carry high environmental risks, China's strategy of making previously inaccessible resources accessible compounds these risks (Van-Vliet et al., 2011; Bosshard, 2008). Admittedly, Chinese companies could operate in an environmentally responsible manner while operating in these areas, yet China imposes lower environmental benchmarks on its aid and investment projects than multilateral institutions or Western companies (Brautigam, 2009; Munson & Zheng, 2012). The World Bank, the IMF, the European Investment Bank, the United States and several EU governments, for instance, complain that Chinese banks and (local and national) state authorities apply lower ethical and environmental standards in their loans, giving Chinese firms a competitive advantage over Western counterparts (Mol, 2011; Sautman & Yan, 2009; Van Dijk, 2009; several US Embassy messages released through Wikileaks, December 2010³).

A crucial safeguard for environmental protection is the EIA process (Grimsditch, 2012), and yet in China, there are no firm guidelines governing EIAs, nor is there any mechanism to allow third parties to review them for accuracy and completeness, and thus there exists no mechanism to verify the accuracy of completed project assessments (Munson & Zheng, 2012). For example, a joint project between the Chinese company Heilongjiang State Farms and the Rio Negro province in Argentina was cancelled in November 2011 when evidence showed that insufficient environmental impact studies were gathered and that the project was signed illegally (Martínez Rivera, 2013). Similarly, local media covered the concerns expressed over the Watermark Project in Australia by China Shenhua Energy Company that the environment impact statement filed by Shenhua is problematic (Validakis, 2014).

Another example of an ineffective EIA is that prepared for the Kamchay Hydropower Dam project in Cambodia undertaken by Sinohydro. Grimsditch (2012) examined the EIA and found that the EIA is problematic and had not been implemented. According to the EIA report by Sinohydro, a total of 154 families, or 769 people, were affected by the project, but they did not provide detailed calculation and classification; yet, according to one local official, 190 families in the Makbrang Commune have suffered reduced access to forests they depend on for non-timber forest product collection. That figure is significantly higher than the total number of affected families identified by the EIA report (Grimsditch, 2012). Grimsditch (2012) further found that meaningful consultation with affected communities was limited and, at times, non-existent when conducting the EIA report. A number of public consultation workshops were held; however, no affected community members were invited to these workshops and civil society involvement was minimal.

Moreover, Mol (2011) finds that, compared to Western MNCs, Chinese-owned MNCs operating in Africa are faced with less environmental criticism and fewer debates by home-based Chinese NGOs, and with less media scrutiny. If anything, the emerging involvement of Chinese NGOs shows friendly and stimulating critique towards operations of homeland banks and MNCs in Africa (see Ge et al., 2010; Marks, 2010).

The literature examined identifies that Chinese companies do have the incentive to improve their environmental regulations. Van-Vliet et al. (2011) find that both internal and external factors contribute to the rapid policy learning and closing the gap between internal demand and supply of environmental regulation of Chinese companies; internal factors include citizens' claims, the media, and demands from within and around the Communist party, and external factors are the need to compete globally and overcome the non-tariff barriers. In Peru, Fairlie (2014a, 2014b) shows that, in their operation of Minera Chinalco Peru SA, Chinalco Mining Corporation has been more careful

³ See: <http://213.251.145.96/cablegate.html>



with their environment footprint. They have also shown relatively greater respect for labour and environmental standards compared to other Chinese companies (e.g., Shougang). Chinalco plans to invest over USD 2,000 million in the Mining Toromocho project (located in Morococha, Peru), and some of this planned investment will go to remedying environmental liabilities left by other mining companies, to ensure water supply for the mine and for the people, and to improve the quality of life of people in its area of influence (Sanborn & Dammert, 2013). Box 5 examines the environmental management of CNPC (Van-Vliet et al., 2011).

Box 5: The environmental management of CNPC: An example of a Chinese company's environmental standards and their growing awareness on environmental protection

CNPC is the largest Chinese outward investor in the petroleum sector. However, the rapid expansion of the company's activities has been accompanied by a number of production accidents, which have caused human, economic and environmental losses. Under pressure at home and abroad, and keen to improve its domestic and international image and gain and maintain access to reserves abroad, CNPC has paid increasing attention to environmental issues and established a number of environmental protection measures (Liang, Wang & Yang, 2010).

In 1997, CNPC adopted the ISO14001 Environmental Management System, which obliges firms to define all work procedures and their potential impacts, to foresee preventive measures, to detect and report failures, and to take corrective and preventive measures. By the end of 2007, CNPC's 216 affiliates had all received ISO14001 certification.

The company issued a series of environmental management rules and plans (including Management of Environmental Monitoring, Statistical Environmental Management and the Plan for Establishing an Online Pollution Source Monitoring System, Technical Guidelines for the Identification and Selection of Environmental Factors) to enforce an effective environmental management system, a pollution-reduction indicator system, a monitoring system and an evaluation system.

In terms of ensuring clean operations, CNPC adopted a clean production technology innovation program. A series of new technologies and equipment were developed, including clean operations in well drilling, ecological protection during pipeline construction, the recycling of refinery sewage and the reduction of greenhouse gas emissions.

A three-tier HSE management system was implemented to ensure that environmental protection facilities and major engineering projects are designed, constructed and completed simultaneously (in line with the government's "three synchronization policy"). Safety management guidelines have been conceived and implemented. Advice and expertise from Western firms has been systematically sought in all domains.

To meet the demands of its offshore business and prospecting work in the Bohai Sea, CNPC established the Offshore Emergency Rescue and Response Centre to handle offshore accidents, including rescue, firefighting, oil-spill treatment and key project protection (Liang et al., 2010).

In previous operations abroad, and more specifically in nearby Sudan, these environmental standards were gradually improved through interactions with consortium partners that might have been surprised initially by some of the technical procedures followed by CNPC, or with environmental organizations that contested its choice of drilling sites or their timing (Dittgen, 2010). When arriving in Chad in 2007, through (considerable) failures and (rapid) learning, CNPC had already acquired the status of an experienced global operator and was thus technically prepared to engage in the interaction with the Exxon-Doba project (Liang et al., 2010; Lin, 2010a).

Source: Van-Vliet et al. (2011)



2.3.2 Chinese Outward Investment on Renewable Energy

China is the world leader in installed renewable energy capacity and the literature also identifies China's contribution to renewable energy globally through increasing outward investments in renewable energy, particularly in hydropower, solar and wind.

- According to Tan et al. (2013), China has made at least 124 investments in solar and wind industries in 33 countries over the past decade. Conrad, Fernandez and Houshyani (2011) discuss the two major forms of China's renewable energy investments in Africa: large hydropower projects and other renewable energy projects such as solar, wind, biomass and small hydropower projects.
- The driver behind these large outward solar and wind investments, according to Tan et al. (2013), includes: 1) excessive manufacturing capability; 2) Chinese government policy support; 3) host countries' policies such as feed-in tariffs. Conrad et al. (2011) further identify China's reputation motive in renewable energy investments: China's engagement in Africa's renewable energy sector increases recognition from developed nations of China as a contributor to climate change mitigation and reaffirms China's position as a leading nation in the developing world.

There is a small but emerging body of literature considering China's contribution to the renewable energy globally.

During the 2000s, China came to lead the world in installed renewable energy capacity (Bradsher, 2009) with 103.36 gigawatts (Bradsher, 2010), almost twice as much as that of the United States (Table 6). Even excluding hydroelectric power, which accounts for over half of China's total renewable energy capacity, its combined wind and solar capacity in 2010 roughly equalled the comparable subtotals for the United States and Germany (Liu & Goldstein, 2013).

Table 6: All renewable energy capacity 2012

RANK	COUNTRY	CAPACITY (GW)
1	China	103,360
2	United States	57,990
3	Germany	48,860
4	Rest of EU-27	39,800
5	Spain	27,780
6	Japan	25,960
7	India	18,650
8	Italy	16,660
9	Brazil	13,840
10	France	9,570

Source: PEW (2010)

"All renewable energy" includes hydroelectric power



The literature also identifies China's contribution to renewable energy globally. According to Tan et al. (2013), China is already the leading global investor in renewable energy infrastructure, and is increasing its outward investments in renewable energy, particularly solar and wind. In addition, China has made at least 124 investments in solar and wind industries in 33 countries over the past decade. Conrad et al. (2011) discuss the two major forms of China's renewable energy investments in Africa: large hydropower projects and other renewable energy projects such as solar, wind, biomass and small hydropower projects.

According to Tan et al. (2013), the drivers behind these large outward solar and wind investments include: 1) China's manufacturing capacity exceeds domestic demand; 2) Chinese government's policy support and financial support—mainly from state-owned banks that respond to government policy—encourage this outward investment trend; and 3) the host countries' policies have also attracted investments from China's solar and wind industries, either advertently through tax breaks, feed-in tariffs or bilateral cooperation agreements, or as a “side-effect” of policies discouraging imports. Conrad et al. (2011) further identifies China's reputation motive in renewable energy investments: China's engagement in Africa's renewable energy sector increases recognition from developed nations of China as a contributor to climate change mitigation and reaffirms China's position as a lead nation in the developing world.

2.4 GOVERNANCE IMPACTS

Governance issues overlap with many of the areas already discussed, such as the natural resource curse and environmental regulation. However, this area relates specifically to the impact of Chinese companies on domestic institutions in host countries.

- **Corruption** is a key issue and widely discussed (Alden, 2007; Cissé, 2012b; Gagliardone & Geall, 2014; Gonzalez-Vicente, 2011; New Security Learning, 2011; Tull, 2000). Chinese telecom MNCs' overseas activities, for instance, have generated great concerns from local telecom operators and foreign investors (Cissé, 2012a, 2012b; SIPA, 2007). Zadek et al. (2009) make the point that China's non-involvement policy keeps Chinese businesses away from “intervening in African countries' internal affairs” and, therefore, they are less willing to address issues such as corruption, transparency and human rights, even where these become potential business risks.
- Concerns also relate to **investments in countries ruled by weak or authoritarian regimes**. In particular, the “Angola model” of loans-for-oil allows countries to circumvent governance and transparency requirements by other investors or donors (Alden & Alves, 2009; Lombard, 2006; Moss & Rose, 2006; Peh & Eyal, 2010; Taylor, 2007). Energy-backed loans can also directly undermine democratic governance. However, the impacts of Chinese investment on the continuation of authoritarian governments should not be overplayed. Esteban (2009) finds that, in Equatorial Guinea, “the contribution of Chinese oil and logging companies to the perpetuation of the Obiang regime is marginal in comparison with firms from other countries, especially with American oil companies.”
- Researchers find that the **lack of transparency of Chinese companies' operations and Chinese aid policy may cultivate corruption in less-developed countries** (Peh & Eyal, 2010). Chinese development financiers, such as the China ExIm Bank, also do not report their own activities in the same way as the other similar agencies, and the bank does not place reporting demands on its clients (Moss & Rose, 2006).

Only the English literature mentions the impacts on the governance of host countries, and neither Chinese or Spanish sources touch on this issue.



The impacts of Chinese ODI on the governance of the host countries are discussed in several sections above, including Section 1.2 on economic development and Section 2.2 on employment conditions. Chinese companies, in order to win bids, sometimes adopt corruptive activities (Gagliardone & Geall, 2014; Cissé, 2012b; New Security Learning, 2011). This section will focus on the transparency issue of Chinese policy and operations in host countries.

As discussed in Section 1.4 on the resource curse, Chinese investments exacerbate the resource curse, encouraging the corruption of host governments and authoritarian regimes (Alden, 2007; Gonzalez-Vicente, 2011; Tull, 2006). The intrinsic aspect of the resource curse refers to problematical issues of governance, and includes the formation of socioeconomic structures that prevent democracy (Karl, 2007), an escalation of corruption (Shaxson, 2007) and the problematic role of the state as a mediator for transnational mining and oil extraction interests (Coronil, 1997). Both theoretical analyses and empirical evidence show that capital-intensive natural resource abundance creates opportunities for rent-seeking behaviour, and that this is an important factor in determining a country's level of corruption (Leite & Weidmann, 1999). Bosshard (2008) explains that these regimes that prioritize resource extraction “do not strengthen public participation in decision-making, but deepen(s) internal tensions and conflict.” These regimes also “do not address the economic potential of the poor, but puts people who stand in the way of resource extraction at risk” (Bosshard, 2008).

Many of the destinations of Chinese outward investments, especially natural resource economies in Africa, have consistently appeared at the bottom of Transparency International's Corruption Perception Index (2007), namely, Angola (147th out of 179 in 2007), Congo-Brazzaville (153rd), and Equatorial Guinea and the DRC (joint 168th). Researchers find that the lack of transparency of Chinese companies' operations and Chinese aid policy may cultivate corruption in the less-developed countries (Peh & Eyal, 2010). Researchers on the conduct of Chinese companies in Africa complain that there is very limited data available to gauge Chinese operations on this continent, and that there is virtually no data on the prices that China pays for its purchase of raw materials, or on the loans repaid with revenues from the sale of some commodities (Peh & Eyal, 2010). Chinese development financiers, such as the China ExIm Bank, also do not report their own activities in the same way as the other similar agencies (for example, the terms of its loans in Africa are rarely made public) and the bank does not place reporting demands on its clients (Moss & Rose, 2006).

Chinese energy investments and energy-backed loans in LAC regions also generate concerns about the host country governance (Koch-Weser, 2012). According to Ellis (2009), the distribution of land and oil concessions can encourage corruption, rent-seeking and fiscal recklessness. Regarding China's energy-backed loans, Downs (2011a, 2011b) finds that such governance risks are already playing out. In Venezuela, China is acting as a lender of last resort to cushion the country's severely mismanaged finances, helping President Chavez to spend money in a populist way to buy votes. Similarly, in Ecuador, the energy-backed loans has helped President Correa cope with fiscal hardship after his government defaulted on USD 3.2 billion in sovereign bonds in 2008, while allowing the government to develop its oil sector in spite of enacting nationalization policies that drove off other foreign investors. Gallagher et al. (2012) note that, while China's lending in the region in 2006–2010 totalled more than the World Bank, Inter-American Development Bank (IDB) and U.S. ExIm Bank combined, three fifths of this capital was concentrated in Venezuela and Ecuador, even though these countries account for less than a tenth of the region's population and GDP.

Chinese telecom MNCs' overseas activities, for instance, have generated great concerns from local telecoms operators and foreign investors (Cissé, 2012a, 2012b; SIPA, 2007)—specifically, the fierce competition between Huawei and ZTE to win tenders that has been denounced by African ICT vendors (Cissé, 2012b; Zhao & Zhang, 2012, 2014). In particular are the concerns of alleged corrupt



practices used to secure contracts (Gagliardone & Geall, 2014; New Security Learning, 2011). Local newspapers indicate that both Huawei and ZTE were found guilty of bribing executives in Nigeria, Uganda, Kenya and Zambia; in Algeria, Huawei and ZTE were “found guilty of bribing executives at the Algerian state-owned network Algérie Télécom and banned from operating in the country for two years” (Malakata, 2012, 2013).

Moreover, the “no-strings-attached” approach of Chinese investments may lead to an increase in host country corruption, and enable close relationships with so-called pariah regimes across Africa (Munson & Zheng, 2012; Gonzalez-Vincent, 2011). China has been thus blamed for financially supporting these otherwise isolated regimes, empowering them to endure internal and external pressures (Gonzalez-Vincent, 2011), and thus “undermines their (Western donors’) long-standing efforts to improve governance and transparency through the application of strict conditionalities” (Alden & Alves, 2009). Alden & Alves (2009) further discuss that the Chinese funding formula, the so-called “Angola mode,” allows countries with no creditworthiness in the international market to contract loans against resource outputs, allowing them to circumvent IMF and World Bank transparency requirements. In Angola, according to McMillan (2005), international pressure had partnered with local forces after 2002, achieving some success in curbing rampant corruption. However, China’s investment in Angolan oil has allowed ruling elites to ignore calls for increased transparency and governance norms (Taylor, 2007), and Angola has been able to resist IMF demands for increased budget transparency partly because China ExIm has been willing to lend (Lombard, 2006). This could also hurt global efforts to reduce the secrecy around the financing and contracting of large infrastructure or oil projects, such as the Extractive Industry Transparency Initiative (EITI) (Moss & Rose, 2006), and further undermine Western governments’ efforts to address corruption through good governance conditionalities (Alden & Alves, 2009; Peh & Eyal, 2010). Zadek et al. (2009) further make the point that China’s non-involvement policy keeps Chinese businesses away from “intervening in African countries’ internal affairs” and therefore, they are less willing to address issues such as corruption, transparency and human rights, even where these become potential business risks.

However, double-standard criticism towards Chinese investments exists in discussing the impact of China and Western investments on host country governance. For instance, China is criticized for providing diplomatic support to the Teodoro Obiang’s authoritarian government in Equatorial Guinea (Gonzalez-Vincent, 2011). However, “the contribution of Chinese oil and logging companies to the perpetuation of the Obiang regime is marginal in comparison with firms from other countries, especially with American oil companies” (Esteban, 2009). In some instances, narrow Western criticisms of China’s role in Africa seem to be particularly critical on those elites that do not favour Western countries’ interests (Gonzalez-Vincent, 2011). As argued by Spiegel and Billon (2009), whereas China should be held accountable for its questionable alliances in Africa, double-standard criticisms of China are uninspiring and counterproductive.

The main forum for promoting transparency is the EITI. Launched in 2002, this coalition of governments, companies and other stakeholders has developed an international standard for systematic reporting and auditing of payments by resource-extracting companies and documenting the receipt of those payments by governments (Gonzalez-Vincent, 2011). Only in rare cases does China participate in the EITI. Gonzalez-Vincent (2011) comments that Chinese companies are more likely to participate in the UN Global Compact, a business framework through which companies commit to aligning their behaviour with 10 universally accepted principles on human rights, labour, environment and anti-corruption. While Shankleman (2009) writes that “neither the government of China, nor any Chinese oil or mining companies are active within EITI except where Chinese companies operate in countries that implement transparency systems.”



The review of literature describing Chinese ODI sustainable impacts in LAC countries does not make a direct link between a change in host country laws and Chinese companies' operations. Under the model of land-grabbing and its variations, China has had access to land and water in the LAC region, and this was facilitated in some cases by loose/weak local legislation by the recipient countries (GRAIN, 2011; Trápaga Dolphin, 2013), violations of local laws by Chinese companies (Irwin 2013; Mortarotti, 2012) or violations by Chinese companies of their own environmental laws (Garzón, 2014). Some African governments do impose regulations and policies with direct links to Chinese investments. For instance, in Kenya, the construction of the standard gorge railway from Mombasa to Nairobi, undertaken by China Road and Bridge Corporation, was required to have 40 per cent local input (Andae, 2014); this was determined when the contract was signed by Premier Li Keqiang and President Kenyatta.



3.0 Causes of Impacts

3.1 HOST COUNTRY CHARACTERISTICS AND POLICIES

The potential factors influencing the impacts of Chinese investments include the level of economic development, the size of the economy, resource endowment, knowledge and skill base, composition of local labour supply, and the social, political and cultural characteristics of the host country (Dicken, 2003). However, literature conducting cross-country comparisons is very limited (see Kubny & Voss, 2010, 2014, discussing Chinese textile investments in Vietnam and Cambodia), as is literature creating causal links between these elements with the impacts of Chinese ODI. Many researchers argue that the effect of Chinese ODI depends largely on the institutions and policies of the host country (Li, 2010; Munson & Zheng, 2012). For instance, Li (2010) finds that Chinese mining companies are not the sole culprits behind poor labour conditions in Zambia; the terms of investment, inadequate labour laws and the failure of the Zambian government to implement related laws are also contributing factors. These problems are Copperbelt-wide⁴ rather than specific to Chinese companies.

Moreover, a comparative study finds that the social responsibility of Chinese enterprises in the world is very uneven and local regulations make a big difference (Schatan & Piloyan, 2014). For example, Chinese companies operating in Europe and in the United States, where the environmental standards are more stringent, have much higher social liability than that shown by the ones operating in LAC. According to Schatan and Piloyan (2014), this also leads to more investment flows to countries with lower environmental standards due to the tightening of environmental standards for highly polluting and energy-consuming Chinese enterprises in some countries.

International Rivers' (2015) review of seven Chinese hydropower projects in Latin America and Southeast Asia find significant differences in performance between countries, and concludes that local laws and standards in the host country are a key factor in determining project performance. For instance, with regards to environmental and social impact management, the projects in Ecuador were completed to a higher standard than those in Cambodia. Project performance in Malaysia and Laos was also much higher than in Cambodia (International Rivers, 2015).

The ambiguity of regulations and policies, the lack of an efficient implementation system and conflicts of interest in the political systems of host countries also contribute to the higher pollution and environmental degradation levels in these developing countries. For Sinopec's operation in Loango, Gabon, for example, Gabonese law states that "if oil or mineral riches are discovered in the protected areas they can be exploited for the economic and social benefit of the country...nevertheless the operator concerned is obliged to rehabilitate the site" (Haslam, 2014). Sinopec's operation, despite being opposed by the Ministry of Forestry and the national parks administration, is fully backed by the Ministry of Mines (Haslam, 2014). In the case of Chinese copper mines in Zambia, while acknowledging of all the known destruction Chinese company did to the local living environment, the Zambian government continues to welcome investors, offering tax breaks and waivers to anyone willing to invest in Zambian mines without new regulations towards reducing the environmental hazard (Mfula, 2009).

In the case of Cambodia, several key weaknesses in the process of approval and implementation of EIAs have undermined the role of EIAs in environmental protection (Grimsditch, 2012). Grimsditch (2012) finds that projects are often approved and even implemented prior to completion of a full EIA—even major projects with potentially far-reaching impacts, as was the case with the Kamchay Dam project undertaken by Sinohydro. The Kamchay Dam was subject to an EIA, but as of September 2011 the final report still had not been approved by the Ministry of Environment, despite

⁴ The Copperbelt is a copper mining region that runs through northern Zambia and southern DRC.



the fact that project construction commenced in 2007. As the full EIA was not finalized during the construction stages of the project, there was no final environmental management plan officially approved or publicized. Throughout the implementation of the Kamchay project's construction, in the absence of a full and transparent management plan for dealing with the project impacts, many problems were dealt with on a case-by-case basis as and when they emerged (Grimsditch, 2012).

Therefore, the key is for host countries to have investment policies that will ensure investment projects contributing to improving livelihoods, strengthening food security, creating jobs and using natural resources in a sustainable manner (Smaller, Wey & Yalan, 2012). Host countries in LAC, for instance, have also realized the need to increase and diversify Chinese investment in the LAC region, increase LAC investments to China and achieve better trade balances (ECLAC, 2013). Apart from the public policy of one specific host country, multilateral institutions are also important in regulating and managing foreign investments. In order to establish a regional strategy for the integration of Central America regarding Chinese relations, it is important to prioritize political and diplomatic aspects followed by others, like economic, trade, investment, cultural, academic, etc. (Dussel, 2014). Accordingly, immediate measures should also be adopted regarding the relations with China on policy design and decision-making schemes within LAC countries and particularly at a regional level (Dussel Peeters, 2014).

3.1.1 Bilateral Investment Treaties

Many countries adopt bilateral investment treaties (BITs) as a way to entice foreign investors to their shores, even though past empirical work on the growing number of BITs in force around the world has produced conflicting findings concerning their impact on FDI (Busse, Königer & Nunnenkamp, 2010; Tobin & Rose-Ackerman, 2006, etc.). Tobin and Rose-Ackerman (2006) find that the number of BITs signed by a developing host country with a wealthy home country generally has a positive impact on FDI in subsequent periods. However, they also concluded that poor countries cannot bootstrap an aggressive program of signing BITs into a major increase in FDI. They cannot avoid the hard work of improving their own domestic environment as it affects the political risks of investment (Tobin & Rose-Ackerman, 2006).

Moreover, not all investment treaties work toward the goals of sustainable development. In fact, despite some promising innovations in recent years to rebalance the agreements, investment treaties can be counter-productive to achieving sustainable development objectives, imposing high costs on the countries who sign them but questionable returns in terms of attracting investment (Bernasconi-Osterwalder et al., 2012). This is because policy-makers often use the narrow benchmark of increased volumes of investment to judge success, yet few states would knowingly welcome investment that is footloose, that degrades the environment and depletes natural resources, that treats workers poorly or that creates few in-country economic benefits (Bernasconi-Osterwalder et al., 2012).

The recent case of the BIT between Australia and China illustrates the potential impact of BITs on the sustainable development of host countries. This is also the only case identified in the literature regarding Chinese BITs. For instance, under the new free trade agreement between Australia and China, Chinese companies will be allowed to apply to bring their own workers to Australia in cases where there are skill shortages (SBS, 2014). Australian officials worry that such a move will “undermine the mining industry’s health and safety standards,” as well as its impact on labour provision in Australian mining sector (SBS, 2014). This deal between Australia and China will also contain a so-called Investor State Dispute Settlement mechanism that will allow Chinese corporations to sue Australia’s government if a change in Australian law can be claimed to have harmed their investments in Australia. This mechanism would allow Chinese investors, including SOEs, to



“take action” against the Australian government if their profits were harmed under the changes in Australian policy, such as changes to the renewable energy target or carbon farming schemes (Hutchens, 2014).

China has signed BITs with 130 countries, and the majority of these are treaties with developing countries.⁵ The importance of reflecting sustainable development in BITs has been acknowledged by the many host countries, who have started to include the sustainable development concept in their investment treaty templates. This may have an effect on China when China is negotiating and signing BITs with these countries. At the country level, IISD has assisted drafting South Africa’s new investment treaty template, in which the right of investors to engage foreign personnel is made clear, but is also subject to a requirement to balance this with domestic programs to train local employees wherever feasible. This reflects the development goals associated with FDI of skills development and transfer as well as higher value-added employment (Mann, 2012). India has adopted a similar approach of reflecting the relationship between investment and sustainable development in BIT templates, also with assistance from IISD (Arun, 2014), as has the EU-Canada Free Trade Agreement (European Commission, 2013).

International organizations and industry associations have also made progress in embedding sustainable development concepts in investment treaty templates. The theme of the UNCTAD meeting in January 2015 was International Investment Agreements: Negotiating for Sustainable Development. It provided training courses to policy-makers and negotiators on how investment policies can work better for sustainable development and inclusive growth to “ensure that the sustainable development dimension of IIAs is adequately addressed” (UNCTAD, 2015). The newly released Model Mine Development Agreement template (MMDA Project, 2011) includes a section on the development obligations of companies. More specifically, the MMDA requires companies to use local goods and services, care about local community development and community health, employ and train local citizens, and obey certain labour standards, etc. In the Community Development clause, the MMDA regulates consulting the local community to reach a Community Development Agreement, to “promote sustainable development and enhance the general welfare and quality of life of inhabitants, as well as to recognize and respect the rights, customs, traditions and religion of the affected persons” (MMDA Project, 2011).

3.2 CHINESE COMPANIES AND POLICIES

The nature of Chinese investments and Chinese policies also influences the impacts of Chinese ODI on host countries; yet no literature has systemically discussed the influence of Chinese ODI’s “mode of entry, function and attributes” (Dicken, 2003) on their impacts on the host countries. Literature digging into the Chinese side of the story has focused on the profit-seeking nature of Chinese companies, the Chinese development approach, and the policy and regulation shifts.

3.2.1 Competition and the Profit-Seeking Nature of Chinese Companies

Chinese companies overly concentrate on market and resource seeking and do not want to generate CSR costs (Xu, 2014). Through her empirical research on Chinese privately owned enterprises (POEs), Gu (2009) identifies that private investment was emphatically market-driven. Consequently, POEs’ investment motives reflect the intensive competition being experienced in the Chinese marketplace today (Gu, 2009). In Zambia, people who deal with large-scale and smaller Chinese businesses frequently stress what they see as a profit-first mentality among the Chinese (Haglund, 2008). The imperfect oversight of Chinese regulatory agencies creates uncertainties for Chinese companies, who may respond to an opaque regulatory environment and the risks of corruption by

⁵ Data retrieved from UNCTAD Investment Policy Hub: <http://investmentpolicyhub.unctad.org/IIA/CountryBits/42#iiaInnerMenu>.



pursuing short-term returns and diversification strategies (The Economist, 2005). Haglund (2008) explains that at NFC Africa the high turnover of Chinese managers (who are generally replaced every three years) likely contributes to an emphasis on short-term profits. Such a human resources policy may be part of an operational strategy for the head office to retain control of the business and ensure strategic direction, given a limited reliance on formal reports and international accounting standards. However, this practice also aligns with managers' own goals of strictly short-term operational targets, thereby increasing incentives to cut costs.

Haglund (2008) also points out that the resulting state-firm dynamics are by no means exclusive to Chinese investment. It is host country regulatory characteristics, in combination with certain features of investors' corporate governance, that herald a new set of challenges for business regulation in developing African countries.

Chinese companies' competition with companies from OECD countries also contributes to some Chinese MNCs making significant headway in adopting international standards (Van-Vliet et al., 2011). Van-Vliet et al. (2011) find that, as a public MNC, CNPC has to compete or collaborate with firms from OECD countries and their environmental standards, and competition and/or collaboration are exercising the same demands on HSE practices in the firm. Internal (citizens' claims, the media, and demands from within and around the Communist party) and external (the need to compete globally and overcome the non-tariff barriers) pressures have contributed to rapid policy learning and the closure of the gap between internal demand and supply of environmental regulation (Van-Vliet et al., 2011).

3.2.2 Cultural Conflict and Chinese Companies' Lack of Experience

Cultural differences and difficulties in communication result in tensions and conflicts between local employees and Chinese workers/managers in Chinese companies operating overseas. Arsene's (2014) ethnographic fieldwork in Kampala, Uganda, reveals that tensions between Chinese employers and African workers often arise because "employees do not initially know what their employers expect of them," and because "Chinese employers' lack of English-language skills makes it more difficult to communicate" (Arsene, 2014). Jensson (2010) also discusses that language barriers and cultural differences are important factors leading an unwillingness to communicate between Chinese company representatives and Congolese stakeholders, such as trade union and community representatives.

Niikondo and Coetzee (2009) discuss that Chinese workers are prepared to work long hours, motivated by worse conditions at home where the average Chinese unskilled worker based on 2005 price parity earns \$ 1.00 to \$5.00 per day. Lee, a worker from a Chinese construction company, claimed that where a local bricklayer is able to lay 150 to 300 bricks per day, a Chinese bricklayer is capable of laying 1,000 bricks per day (Niikondo & Coetzee, 2009). Giese's (2013) interview with a young female Ghanaian at a small Chinese-owned hotel on the outskirts of Accra reports that there are big cultural differences that make working for the Chinese difficult. Giese (2013) further discusses that Chinese employment relations in small enterprises emphasize the importance of interpersonal relations, in contrast to depersonalized structural and functional approaches; many Chinese traders explained that, by basing labour recruitment on personal relationships with third parties, they intended to base employer-employee relationships—at least in part—on mutual trust and mutual social obligations, and did not wish to be limited to purely economic exchange relations.

Guo (2014) also mentions that CSR is still at a nascent stage for Chinese companies, even domestically. Chinese firms that operate globally have insufficient experience in engaging civil society, including trade unions, which is an important reason for Chinese companies' lower CSR performances (Guo, 2014).



A recent study of seven Chinese hydropower companies by International Rivers (2015) identifies the gaps between Chinese companies' policies and project performance, and that the biggest gap was in carrying out rigorous and verifiable EIAs. According to Chinese laws, large hydropower projects must have approved EIAs before construction commences; public consultation must have taken place during the EIA process; and the full reports of EIAs must be publicly disclosed. Although some Chinese companies committed to fully complying with Chinese laws, there were many instances of non-compliance (International Rivers, 2015). Out of the seven companies studied, two companies failed to receive formal approvals before commencing project construction. Additionally, the project EIAs had not been publicly disclosed, and did not include a proper public consultation processes. Similar issues exist in the social impact assessment process (International Rivers, 2015).

3.2.3 Motivations of Chinese Companies' ODI

In literature reviewed, many sources mention the underlying motivations of Chinese companies' overseas investments; thus, even though this literature review mainly focuses on the consequences rather than the causes of Chinese investments, some discussion on the drivers of ODI is helpful in understanding the impacts.

A popular typology that takes account of the different motivations for outward FDI is provided in Dunning (1993) and is based on four categories: a) market-seeking investment aimed at entering new markets; b) resource-seeking investment aimed at searching for resources found in specific foreign locations (e.g., specific natural resources); c) strategic asset-seeking investment aimed at augmenting the set of the firm's proprietary resources; and d) efficiency-seeking investment within a cost-reduction strategy. This typology is tested in some of the empirical studies on host country determinants of Chinese ODI, and research agrees that classical motivations play a key role in Chinese companies' investments abroad (Buckley et al., 2007; Cheng & Ma, 2008; Cheung & Qian, 2008; Cissé, 2012a, 2012b; Gu, 2009; Kolstad & Wiig, 2010; Wang, Mou & Gou, 2014).

Importantly, Wang, Mao and Guo (2014) point out that Chinese-style ODI could be a transitory phenomenon; as domestic production costs continue to rise, China may lose its cost advantage, even in the country's less prosperous inland areas. This could force Chinese enterprises to move factories to less-developed countries such as Cambodia and Vietnam, which means Chinese-style ODI will gradually give way to efficiency-seeking ODI (Wang, Mao & Guo 2014).

3.2.4 Chinese Development Approach

China's no-strings-attached approach can be traced back to 1964, when Premier Zhou Enlai proposed China's eight principles for foreign aid, which include "respect for the sovereignty of recipient countries, no strings attached and no privilege required" (Hellström, 2009). While this initially could also be understood as reassurance to other powers that the highly interventionist/ideological policy of Maoist foreign policy was over, in a post-1990 world, Chinese investors and extractive companies are accused of undermining good governance, environmental and sustainable policies in Africa (Cissé et al., 2014; Bosshard 2008). Haglund (2008) and Munson and Zheng (2012) mention China's no-strings-attached approach to development cooperation and investment, which is often welcomed by the host government, and indeed increases the availability of financing and investment, very likely at the expense of labourers and the environment. Haglund (2008) explains that "state-led financing of Chinese mines ... combined with weak oversight by the Chinese government, affords firms significant flexibility," as compared to other transnational extractive companies that are subject to the environmental and social standards set by international financial corporations, thereby posing challenges for effective business regulation.



Moreover, China's domestic policies also have an influence on Chinese companies' overseas activities, especially on Chinese outward investments' environmental impacts. China's domestic policy favours economic development over environmental protection (Bosshard, 2008; Gu, 2011). Researchers worry that China risks exporting its domestic environmental track record to other parts of the world through its foreign investment strategy. China has put forward several environmental policies but none has been effective domestically (Economy, 2007). Peh and Eyal (2010) express concerns that the environmental legal restrictions placed on Chinese companies operating overseas are likely to be even looser than the environmental controls within China. Researchers are concerned that these domestic environmental policies may even encourage China's worst polluters to relocate or "export" their pollution to places like Africa (Bosshard, 2008; Peh & Eyal, 2010).

Gu (2011) further identifies that China's dramatic economic growth came when CSR was a lower priority for government and, consequently, it has not really figured into China's enterprise culture. Such was the case when Chinese firms established their African operations. Only with the Chinese government's recent emphasis on scientific development and sustainable and harmonious growth have the "green" credentials of China's firms come under close scrutiny. Many Chinese firms have responded more positively to considerations of CSR, including environmental challenges both at home and in Africa (Gu, 2011).

There is a debate on whether Chinese financial institutions (including, most importantly, the ExIm Bank and China Development Bank) have adopted the international requirements on rigorous disclosure that allow shareholders and regulators to monitor CSR activities. Bosshard (2008) discusses that international financial institutions have, since the 1990s, adopted environmental guidelines and standards to address the environmental impacts of their projects; yet major Chinese investors, financiers and equipment suppliers have so far not adopted such standards or developed policies that are not necessarily in line with international standards. The head of the European Investment Bank (EIB), Philippe Maystadt, has claimed that Chinese banks "apply lower ethical and environmental standards" compared to the EIB (Financial Times, 2007). Bosshard (2008) has further concerns that Chinese financiers are using lower environmental standards as a strategy to win a larger business share in the international infrastructure and extractive sectors over their Western competitors. The CCICED (2011) report, however, identifies that, in 2007, the China Banking Regulatory Commission printed and distributed *Opinions on Consolidating the Corporate Social Responsibilities of the Banking Industry and Financial Institutions*, requiring that large-scale banks abide by the 10 basic principles of CSR advanced by the UN Global Compact⁶; the commission also asked these banks to prepare CSR reports to articulate their activities.

3.2.5 Chinese Policy and Regulation Adjustments

3.2.5.1 Chinese Policy Shifts

Through the literature review, we can see that Chinese law has put more emphasis on CSR when operating both domestically and overseas. The Ministry of Commerce (2013), for example, emphasizes the corporate responsibility on environment protection for Chinese firms investing and operating abroad. The policy points out that Chinese corporations operating overseas are encouraged to study and borrow from principals, standards and customs on environmental protection from international organizations and multilateral financial institutions.

⁶ According to the UN Global Compact website, 194 businesses from China, 305 companies from the United States, 282 from Germany, 134 from India, 413 from Brazil, 31 from Russian Federation, 54 from South Africa participated in the UN Global Compact. (see: <https://www.unglobalcompact.org/participants/search>)



Though increased emphasis on CSR in Chinese law is positively correlated with the volume of Chinese outward FDI, we did not identify any literature that systematically discusses the causal relationship between the two. It is likely that the emphasis in Chinese law on CSR is the result of both domestic and foreign pressures.

More recent research acknowledges improvements in Chinese policies, financial institutions and companies' operational practices. Compagnon and Alejandro (2013) find that, overall, China's attitude toward the environment and community has changed, including changes on environment-related policies, overseas CSR and technology transfers, such as for renewable energy. The Chinese government has, in fact, released a series of sustainability policies and circulars regarding Chinese companies' operations overseas (UNDP, 2015), as collected and organized in Table 7.

Table 7: Key policies and regulations guiding and governing the sustainable overseas development of Chinese companies

ISSUE DATE	ISSUER	TITLE
2002	Ministry of Foreign Trade and Economic Cooperation (MFTEC)	Comprehensive Evaluation Measures for the Performance of Overseas Investments (Trial)
2002	MFTEC, State Administration of Foreign Exchange (SAFE)	Interim Measures for Joint Annual Inspection of Overseas Investment
2004	Ministry of Commerce (MOFCOM)	Measures for the Administration of Training of Workers Dispatched Overseas
2004	MOFCOM	Reporting System for Investment and Operation Obstacles in Foreign Countries
2005	MOFCOM	Notice of the State Administration of Foreign Exchange Regarding Adjustment to the Administration of Financing Guarantee from Domestic Banks for Enterprises with Foreign Investment
2005	State Administration of Work Safety (SAWS), Ministry of Foreign Affairs (MFA), MOFCOM, State-owned Assets Supervision and Administration Commission (SASAC)	Notice of the State Administration of Work Safety, Ministry of Foreign Affairs, Ministry of Commerce, State-owned Assets Supervision and Administration Commission on Improving Work Safety Supervision of Overseas Chinese Enterprises
2005	General Office of the State Council	Opinions on Strengthening the Security and Protection of Overseas Chinese Enterprises and Staff
2007	MOFCOM, Ministry of Finance, People's Bank of China, All-China Federation of Industry and Commerce (ACFIC)	Opinions of the Ministry of Commerce, the Ministry of Finance, the People's Bank of China and All-China Federation of Industry and Commerce on Encouraging and Guiding Overseas Investment and Cooperation by Private Enterprises
2007	State Forestry Administration (SFA), MOFCOM	Guidelines on Sustainable Forest Cultivation for Chinese Enterprises Overseas
2008	MOFCOM, MFA, SASAC	Notice of the Ministry of Commerce, Ministry of Foreign Affairs, State-owned Assets Supervision and Administration Commission on Further Regulating Overseas Investment and Cooperation of Chinese Enterprises
2008	State Council	Administrative Rules for Overseas Contracting
2009	SFA, MOFCOM	Guidelines on Sustainable Operation and Utilization of Overseas Forests by Chinese Enterprises
2009	MOFCOM, Ministry of Housing and Urban-Rural Development (MOHURD)	Measures for the Administration of Overseas Contracting Qualification
2010	MOFCOM, China Export and Credit Insurance Corporation	Notice on Strengthening Risk Prevention in Overseas Economic and Trade Cooperation Zones



2010	MOFCOM, MFA, National Development and Reform Commission (NDRC), Ministry of Public Security (MPS), SASAC, SAWS, ACFIC	Provisions on the Security Management of Overseas Chinese Institutions and Staff
2010	MOFCOM	Overseas Security Risk Warning and Information Notification System in Overseas Investment and Cooperation
2011	MOFCOM, MFA, SASAC, ACFIC	Guidelines on Security Management of Overseas Chinese Enterprises (Institutions) and Staff
2011	SASAC	Interim Measures for the Administration of Overseas State-owned Property Rights of Central Enterprises
2011	SASAC	Interim Measures for the Supervision and Administration of Overseas Assets of Central Enterprises
2012	MOFCOM	Guidelines on Security Management of Overseas Chinese Enterprises and Staff
2012	China Banking Regulatory Commission	Green Credit Policy
2012	MOFCOM, International Communication Office of the CPC Central Committee, MFA, NDRC, SASAC, National Bureau of Corruption Prevention, ACFIC	Opinions on Corporate Culture Development of Chinese Enterprises Overseas
2012	SASAC	Interim Measures for the Supervision and Administration of Overseas Investment of Central Enterprises
2013	MOFCOM, SAWS, MFA, NDRC, MOHURD, SASAC	Notice of the Ministry of Commerce, State Administration of Work Safety, Ministry of Foreign Affairs, National Development and Reform Commission, Ministry of Housing and Urban- Rural Development, State-owned Assets Supervision and Administration Commission on General Inspection of Work Safety Governance of Chinese Enterprises Overseas
2013	MOFCOM, Ministry of Environmental Protection	Guidelines on Environmental Protection in Overseas Investment and Cooperation
2013	SASAC	Interim Measures for Emergency Management of Central Enterprises
2013	MOFCOM	Provisions on Regulating Competition in Overseas Investment and Cooperation
2013	MOFCOM, MFA, MOHURD, National Health and Family Planning Commission, SASAC, SAWS	Provisions on Responding to and Addressing Security Incidents in Overseas Investment and Cooperation
2013	MOFCOM, MFA, MPS, MOHURD, General Administration of Customs, State Administration of Taxation, State Administration for Industry and Commerce, General Administration of Quality Supervision, Inspection and Quarantine, SAFE	Trial Measures for Negative Credit Record in Overseas Investment, Cooperation and Foreign Trade
2013	MOFCOM	Notice of the Ministry of Commerce on Strengthening the Categorized Administration of Chinese Personnel Dispatched Overseas for Overseas Investment and Cooperation
2014	MOFCOM	Guidelines on Intellectual Property Right of Overseas Enterprises
2014	MOFCOM	Measures for the Administration of Overseas Investment
2015	NDRC, MFA, MOFCOM	Vision and Proposed Actions Outlined on Jointly Building Silk Road Economic Belt and 21st-Century Maritime Silk Road

Source: UNDP (2015)



Apart from government policies, industry associations also publish CSR guides, such as China International Contractors Association's *Guide on Social Responsibility for Chinese International Contractors*. The guidance calls for Chinese overseas contractors to pay attention to environmental protection, including saving energy and resources, reducing pollution and protecting ecosystems. It also emphasizes that the employees are one of the most concerned parties of enterprises and all enterprises should protect and respect employees' rights, including equally contracting, reasonable welfare, employees' safety and career development.

For Chinese POEs, though, few similar regulations have been made. The Chinese government has established some industry associations to promote Chinese POEs' investing overseas to conduct CSR in the host countries. The industry associations include China International Chamber of Commerce for the Private Sector, jointly run by All-China Federation of Industry and Commerce, MOFCOM and National Development and Reform Commission, and the China-Africa Business Council, established by MOFCOM, China Glory Society and United Nations Development Programme (UNDP). Lu (2005) explores CSR in Chinese SMEs during internationalization. The author argues that implementing Social Accountability 8000 (SA8000) is inevitable for Chinese SMEs during internationalization, but concedes that it poses great challenges. However, just a few Chinese SMEs that go overseas have passed SA8000, which will hinder further developments. It is urgent for them to enhance their capability and pass SA8000.

The Chinese government also partnered with the UNDP through trilateral cooperation schemes to combine UNDP expertise and Chinese know-how to respond to sustainable development challenges. For instance, in 2012, a trilateral program was designed to help Cambodia benefit from China's experience, both in sustainable cultivation techniques and in moving from producing unprocessed items to more advanced, higher-value products. The renewable energy technology exchange program with Ghana and Zambia is an example of another trilateral project in 2012 (UNDP, 2012).

3.2.5.2 Chinese Development Financiers and Financial Markets

The growing role of Chinese bank financing overseas is a topic little discussed by academics (see Brautigam & Gallagher, 2014; Friends of the Earth, 2012; Foster et al., 2009; Gallagher et al., 2013; Greenoavtion Hub, 2014). This is partly because there is no reliable database on Chinese investments and loans in the region and due to the difficulty in accessing Chinese banks' information (Gallagher, Irwin & Koleski, 2013; Urdinez, 2013). Brautigam & Gallagher (2014) estimate that Chinese policy banks have provided just under USD 132 billion in financing to African and Latin American governments since 2000. Two aspects of the Chinese financing model are also categorized by Brautigam & Gallagher (2014): 1) strategic partnerships with major Chinese companies—both China ExIm Bank and China Development Bank (CDB) have provided medium-term strategic financing support to national champion firms, usually as part of China's five-year plans; and 2) commodity-secured package finance—resource-backed credits from Chinese banks come in two forms: individual project loans and a line of credit secured by resource exports.

On the Chinese loans' financial terms, Foster et al. (2009) find that, on average, Chinese loans offer an interest rate of 3.1 per cent, a grace period of four years, and a maturity of 13 years; nevertheless, the variation around all of these parameters is considerable across countries. Thus, interest rates range from 1–6 per cent, grace periods from 2–10 years, maturities between 5 and 25 years, and overall grant elements between 0 and 55 per cent, so that a subset of the loans lies above the concessionality threshold. This financial term, according to Brautigam & Gallagher (2014), is by and large not out of line with interest rates found in global capital markets.



The literature also finds that Chinese finance is “tied” to Chinese suppliers (Brautigam & Gallagher, 2014; Foster et al., 2009; Gallagher et al., 2013). Gallagher et al. (2013) discuss that this condition represents another expense because it reduces the “collateral” effect related to local hiring in LAC; Brautigam and Gallagher (2014), however, explain that controversy linking Chinese finance with Chinese suppliers is often a result of the misconception that Chinese finance to these regions is “aid” and should be untied; and yet the goal of all export-import banks is specifically to provide credits for buyers of a nation’s goods.

A critical concern raised in several papers is whether Chinese financing will lead to debt unsustainability in recipient countries, as Chinese companies and public banks provide debt funding to countries that, because of weak governance regimes, may not qualify for funding from traditional developmental finance institutions (Alden & Alves, 2009; Davies, 2011; Foster et al., 2009; Schiere & Rugamba, 2011; among many others). Key countries in Africa that have been recipients of China ExIm Bank’s concessional financing include Angola, Equatorial Guinea, Congo Brazzaville, Ethiopia, Guinea, Nigeria, Sudan and Zimbabwe (Davies, 2011). Davies (2011) notes that Chinese policy banks carry out a capital risk assessment that is calculated differently to traditional (Western) investors, and the state-owned structure of Chinese policy banks allows for an approach where capital is invested in a manner that is arguably more suited to the long-term development needs of developing economies and does not chase a short-term return on investment. China ExIm Bank President and CEO Li Ruogu argued that the bank takes into consideration both debt sustainability and development sustainability (Li, 2006). Davies (2011) further mentions that China’s developmental finance approach, with its higher tolerance (due to its political underpinning) of investment risk than traditional funding mechanisms, is increasingly appealing to African states over models that may not always cater to the developmental needs of resource-rich but developmentally poor African economies. The box below provides a commonly cited case on the “resource-for-infrastructure” financial scheme of Chinese companies.

Box 6: Sino-Congolese Joint Venture Project: A case study of the typical “resource-for-infrastructure” financial scheme and the view from international organizations

In April 2008, a deal was signed between the DRC government and the Chinese companies China Railway Engineering Corporation and Sinohydro. The deal agreed that a Sino-Congolese joint venture named Sicominex would provide the DRC with China Export-Import (ExIm) Bank financed infrastructure in exchange for copper and cobalt mining concessions. Mining of these deposits was scheduled to begin in 2013. In return, Chinese firms will build infrastructure to a total value of USD 6 billion. Another USD 3 billion will be invested in mining infrastructure through a joint venture between Congolese mining parastatal Gécamines and a Chinese consortium (Jansson, 2011).

The Sicominex deal has been subject to a great deal of controversy. Congolese opposition groups along with international institutions, in particular the IMF, have criticized the deal around the issue of debt sustainability. The DRC is heavily indebted, with USD 11 billion external debts. Debt relief would reduce the country’s debt by up to 90 per cent (IMF, 2010). Judgment for the granting of debt relief by means of the World Bank Group’s Highly Indebted Poor Country (HIPC) debt relief program is made on the basis of the policy conditions and targets of the Poverty Reduction and Growth Facility (PRGF) (IMF, 2010). The DRC currently has interim status in the HIPC program (the country is between decision and completion point). Thus, in order to qualify for debt relief, the DRC has to start a new three-year PRGF program.

The World Bank writes that, “this financial agreement, although it has the potential to strengthen the country’s prospects for growth, could hamper DRC’s chances of reaching the HIPC completion point to alleviate sustainably the debt burden, if the following issues it raises are not quickly addressed: the state guarantee for the loan, the concessionality of the loan, as well as the debt viability with respect to the parameters of the debt sustainability analysis” (Foster et al., 2009). A breach of the guidelines set by the IMF could result in sanctions against the offending state.

As a result of the pressure imposed by the IMF, the deal has been restructured downwards to the value of USD 6 billion, taking into consideration some of these concerns and pressure from the IMF placed upon the DRC government. According to DRC Central Bank Governor Jean Claude Masangu: “Concerning the mining project, there was a guarantee from the state. The Chinese partners are no longer demanding a guarantee from the state. We are left with a purely commercial contract” (Bavier, 2009). The IMF has responded by saying that “when the IMF services confirm that the revised agreement is compatible with the viability of the debt, the Congolese authorities will be in measure to solicit financial assurances for (a new IMF) programme from the lenders of the Paris Club” (IMF, 2010). Within the Sino-Congolese contract, Chinese infrastructure projects are already being built to the value of USD 750 million in 2009 in the DRC.



Chinese financial institutions have started to employ voluntary and self-regulatory environmental impact measures (Mol, 2011). The two major vehicles for financing foreign investments of Chinese companies, China ExIm Bank and China Development Bank (CDB), have developed environmental policies and impact assessment policies (Friends of the Earth, 2012; Mais Democracia, Greenovation Hub, CUTS International & Friends of the Earth, 2012; Mol, 2011;). Table 8 below shows the environment-related policies and practices from the two policy banks.

Table 8: Environment-related policies and practices from CDB and China ExIm bank

DATE OF ISSUANCE	ISSUING INSTITUTION	POLICY	OBJECTIVE
2004	CDB	CDB Lending Assessment Handbook	Provides specific guidelines on loan procedures, ranging from assessment of borrowers, management of the assessment group in the environmental assessment and the financing criteria of different industrial projects, and requires EIAs from all loan applications.
2006	CDB	The Environmental Impact Assessment Framework for Lending to Small or Medium-Sized Enterprises	Promoting environmentally friendly business activities supported by microloans.
2006	CDB	Joined the UN Global Compact	
2008	CDB	Establish the Equator Principles Working Group	
2007-2010	CDB	Guidelines to the Circular on the Publication and Distribution of a Work Plan on Energy Conservation and Emission Reduction and the Government's Eleventh Five-Year Plan on Environmental Protection	Fulfil CDB's social responsibility for supporting energy conservation and emission reduction by promoting the healthy growth of environmentally friendly businesses. However, these policies are not legally binding; the effectiveness of these policies needs further investigation.
	CDB	Guidelines on Environmental Protection Project Development Review	
	CDB	Guidelines on Special Loans for Energy Conservation and Emission Reduction	
	CDB	Work Plan on Loans for Pollution Control and Emission Reduction	
2007	China ExIm Bank	Guidelines for the Environmental and Social Impact Assessment of China Export and Import Bank's Loan Projects	In addition to economic benefits, social and environmental aspects should also be taken into consideration before a project is approved. In addition, the guidelines require an EIA both prior to and after a project's completion and regular review of the implementation of the project.
2011	China ExIm Bank	Environmental Assessment Framework	Introduced two phases in conduct assessment: the Subproject Preparation and Construction and Subproject Implementation.
2008	China ExIm Bank	China ExIm Bank Environmental Protection Policy	This policy includes environmental management, economic, technology and industry policies. The China ExIm seeks to encourage international cooperation on environmental protection and policy development.

Source: Greenovation Hub (2012, in Mais Democracia, Greenovation Hub, CUTS International & Friends of the Earth, 2012).



In addition, several Chinese financial institutions and environmental agencies (e.g., Industrial Bank of China, People's Bank of China and the Ministry of Environmental Protection) are furthering sustainability criteria for credit provision to Chinese companies, including for those firms operating abroad (Alden & Alves, 2009; Bosshard, 2008). In May 2007, China ExIm Bank signed an agreement with the International Finance Corporation of the World Bank Group, supporting environmentally sound Chinese investments in emerging markets, and particularly in Africa. This was followed in 2008 by an agreement between the International Finance Corporation and the Ministry of Environmental Protection in support of international environmental initiatives. The China-Africa Development Fund has expressed its preference to fund projects that adhere to the OECD *Guidelines for Multinational Enterprises*, which include environmental standards and criteria.

However, when compared with its fellow development financiers, CDB and China ExIm Bank lag behind their international counterparts regarding project standards (Greenovation Hub, 2014). Table 9 below provides some basic comparisons.

Table 9: CDB and China ExIm Bank compared with other international banks on project standards

	EQUATOR PRINCIPLES	INDUSTRY SPECIFIC ENVIRONMENTAL GUIDELINES	SOCIAL & HUMAN RIGHTS	GRIEVANCE MECHANISM	SOCIAL ISSUES AND HUMAN RIGHTS
China Development Bank	No	No	No	No	No
China Exim Bank	No	No	No	No	No
World Bank	Yes	Yes	Yes	Yes	Yes
Asian Development Bank	Yes	Yes	Yes	Yes	Yes
IFC	Yes	Yes	Yes	Yes	Yes

Source: Greenovation Hub (2014) (based on a review of publicly available materials)

The literature also identifies the disconnection between policies and practices (Bosshard, 2008; Friends of the Earth, 2012; Greenovation Hub, 2014; Mol, 2011, among others). The guidelines indicate the political intentions of the Chinese government, and yet compliance is not mandatory. As many researchers observe, many of these environmental adjustments take the form mainly of non-binding recommendations, guidelines and voluntary agreements. Only a few take the form of regulations, compulsory standards and “hard” conditionalities for foreign operations (Bosshard, 2008; Mol, 2011). Because the need to comply with the EIA Law is not compulsory, many developers actually do not conduct EIAs (Greenovation Hub, 2014); this further leads to the criticism that even though China ExIm Bank has adopted environmental policies, they have been criticized for being less systematic and comprehensive than the environmental policies of other international financial institutions (Global Environmental Institute, 2011). In addition, the guidelines and principles adopted by the headquarters of Chinese TNCs and banks often lack supervision and transparency at the level of project implementation in Africa. There is certainly a lack of stringent enforcement by the mother company (or state agency with state-owned companies), Chinese credit institutions and local African enforcing agencies (GEI, 2011).

Moreover, criticism should not solely be placed on the policy banks themselves; national laws should guarantee the implementation of guidance and policies published (Greenovation Hub, 2014). For instance, the Green Credit Directive released by the China Banking Regulatory Commission mentions that banks financing overseas companies should have environmental guidelines, but there is no specific language on what these guidelines should include (Hu, 2013).

The Shanghai (SSE) and Shenzhen (SZSE) stock exchanges, two major stock exchange markets in China, also published measures to encourage listed companies' CSR, with positive results. SZSE



published the *Shenzhen Stock Exchange Guidelines for CSR of Listed Companies* (CASS, 2010). The *Appraisal Measures of Shanghai Stock Exchange (SSE) Corporate Governance Sector*, launched by the SSE in October 2007, offered a comprehensive and systematic evaluation of listed companies' governance for the first time. In 2008, the SSE and China Securities Index Co., Ltd. launched the SSE Corporate Governance Index and the SSE 180 Corporate Governance Index in succession, and actively promoted the development of relevant Exchange Traded Funds (ETF) products. In May 2008, the SSE issued the *Notice of Improving Listed Companies' Assumption of Social Responsibilities and Launching SSE Guideline on Environmental Information Disclosure by Listed Companies*, encouraging listed companies to disclose social responsibility reports. On December 31, 2008, the SSE issued the *Notice of Doing a Better Job for Disclosing 2008 Annual Reports*, requesting that the companies that were in the SSE Corporate Governance Sector or issued foreign capital stocks listed abroad and the financial companies disclose the reports on the fulfilment of social responsibilities. According to statistics, 290 SSE-listed companies disclosed their social responsibility reports in 2009, among which 282 companies made the disclosure for the first time and 32 disclosed voluntarily, demonstrating that listed companies began to attach importance to their social responsibilities (Shanghai Stock Exchange, 2009). Listed companies' social responsibilities are also closely linked with investors' behaviours, as investors will greatly influence listed companies' social responsibilities. Mature markets' experience shows that socially responsible investing, a propeller of CSR, generates a higher return on investment in general. As China's stock market is still in the early development stage, most investors have not regarded CSR as the basis for stock selection, and the socially responsible investing has just taken off. The SSE and China Securities Index Co. are pressing on with the development of the SSE CSR Index, which was scheduled to be launched in mid-year 2009. The index will serve as an effective socially responsible investing benchmark for investors, also a favourable underlying instrument for fund companies to launch fund products, so as to promote the development of socially responsible investing in China and boost listed companies to actively fulfil their social responsibilities (Shanghai Stock Exchange, 2009).

3.2.5.3 Chinese Companies' Increased CSR Activities

The Third Plenary Session of the 18th Central Committee of the Communist Party of China (十八届三中全会) in November 2013 proposed the transition of the role of corporations towards more CSR, emphasizing that corporations actively participate in the social and environmental protection (SynTao, 2014). Another report from SynTao (2013) evaluating the trend of Chinese companies' CSR activities through their CSR reports finds that, in 2012, Chinese companies published 1,705 CSR reports domestically, compared to 1,001 in 2011 and 703 in 2010, showing a growing awareness of Chinese companies about CSR activities.

Internationally, Chinese companies operating overseas recently have shown more willingness to work with international organizations and institutions to incorporate the latter's standards on sustainability (Mol, 2011). For instance, Chinese companies in developing countries have voluntarily worked with and adopted Extractive Industry Transparency Initiative standards, the ISO 14000 environmental management standard (Mol, 2009), the Paris Declaration on Aid Effectiveness, Corporate Social Responsibility guidelines (Alden & Hughes, 2009; Kragelund & Van Dijk, 2009) and the Equator Principles (adopted in 2010 by the Industrial Bank of China). By early 2010, 195 Chinese companies and business associations had signed the UN's Global Compact, a set of principles on environment, labour, human rights, the prevention of corruption and others. For instance, the COSCO Group is an SOE engaging actively in international passenger and cargo transportation. The company responded to the UN Global Compact in 2004, became the pilot project of United Nations Global Compact in China and implemented the Global Compact in China. In 2013, the total expenditure of COSCO Group for Global Compact and sustainability reached RMB 1.34 million (COSCO, 2013). Chinese



institutions in foreign hydropower investments (constructors and financiers) have expressed interest in following international environmental standards, and seem open for civil society concerns, as the international NGO International Rivers concluded (Bosshard, 2010). A former CNPC CEO rightly concluded that there might still be a gradual, but no longer a fundamental, difference between western MNCs and Chinese ones with respect to applying such international sustainability criteria (Mol, 2011).

Safer World (2013) identifies the internal need for Chinese companies to engage in CSR activities. It finds that, more recently, there has been more attention by Chinese companies to CSR, dictated by the logic that corporate development overseas needs to be offset by community engagement, if only because this lessens the political, economic and environmental difficulties a given industry might incur. These offsets also contribute to creating a more stable long-term investment environment. The realization of such a policy is largely dependent on the success of community engagement: the more a company is able to develop sustainable and trusting relationships at both national and local levels, the more secure its investments will be (Safer World, 2013).

The recent publication of many regulations and measures by the Chinese government and financiers should be contributable to Chinese companies' operations overseas and the international voice; however, we have yet identify research focusing on the influence of Chinese companies' operations abroad on Chinese laws internally.

3.2.5.4 Private Institutions' Promotion of CSR and Socially Responsible Investments

Chinese NGOs and private institutions also promote the socially responsible investments (SRI) and affect the standards of Chinese operations and practices abroad. Awards and indexes on domestic CSR are also established by Chinese consulting groups and NGOs, including: the Golden Bee CSR Roll Call, Green Companies Initiative and Chinese Federation for CSR's Shanghai 50 Sustainability Index. Other indexes seek to evaluate Chinese companies' ability to embed sustainability in their business practices (Long et al., 2010). Moreover, banks have also started to publish CSR reports. China Construction Bank, for example, published a CSR report in May 2007, followed by Shanghai Pudong Development Bank (in June 2007) and China Merchant Bank (in September 2007). These reports cover various topics ranging from corporate governance to employee relations and philanthropic activities (Guo, 2008).

The Bank of China also created an SRI-like fund in 2006. The Bank of China Sustainable Growth Equity Fund manages its investment portfolio from two dimensions: profitability and sustainability (Guo, 2008). The Sustainable Growth Equity Fund is not alone. A statement by Li Keping, the vice secretary general of the National Council for Social Security Fund, indicated that this large-scale pension fund might consider SRI as its future investment style, promoting a long-term value investment style and considering corporate governance and SRI (Guo, 2008). SZSE announced in 2007 that it was cooperating with the TEDA Group in developing the TEDA Environment Index, consisting of 40 listed companies (Guo, 2008). Launched on January 2, 2008, the TEDA Environment Index was said to be the first environmental index or even SRI index in Chinese history and is a milestone for SRI development in China. It establishes a benchmark for SRI-style investment, which might be able to indicate the long-term values and risk-resistant capacity that result from environmental, social and governmental concerns (Guo, 2008).



4.0 Conclusion

4.1 TEST OF HYPOTHESES ON RESEARCH OBJECTIVITY AND VARIABLES

Through the literature review exercise, the hypothesis that authors' backgrounds influence their views about the localized impact of Chinese companies' outward investment is tested to be right. More specifically, the following conclusions could be generated on the influence of authors' backgrounds:

- A majority of the English academic sources focus on the following issues: 1) the impacts of Chinese investments on sustainable development to the host countries, based on empirical research and anecdotal data (such as Grisditch, 2012; Mol, 2011; López et al., 2010; Shen, 2013; among many); 2) examination of Chinese financial institutions and development policies, comparing them to OECD countries (Bosshard, 2008; Haglund, 2008; Munson & Zheng, 2012, among many others).
- Latin American academic researchers and supranational institutions (like ECLAC, IDB) usually take the perspective of the host countries, and the discussions are usually around: 1) the impacts of Chinese investments, usually based on empirical research/case study at a specific host country (e.g., Fairlie, 2014a, 2014b; Mortarotti, 2014, among many others); 2) how host governments should address these impacts and better regulate foreign investments (Dussel Peters, 2014, among many others).
- Chinese academic literature often reviews the sustainable impacts of Chinese outward investment through the perspective of Chinese companies and policy-makers. The discussions are carried out around: 1) the importance of including sustainable development concepts into policy and operations of companies (Xu & Zheng, 2006a, 2006b); 2) the actual achievements of overseas CSR activities (Xu, 2009; Zhan, 2009, etc.); 3) the reasons why Chinese companies do not care enough about sustainable development in host countries (Xu, 2014); and 4) providing recommendations to government/company policies and regulations on sustainable development/CSR. In terms of methodology, most Chinese sources rely on anecdotal data for the general issue of sustainability of Chinese enterprise. Only a few Chinese sources that we examined adopt empirical analysis with survey data to investigate the actual influences of Chinese enterprises in host countries and end up with an evaluation of status quo of Chinese enterprises.
- IGOs and NGOs usually have their own mandates and expertise, and thus usually have a particular focus or advocacy objective. For instance, many reports by African Development Bank provide an analysis of the macroeconomic impact of Chinese investment in African countries, while NGOs like the Human Rights Watch look for empirical evidence on Chinese operations' violation of human rights in host communities. Media reports often have their own standpoints and thus are less neutral than academic papers.

Few sources examined conducted cross-time comparisons of the impacts of Chinese companies overseas. One source identified, Wang, Mao and Guo (2014), found a sharp increase in local employees in Chinese firms in Africa from 2007 to 2010. Yet the improvement of Chinese companies' impacts on host countries over time is usually implicit in the studies.



4.2 SUMMARY OF IMPACTS, CAUSES AND POLICY ADJUSTMENTS

This section provides a summary of the impacts, causes and policy adjustments for Chinese outward FDI from English, Chinese and Spanish literature. It is important to note that the learning curve of Chinese MNCs and government is fast, and thus the observations from literature before five years or more past may not fully reflect the situations right now and future.

4.2.1 Impact Issues

On the economic impacts:

- Chinese investments in developing countries contribute to the needed infrastructure development of the host economies, which increases local residents' access to transportation and telecommunication infrastructure. However, there are mixed views towards the quality of Chinese services in the ICT and construction sectors.
- Chinese investments' contributions to the economic development and the revenue of host governments are generally acknowledged. Concerns over the potential control of China on the host economy, the trade imbalance and Chinese companies' business practices are widespread, especially for less-developed countries.
- Limited local linkages of Chinese operations in host countries have caused concerns from researchers and policy-makers. Comparison with companies based in OECD countries finds that Chinese companies may have fewer but deeper local linkages than their OECD counterparts.
- Government and businesses from host countries have expressed concerns about the competition between Chinese goods and local industries.
- The literature highlights large-scale positive instances of technology transfer, and yet there are mixed evidence and views on the extent of skill transfer through the conduct of Chinese companies overseas, with some African governments expressing dissatisfaction towards the level of technical transfer to the host country economy.
- The impact of Chinese companies' overseas operations in the natural resource extraction sector on the development of resource-rich but poor countries is a key concern highlighted in the literature. This is a phenomenon for Chinese companies as well as for companies from OECD countries.

On the community impacts:

- While it is recognized that Chinese enterprises hire local people, the debate is more on the position and opportunities for training and advancement. Chinese companies operating overseas do have incentives to localize their workforce. Host countries also start carrying out regulations and policies to encourage foreign investments to hire local employees.
- There exist wide accusations of Chinese overseas companies providing poor labour conditions. Comparisons of Chinese companies and their counterparts from OECD countries conclude that there are no substantial differences related to working conditions between Chinese companies and those from other countries.
- Chinese investments contribute to the income generation and poverty reduction of the host community, and yet sometimes lead to an increase in income inequality. Chinese companies started to conduct CSR activities with overseas host communities.



On the environmental impacts:

- The literature mentions the concerns from local communities and government towards Chinese operations overseas, especially Chinese investments in the natural resource, infrastructure and agricultural sectors. Chinese illegal logging activities also lead to devastating effects on the local environment. The EIAs conducted by Chinese companies overseas are usually problematic. Under internal and external pressure, Chinese companies have started to realize the importance of environmental protection and management and have voluntarily published internal policies or cooperate with civil society on environmental protection.
- China is already the leading global investor in renewable energy infrastructure, and is increasing its outward investments in renewable energy, particularly solar and wind. The literature identifies the following elements contributing to this trend: China's domestic manufacture capacity, policy support and China's own reputation consideration.

On the impacts on governance:

- Chinese investments in the natural resource extraction sector lead to negative impacts on the host country democratic development, cultivating corruption and authoritarian regimes. The no-strings-attached approach of Chinese investments may lead to the increase in host country corruption. Double standards exist in evaluating Chinese impacts on host country governance. Chinese companies' lack of transparency themselves also escalates corruption in less-developed host countries. China is not actively participating in the international forums on promoting transparency.

4.2.2 Causes of Impacts

This literature review on the causes of these impacts and identifies the following commonly mentioned causes:

- The effect of Chinese ODI can be positive or negative; the effect depends partly on the quality of the institutions and public policy of the host economy. The ambiguity of regulations and policies, a lack of an efficient implementation system and conflicts of interest in the political systems of host countries contribute to the negative impacts on sustainable development from foreign investments.
- Host governments, especially governments in developing countries, usually welcome Chinese-style aid and investment approaches with no strings attached and the relatively fewer standards on environmental and social protection.
- The literature finds that Chinese companies operating overseas may ignore social and environmental impacts due to competitiveness and profitability. Chinese companies operating overseas focus on the short-term profit and often tend to ignore the investment on labour environment and CSR.

4.2.3 Policy Adjustments

Reviews of papers, reports and Chinese legal documents highlight the recent adjustments of Chinese policies and regulations from Chinese governments and development banks. Government policies, industry associations and the private sector have started to pay attention to including the sustainable development concept in Chinese companies' overseas operations. CBD and China ExIm Bank, the two development financiers of Chinese outward investments, also carry out guidelines and cooperate with international counterparts to promote green finance and CSR.



4.3 COMPARATIVE STUDIES

An interesting question in the paper is: how do Chinese investors actually compare to OECD and non-Chinese non-OECD investors? Among the 10 issues discussed in this literature review, there are five issues included in comparative studies, as shown in Table 10.

Table 10: Comparative studies

ISSUES	COMPARATIVE STUDY?	NOTES
Infrastructure development	Corkin et al (2008), Cissé (2012b), Urban et al. (2012)	Compared to traditional investors and donors, Chinese investors are more willing to invest in countries with poor investment environments, indeed often where traditional investors and donors are cautious of investing.
Economic development	No	N/A
Backward & forward linkages	Irwin & Gallagher (2012), Dussel Peters (2014)	Dussel Peters (2014) finds that, so far, the productive linkages with local suppliers are very weak compared to foreign competitors already established, although some exceptions are reported. Irwin and Gallagher (2012), however, find that, when comparing with its OECD counterparts, the Chinese SOE Shougang has fewer backward linkages throughout Peru as a whole but may have deeper local links than do its counterparts.
Market Competition	No	N/A
Technology transfer	No	N/A
Resource curse	Gonzalez-Vicente (2011)	Resource curse is a phenomenon for Chinese companies as well as for companies from OECD countries.
Employment creation	No	N/A
Employment conditions	Irwin & Gallagher (2012)	Irwin and Gallagher (2012) find that Shougang, does not have outstanding violations of local labour standards and the wages are slightly lower than its OECD counterparts; yet Shougang does stand out among foreign companies in this area on serious accidents.
Local welfare	No	N/A
Environment	CIRAD (2012)	CIRAD (2012) discusses the CNPC's Rônier project and the World Bank-supported Doba project undertaken by a U.S. company, and finds that the Rônier project appears to carry manageable environmental risks, and its positive and negative local impacts are likely to be much weaker than Doba's.
Governance	No	N/A

The majority of the literature reviewed discusses the impacts from Chinese investors alone, without comparing with investors from other countries, and then implies that Chinese companies have this particular impact on host economies. For example, based on the empirical study on Chinese private investments in Africa, Gu (2009) provides some potential explanation for the limited local sourcing linkages: the absence of local networks of specialized suppliers or, where they do exist, the high cost and often poor quality of goods, etc. Research like this fails to compare with investments from OECD and other non-OECD countries, and we cannot tell whether this limited local sourcing is a problem linked to only Chinese investors, or it is actually common to all ODI investors.

Four English sources (CIRAD, 2012; Irwin & Gallagher, 2012; Jenkins & Dussel-Peters, 2009; Kotschwar et al., 2012) and two Spanish sources (Dussel Peters, 2014; Schatan & Piloyan, 2014)



conducted comparative studies of the impacts of Chinese companies on companies based in other countries. These comparative analyses of Chinese impacts and impacts from others (especially OECD and BRICS member countries) are limited in number but especially valuable. Researchers either focus on a general strategy or impact comparison (Irwin & Gallagher, 2012; Kotschwar, Moran & Muir, 2012; CIRAD, 2012), or focus on a specific impact issue, such as Dussel Peters (2014) focusing on the local linkages. Another type of comparative research, for example in Schatan and Piloyan (2014) and Jenkins and Dussel Peters (2009), is a cross-geographical comparison, which is especially valuable in understanding the host environment's influence on Chinese companies' behaviours.

4.4 RECOMMENDATIONS FOR FUTURE RESEARCH

The following research areas under this reviewed topic are rarely covered based on our exploration, collection and analysis, and, therefore, future research is suggested in these areas:

- Comparative studies, as discussed in the paragraph above, are still very limited, and future research is recommended that focuses on comparing Chinese investments to those of OECD countries, as well as from emerging donors such as BRICS countries (Brazil, Russia, India, China and South Africa). Moreover, cross-geography (i.e., comparing Chinese investments in to different countries, and evaluating the host country's influence to the investment impacts), cross-industry and even cross-time comparative analyses are also valuable in understanding the impacts of Chinese investments.
- We also recommend studies on the learning curve of Chinese companies (i.e., from the corporate strategy level and from policy level), how Chinese companies and government have changed over the years, and the drivers for the changes. Through our research, time comparison research is very limited, if it exists at all.
- In terms of geographical areas and industries, from the landscape of the literature, we find that the African region and the natural resource sector have received the most research attention, while limited research is identified on Chinese investments in Asian countries and the manufacturing industry, as well as the studies on Chinese development financiers (partly because the data available are limited). Future research should also focus on these areas.
- Chinese private firms and immigrant entrepreneurs have attracted some research attention in the past years. Gu (2009), for instance, estimates the number of Chinese private firms in Africa to be more than 2,000, predominantly operating in manufacturing and trade; Brautigam's (2008) research into Chinese private firms in Mauritius emphasizes the importance of Chinese ethnic links and the long histories of Chinese presence in the country. Dobler (2005), Mohan and Kale (2007) and Mohan and Power (2008) discuss a large and almost entirely unrecorded number of Chinese individuals who operate as small-scale entrepreneurs in selected countries, for example, in Angola, Namibia and Madagascar. They operate predominantly in small-scale trade and petty manufacturing. Despite this research, the nature and behaviour of Chinese private companies and the role of Chinese residents and immigrants overseas still beg more research attention. More specifically, future research is recommended on the nature and behaviour of China's private firms and if they act differently than the SOEs, or are treated differently by the Chinese state or overseas governments. In addition, how do Chinese residents or immigrants arrive, adapt, relate? Do they keep to Chinese ethnic communities and associations, or integrate into local organizations, for example business leadership groups, schools or social clubs? And what are immigration policies towards them: are they welcomed or spurned?
- Studies of specific Chinese firms across different countries and regions, as well as back home, should be undertaken. Follow-up studies on, for example, the CNPC case (Box 5) would be very interesting and valuable.



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