WORKING PAPER

Sino-Mozambican relations and their implications for forests

A preliminary assessment for the case of Mozambique

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Sawn mill in Pemba, Cabo Delgado Province, Mozambique.

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Abbreviations

AAC	Annual allowable cut
CCFB	Companhia dos Caminhos de Ferro da Beira (Beira Railway Corporation)
CFM	Portos e Caminhos de Ferro de Moçambique (Mozambique Ports and Railways)
CIFOR	Center for International Forestry Research
CIP	Centro de Integridade Publica (Centre for Public Integrity)
CPI	Centro de Promoção de Investimentos (Centre for Investment Promotion)
DFID	Department for International Development (UK)
DNFFB	Direção Nacional de Florestas e Fauna Bravia (National Directorate of Forests and Wildlife)
DNTF	Direção Nacional de Terras e Florestas (National Forestry and Land Directorate)
DUAT	Direito de Uso e Aproveitamento da Terra (land use and exploitation right)
EAS	Estudo Ambiental Simplificado (simplified environmental study)
ECA	Export credit agencies
EIA	Environmental impact assessment
EIU	Economist Intelligence Unit
EXIM	Export-Import
FDI	Foreign direct investment
FIAN	FoodFirst Information and Action Network
FOCAC	Forum on China-Africa Cooperation
FONGZA	Forum das Organização Não-Governamental da Zambézia (Forum of Non-governmental Organisations in Zambézia)
FRELIMO	Frente de Libertação de Moçambique (Liberation Front of Mozambique)
GDP	Gross domestic product
IESE	Instituto de Estudos Sociais e Economicos (Institute for Social and Economic Studies)
IFC	International Finance Cooperation
IIAM	Instituto de Investigaçao Agrária de Mozambique (Mozambican Institute of Agrarian Research)
IMF	International Monetary Fund
INE	Instituto Nacional de Estatística (National Statistics Institute)
IPEX	Instituto para a Promoção de Exportações (Institute for Export Promotion)
JSPL	Jindal Steel and Power Ltd
MADEM	Madeira Moçambique
MICOA	Ministry of Coordination of Environmental Affairs
MIREME	Ministério de Recursos Minerais e de Energia (Ministry of Mineral Resources and Energy)
ODA	Official development assistance
OECD	Organisation for Economic Co-operation and Development
ONG	Organização Não-Governamental (Non-governmental organisation)
ORAM	Associacao Rural de Ajuda Mutua (Rural Association for Mutual Support)
SADC	Southern African Development Community
SME	Small- and medium-scale enterprises
SUNAFOP	Support to National Forestry Program
UNCTD	United Nations Conference on Trade and Development
USAID	United States Agency for International Development
WTO	World Trade Organization
WWF	World Wildlife Fund

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Summary

Recent years have witnessed the growing diplomatic and economic presence of China in Africa. From the establishment of the Forum on China-Africa Cooperation and state policies designed to strengthen diplomatic, cultural and economic relations with African nations, to the rapid growth in Chinese foreign direct investment (FDI) and bilateral trade, this relationship is likely to continue playing a defining role in African economies. These trends present important opportunities for African nations who see this relationship as an opportunity to catalyse much needed investments in infrastructure and industry, and to stimulate job creation and exports. At the same time, however, it has raised concerns with civil society and traditional development partners alike – who question whether the lack of transparency or conditionality in lending will undermine long-term development through increased indebtedness, imported labour, competition with African goods or through resource depletion or by slowing advances in governance.

This report, and the project in which it is embedded, sheds light on this debate. It presents a comparative analysis of patterns of investment, trade and aid with Chinese and other 'development partners', and their social, economic and environmental implications in key sectors shaping African forests (agriculture, forestry and mining). Towards this goal, this report explores the diplomatic and economic relations between China and Mozambique – including key patterns of Sino-Mozambican trade and investment in sectors of interest. The report provides a means of identifying trends of importance to forests and exploring key themes for future research. Portions of this report are already published in a regional review of patterns of aid, trade and investment in the priority sectors (German *et al*. 2011).

The findings suggest that the Chinese government provides significant levels of finance to the Mozambican government. The majority of this financial support is in the form of project-based loans, followed by grants and small volumes of debt and emergency relief. The preference for project-based lending runs counter to recent wisdom, which suggests that budget support is more in the interests of the recipient country as it enhances efficiency, accountability, debt sustainability and alignment with national development priorities. Bilateral trade between China and Mozambique has also seen a sharp and steady increase for most products in the last decade. Mozambican imports from China are dominated by manufactured goods (vehicles and parts, electrical appliances, iron and steel articles). Chinese imports from Mozambique consist primarily of wood and wood products, sesame, heavy mineral sands and rare earth ores and concentrates, followed by smaller shares of copper, iron, chromium and cotton.

Chinese private and state-owned firms have also gained substantial influence in the country through FDI. From 2001 to 2010, 66 projects, worth USD 216 million and funded with Chinese capital, were registered with the Mozambican investment promotion authority. These projects are in all sectors except mining – mining projects are registered with the Ministry of Mines. The majority of these investments, both in number (62%) and value (USD 166 million), are concentrated in the manufacturing sector. The two largest Chinese (state-owned and private) investments in the mining sector are alone worth USD 835 million, so this is clearly the sector with the greatest investment capital. While FDI in the Mozambican mining sector originates primarily from non-Chinese sources (Brazil, India, Australia), many Chinese individuals and firms are involved in prospecting – suggesting a growing presence. There were also unconfirmed reports of illegal mining activities with Chinese capital, which were said to be mostly small-scale and opportunistic. The bulk of Chinese FDI is concentrated in Maputo Province (81.4% by value), with the forest-rich northern provinces (Cabo Delgado, Niassa, Nampula) only accounting for 1.29% of all Chinese FDI inflows during the period. The latter were intended primarily for the agro-industrial sector, including jatropha cultivation and timber processing. Yet Chinese capital is noticeably absent in the recent surge of large-scale investments in plantation forestry for pulp and paper. Many Chinese firms have also proved successful in

out-competing domestic and foreign firms for public tenders while also reportedly benefiting from tied loans and aid.

Following a deeper look into the priority sectors, the presence of Chinese firms in the forestry sector, and their related impacts on forests, stand out. Mirror statistics on trade show a high divergence in timber exports reported by Mozambique and imports reported by China, both by value and composition (e.g., the proportion of logs vs. processed timber). With the presumed greater accuracy of Chinese customs data and the value of Mozambican timber imports reported by China far exceeding the value of exports reported by Mozambique to all trade partners, one can assume a sizeable loss of tax revenue from the Sino-Mozambican timber trade. While there is also a possibility that a share of this discrepancy results from timber that is transferred through Mozambique from neighbouring countries, it remains to be verified why this timber would not carry a label from its country of origin when being re-exported. With a strong market pull in China to import unprocessed logs and weak law enforcement in Mozambique, the bulk of timber exported to China remains in the form of unprocessed logs despite national policies requiring value-added processing prior to export. However, with aggregated official trade statistics as the main basis for analysis, there is currently a limited understanding of how different firms have responded to the 2007 regulations tightening restrictions on log exports.

Various sources indicate a marked shift in the business models used by the Chinese actors in the forestry sector from the 1990s to the present. The original model, employed exclusively in the 1990s and still prevalent in some locations, was for Chinese actors to work indirectly through Mozambican nationals (as timber traders and exporters, buying timber from Mozambican loggers holding simple licenses). More recently, respondents observed a notable shift from exclusive operation as timber traders in partnership with simple license holders to greater involvement in forestry concessions. This trend corresponds to an official policy stance favouring concessions over simple licenses. However, with intermediaries reportedly engaged in timber harvesting in Chinese concession areas, this does not necessarily mean a greater presence of Chinese firms in everyday forest management. Published literature and anecdotal evidence suggest high levels of illegality and unsustainable forest management practices by Chinese firms. However, several independent lines of evidence point to a number of structural factors undermining sustainable forest management which are related to weak governance and the characteristics of the forest resource itself, which presumably presents constraints to all operators. More in-depth analysis is needed to understand the extent to which observed patterns and behaviours are common to all economic operators. Further research is also needed to determine whether any unique features result from the particular influence of the Chinese market or official patterns of bilateral cooperation or from sets of behaviours that are unique to specific economic operators – and the implications for revenue generation, local livelihoods and forests.

While Mozambique exports significant amounts of sesame and cotton to China, these crops are largely grown by Mozambican smallholders. While we do not expect to find issues more worthy of in-depth inquiry than the forestry sector, more research is needed to explore the extent to which Chinese capital is involved in financing these operations, where Chinese actors enter the marketing chain and whether there are interesting questions for further research. As for the mining sector, the entry of Chinese firms is too new to merit a comparative assessment of social and environmental impacts at this time.

Resumo

Os anos recentes testemunharam a crescente presença diplomática e econômica da China na África. Desde a criação do Fórum para a Cooperação China-África e políticas estaduais com o objetivo de fortalecer as relações diplomáticas, culturais e econômicas com as nações Africanas para o rápido crescimento do investimento externo direto Chinês e do comércio bilateral, é provável que esta relação continue a desempenhar um papel decisivo nas economias Africanas. Estas tendências apresentam importantes oportunidades para as nações Africanas que vêem essa relação como uma oportunidade para catalisar tão necessários investimentos em infra-estrutura e indústria, e para estimular a criação de empregos e exportações. Ao mesmo tempo, no entanto, isso tem levantado preocupações da sociedade civil e parceiros de desenvolvimento tradicionais - os quais questionam se a falta de transparência ou de condicionalidade na concessão de empréstimos irá prejudicar o desenvolvimento a longo prazo por meio do aumento no endivídamento, mão-de-obra importada, a concorrência com produtos Africanos ou a depleção de recursos, ou pela desaceleração nos avanços em governança.

Este relatório, e o projeto no qual está inserido, tem como objetivo realçar este debate através de uma análise comparativa dos padrões de investimento, comércio, e ajuda com a China e outros "parceiros de desenvolvimento", e suas implicações sociais, econômicas e ambientais em setores chave que moldam as florestas Africanas (agricultura, silvicultura, mineração). Para atingir este objetivo, este relatório analisa as relações diplomáticas e econômicas entre a China e Moçambique, incluindo os principais padrões do comércio e do investimento Sino-Moçambicano em sectores de interesse, como um meio de identificar as tendências de importância para as florestas e explorar temas chave para pesquisas futuras. Partes deste relatório já foram publicadas em uma revisão regional dos padrões de ajuda, comércio e investimento em setores prioritários (German *et al*. 2011).

Os resultados sugerem que o governo Chinês fornece níveis significativos de financiamento para o governo Moçambicano, a maior parte na forma de projetos baseados em empréstimos, seguido por doações e pequenos volumes de alívio de dívida e ajuda emergencial. A preferência por empréstimos canalizados por projetos vai contra a recente visão sugerindo que o apoio ao orçamento é mais centrado nos interesses do país receptor, aumentando a eficiência, a responsabilidade, a sustentabilidade da dívida e o alinhamento com as prioridades nacionais de desenvolvimento. O comércio bilateral entre a China e Moçambique também tem apresentado um aumento acentuado e constante na última década para a maioria dos produtos envolvidos. As importações Moçambicanas provenientes da China são dominados por produtos manufaturados (veículos e peças, aparelhos elétricos, e artigos de ferro e de aço), enquanto as importações Chinesas de Moçambique consistem principalmente de madeira e produtos de madeira, gergelim, areias pesadas e minérios de terras raras e concentrados, seguidos em menor proporção por cobre, ferro, crómio e algodão.

Empresas privadas e estatais Chineses também ganharam uma influência substancial no país através do investimento directo estrangeiro. De 2001 a 2010, 66 projectos com capital Chinês no valor de 216 milhões de dólares Americanos foram registados junto da entidade Moçambicana de promoção de investimentos em todos os sectores, excepto à mineração (os quais são registrados no Ministério de Minas). A maioria desses investimentos, tanto em número (62%) como em valores (166 milhões de dólares), estão concentrados no setor manufactureiro. Mesmo com os dois maiores investimentos Chineses (estatais e privados) no sector de mineração sózinhos valendo 835 milhões de dólares Americanos, este é claramente o setor com maior investimento de capital. Embora o IED no sector de mineração de Moçambique origina-se principalmente a partir de fontes não-Chineses (Brasil, Índia, Austrália), muitos indivíduos e empresas Chinesas estão envolvidas na prospecção - o que sugere uma presença crescente. Houve também relatos não confirmados de actividades de mineração ilegal com capital Chinês, dos quais foi dito que a maioria era de pequena escala e oportunista. A maior parte do IED Chinês está

concentrada na Província de Maputo (81,4% do valor), com as províncias do norte ricas em florestas (Cabo Delgado, Niassa, Nampula) contabilizando apenas 1,29% de todos os fluxos de IED Chinês durante o período. Estes últimos foram destinados principalmente para o sector agroindustrial, incluindo o cultivo de jatropha e o processamento da madeira. No entanto, o capital Chinês é visivelmente ausente na recente onda de grandes investimentos em plantações florestais de papel e celulose. Muitas empresas Chinesas também têm sido bem sucedidas em suplantar as empresas nacionais e estrangeiras concorrentes em ofertas públicas e ao mesmo tempo supostamente beneficiar-se de empréstimos vinculados e ajuda.

Após um olhar mais profundo em sectores prioritários, a presença de empresas Chinesas no setor florestal e seus respectivos impactos sobre as florestas se destacam. Estatísticas espelhadas sobre o comércio mostram uma alta divergência entre as exportações de madeira relatadas por Moçambique e as importações declaradas pela China, tanto em termos de valor e composição (por exemplo, proporção de madeira em torros versus processada). Com a presumida maior precisão dos dados aduaneiros Chineses e com o valor das importações de madeira de Moçambique pela China muito superior aos valores das exportações relatados por Moçambique para todos seus parceiros comerciais, pode-se supor uma perda considerável de receita fiscal pelo comércio de madeira Sino-Moçambicana. Embora exista também a possibilidade de que uma parte dessa discrepância seja devida à madeira que é transferida através de Moçambique a partir de países vizinhos, ainda fica em aberto a questão de porque esta madeira não levaria uma etiqueta do seu país de origem aquando da sua reexportação. Com uma forte demanda de mercado na China para importar torros não processados e insuficiente aplicação da lei em Moçambique, a maior parte da madeira exportada para a China permanece na forma de torros não processados, apesar da existência de políticas nacionais que exigem o processamento com agregação de valor antes de exportar. No entanto, com estatísticas de comércio oficiais agregadas como a principal base para a análise, actualmente há uma compreensão limitada de como diferentes empresas têm respondido a regulamentos de 2007 apertando as restrições às exportações de torros.

Várias fontes indicam uma mudança acentuada em modelos de negócios utilizados por actores Chineses no setor florestal a partir da década de 1990 até hoje. O modelo original, aplicado exclusivamente durante a década de 1990 e ainda prevalente em alguns lugares, refere-se a um em que os actores Chineses trabalham indiretamente por meio de cidadãos Moçambicanos (como comerciantes de madeira e exportadores, que compram madeira proveniente de madeireiros Moçambicanos). A maioria destes atores Moçambicanos são titulares de licenças simples e até recentemente recebiam financiamento de empresas Chinesas. Mais recentemente, uma mudança foi observada a partir da operação exclusiva como comerciantes de madeira em parceria com os titulares de licença simples para um envolvimento mais recente em concessões florestais. Esta tendência corresponde a uma postura da política oficial que favorece concessões ao invés de licenças simples. No entanto, com intermediários supostamente envolvidos na extração de madeira em áreas de concessão de Chineses, isso não significa necessariamente uma maior presença de empresas Chinesas no cotidiano do maneio florestal. Evidências da literatura publicada e de anedotas sugerem níveis elevados de ilegalidade e práticas não sustentáveis de gestão de florestas por empresas Chinesas. No entanto, várias linhas independentes de evidência apontam para uma série de factores estruturais que comprometem a gestão florestal sustentável, relacionado à má governação e às características do recurso florestal propriamente dito, as quais presumivelmente apresentam restrições para todos os operadores. Uma análise mais aprofundada é necessária para compreender em que medida os padrões e comportamentos observados são comuns a todos os operadores econômicos. Mais pesquisas são também necessárias para se determinar algum resultado específico derivado da influência particular do mercado Chinês ou de padrões oficiais da cooperação bilateral, ou de conjuntos de comportamentos que são exclusivos de um determinado operador econômico - e as implicações para a geração de receitas, modos de vida locais e florestas.

Enquanto Moçambique exporta quantidades significativas de gergelim e algodão para a China, estas culturas são amplamente cultivadas por

pequenos produtores Moçambicanos. Embora não esperamos encontrar questões mais dignas de investigação em profundidade do que o sector florestal, mais pesquisa é necessária para explorar a medida em que o capital Chinês está envolvido no financiamento destas operações, onde os actores Chineses entram na cadeia de comercialização, e se existem questões interessantes para futuras pesquisas. Quanto ao sector de mineração, a entrada de empresas Chinesas é muito incipiente para merecer uma avaliação comparativa dos impactos sociais e ambientais neste momento.

1. Introduction

In 1992, Mozambique emerged from 15 years of civil war which had left the economy and infrastructure in a shambles. Since then, the country has experienced rapid economic growth, with annual growth rates averaging 8%. This was the result of a number of factors including 'catch-up' following the civil war, macroeconomic stability (low inflation rate, sustained stability of the national currency) and, since 1999, the effect of a few capital-intensive mega-projects on revenue generation and balance of trade[1]. Yet Mozambique is a capital-scarce country, relying on foreign capital (aid and FDI) to finance the transformation of its economy[2]. Some argue that this high level of dependence on foreign capital, particularly for private sector investment, has resulted in an economy overly driven by outside markets and interests and an inherent tension between combating poverty and wealth generation.[3] Indeed despite the impressive rates of growth in macroeconomic indices, Mozambique remains one of the poorest countries in the world, ranking 184th out of 187 countries on the Human Development Index in 2011[4]. Recent assessments suggest that gains in macroeconomic indices have been slower in leading to more widespread benefits in Mozambique than in other African countries at a similar level of social and economic development[5].

Such challenges are not unique to any particular trade and development partner, but do shape the public discourse over China's growing influence in the country. In recent years, China has displayed a strong interest and commitment to engage with African countries as trade partners, markets for its goods and services and as suppliers of much needed natural resources.[6] This relationship has been consolidated in recent years, and Mozambique is no exception. The Chinese government has used its large volumes of foreign exchange earnings to finance large infrastructure projects. Chinese firms have quickly consolidated their presence by out-competing domestic and foreign firms in public tenders, benefiting from tied aid[7] and independently exploiting economic niches. China's growing presence in the country has been acknowledged as both an opportunity and a concern given their relatively unique approach to political and economic cooperation, competition with domestic firms and reports of loose labour and environmental practices[8].

This report, and the project in which it is embedded, sheds light on this debate through a comparative analysis of patterns of aid, trade and investment with China and other 'development partners', and their social, economic and environmental implications in the key sectors shaping African forests (agriculture, forestry and mining). Towards this goal, this report explores the diplomatic and economic relations between China and Mozambique – including key patterns of Sino-Mozambican aid, trade and investment in sectors of interest – as a means of identifying trends of importance to forests. It also explores key themes for future research.

1 AFRODAD (2007); World Bank (2010b).

2 World Bank (2010b).

3 De Brito *et al.* (2010); CIFOR interview with Maputo-based researcher, 22 Nov. 2010.

4 See: http://hdr.undp.org/en/media/HDR_2011_EN_Table1.pdf (18 Nov. 2011).

5 Castel-Branco (2010); Arndt *et al.* (2005).

6 AFRODAD (2007).

7 The U.S. Export-Import Bank defines tied aid as, "… government-to-government concessional financing of public sector capital projects in developing countries." It often requires the recipient government to purchase goods and services from the donor government or donor country firms. See: http://www.exim.gov/products/policies/appendix-h-01.pdf (5 Mar. 2012).

8 AFRODAD (2007); Mackenzie and Ribeiro (2009).

2. Background

2.1 Brief history of Chinese influence in Mozambique

Sino-Mozambican relations have a long history, initiated during Mozambique's independence struggle with Portugal when China provided guerrilla training, military equipment and financial support to the Liberation Front of Mozambique (FRELIMO) (Chichava 2008). Shortly after Mozambique's independence in 1975, the two countries established diplomatic relations, which remained intact during the 1977-1992 'civil' war, and have intensified since the peace accord in 1992 (Janssen and Kiala 2009). Following the end of the war, Chinese economic actors, such as construction companies and timber merchants, were among the first to re-enter the country.

With a current account surplus of USD 253.3 billion in 2009, China has been able to achieve a foreign exchange reserve of USD 2.3 trillion, the world´s largest. Around 50% of this huge reserve is being invested in American bonds, while the remainder supports:

- The Chinese health and social security systems
- The solvency of Chinese banks
- The internationalisation of the Chinese economy
- Investment in geostrategic positioning to guarantee energy independence
- Foreign aid to developing countries (Ilhéu 2010).

By 2010, China was predicted to become the biggest international public financial player in developing countries (Rich 2007). This financial capacity, together with what has been called a 'collaborative state-business approach to foreign policy' (Edinger 2008), has rapidly expanded official development assistance (ODA) to Mozambique as well as the presence of Chinese firms in Sino-Mozambican trade, FDI and public tenders for infrastructure (Luo *et al*. 2010).

In 2008, China became Mozambique's second largest foreign investor with USD 76.8 million worth of investment, following South Africa at USD 136 million (Janssen and Kiala 2009). Chinese ODA, largely in the form of loans, has helped to finance a number of large infrastructure projects, and Chinese firms have been increasingly successful in competing for public tenders. Chinese foreign investment has also been on the rise, most notably in the mining and construction sectors, as can be seen below. Bilateral trade has grown apace. A number of bilateral agreements have supported the consolidation of Chinese influence in Mozambique, among these[9] are:

2001 Trade Agreement and Agreement on the Promotion and Reciprocal Protection of Investment

2002 Agreement on human resource development, agriculture and environmental protection

2004 Economic and technical cooperation agreement for agriculture, health, education and mining

2007 Agreement to strengthen bilateral trade and economic relations for the period 2008-2009

2007 Joint Communiqué between the People's Republic of China and the Republic of Mozambique for mutual support on issues concerning national sovereignty and territorial integrity

2009 Military assistance protocol for military cooperation

2010 Bilateral cooperation agreement involving development aid and FDI.

These fall within a wider framework for China-Africa Cooperation – the Forum on China-Africa Cooperation and the Forum on Economic and Trade Cooperation between China and Portuguese countries. Under the latter, bilateral trade and investment protection agreements, duty free treatment and debt relief are being extended across the continent[10].

9 Bosten (2006); Economist Intelligence Unit (2010); Janssen and Kiala (2009); SADC (2010).

10 Chinese Academy of International Trade and Economic Cooperation (2010); see also: www.focac. org/eng/ and http://www.cadfund.com/en/Column.asp?ColumnId=21 (4 Feb. 2011).

2.2 Governance of FDI and corporate practice

This section explores three sets of mechanisms governing FDI and corporate practices in Mozambique – those governing trade and investment, those governing land access and those designed to minimise the social and environmental costs of trade and investment.

Investment and the trade regime

Investment

Foreign and domestic investment in Mozambique is regulated by the 1993 Investment Law and its accompanying regulations[11]. The government has carried out a number of reforms to enhance the attractiveness of Mozambique as an investment destination. These include:

- Establishment of the Centre for Investment Promotion (CPI) as a one-stop shop for investors
- Simplification of company licensing processes
- New labour laws to make the labour market more flexible and reduce labour related costs
- Strengthening investor protections
- Provisions for the free movement of capital
- Revised tax codes, including major concessions for large-scale projects and mining sector reforms[12].

Strong international advertising campaigns designed to attract investors and the recent establishment of so-called 'mega-projects' have also enhanced confidence among investors as well as stimulated interest in the country as an investment destination.

Investment incentives are governed by the Code of Fiscal Benefits, Law No. 4/2009. The standard tax regime includes an individual income tax of up to 32%, corporate income tax of 32%, value-added tax of 17%, customs duties of up to 20%, dividends, interests and royalties of 20%, excise taxes of up to 75% and additional taxes levied by local governments[13]. However, a wide range of fiscal incentives means that the actual taxation varies considerably from this baseline. Companies registering with the CPI gain additional benefits, both general and sector-specific. The former include tax incentives (rate reductions, accelerated depreciation, investment tax credits), the right to repatriate profits and exemptions from customs duties. The agriculture and mining sectors each have their own unique incentives, as do various categories of special economic zones[14]. Most noteworthy are the Rapid Rural Development Zones – geographic areas with significant natural resource potential, but lacking in infrastructure and with weak economic activity. These currently include all of Tete, and large parts of Zambézia, Sofala and Manica Provinces. In these designated areas, agricultural and forestry operations, transport and trade infrastructure and selected other activities are eligible to an investment tax credit of 20% for five years and exemptions from customs duty and VAT on certain imported goods[15].

A number of factors currently undermine the country's ability to capitalise on FDI as an engine of economic development. These include

- Provisions for foreign investors to fully repatriate profits indefinitely
- The ability of foreign investors to invest in most areas of the economy (including activities requiring low investment levels) and thus compete with domestic industries
- Tax evasion
- The tendency of the incentive system to encourage investments in large, capital-intensive and export-oriented investments rather than stimulate domestic investment[16]
- The predominant influence of foreign over domestic capital in private sector investments[17].

Indeed, considering the actual performance of Mozambique's mega-projects to date, relatively few jobs have been created, limited tax revenue has been

11 CPI (no date).

12 AFRODAD (2007); CPI (no date); World Bank (2010a).

13 CPI (no date); World Bank (2010b).

14 CPI (no date). The 2007 legislation on the fiscal regime for mining set special surface taxes and royalties, while retaining the general income tax rate of 32% (Mabica, no date).

15 SADC (2010).

16 A World Bank study found tariff revenue on the one-third of imports consisting of the largest flows to be only 41% of potential revenue, and that for the one-third of imports consisting of the smallest flows to be in the order of 90% of potential. For the VAT, the numbers were 56% and 87%, respectively (World Bank, 2010b).

17 AFRODAD (2007); Castel-Branco (2010); World Bank (2010b). According to Castel-Branco (2010), 85% of all private sector investment over the past 15 years was foreign.

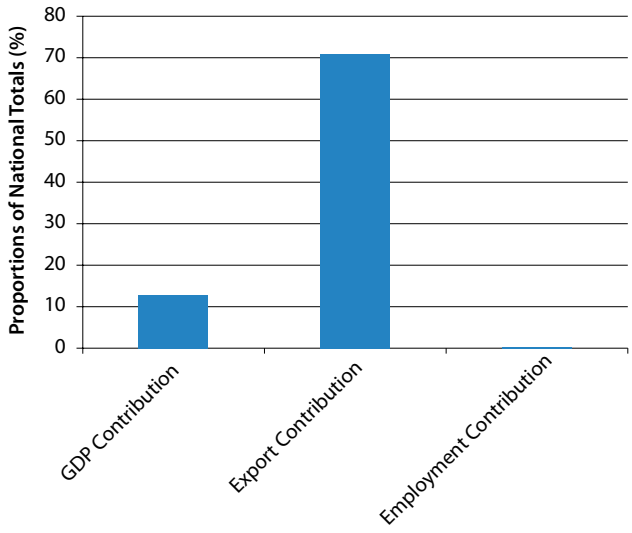


Figure 1. Contribution of four existing mega-projects to key economic indices

Source: World Bank (2010b), drawing on data from the Bank of Mozambique

generated and limited profit reinvestment has taken place because of these generous fiscal incentives[18]. Figures from four established mega-projects show much lower contributions to national employment than other macroeconomic indices (Figure 1). One study on the effects of recent economic growth (largely driven by selected mega-projects) found a disproportionate and declining relationship between economic growth and poverty reduction, with GDP having to grow 3.6% and 7.9% for poverty indices to be reduced by 1% in the 1997-2002 and 2003-2008 periods, respectively[19]. With another 11 mega-projects in the planning stage, this poor performance is of critical concern.

While the World Bank once pushed for generous incentives for investors, their current assessments suggest that special incentives for capital-intensive projects are no longer warranted[20]. A revised Fiscal Benefits Code (2009) envisages that future mega-projects should get the same investment incentives as other investments. However, the administrative process to access fiscal benefits continues to discriminate against smaller investments that tend to be more labour intensive[21]. While a bilateral investment treaty between China and Mozambique was signed in 2001 and entered into effect in February, 2002[22], the report is not publicly available on the UN Conference on Trade and Development website[23] and we have not acquired information on the provisions therein.

Trade

The Instituto para a Promoção de Exportações (IPEX) is the body responsible for trade promotion in Mozambique. Its role covers the identification and advice to exporters and investors on market access opportunities and export-related logistical services (SADC, 2010). The most important export promotion strategy is the Industrial Free Zones, applicable only for those investments for which at least 85% of annual production is destined for export (SADC 2010). While these zones qualify investors for exemptions from customs duties and generous reductions in corporate income tax, activities involving the exploration and extraction of natural resources are ineligible. Other special economic zones, for which sectors of interest are eligible, are covered in the *Investment* section, above. Mozambique does not provide any export subsidies (SADC 2010). However, the 2009 Code of Fiscal Benefits grants exemption from customs duties and VAT to imported goods which are not produced in Mozambique or do not satisfy the specific characteristics for the purpose required (with a few exceptions) for the first five years of implementation and for which there are no import quotas (SADC 2010).

Mozambique has entered into a number of bilateral agreements which have shaped opportunities for bilateral trade. The African Growth and Opportunity Act grants Mozambique duty- and quota-free access to the US market for about 6400 products until 2015. In addition, Mozambique signed a Trade and Investment Framework Agreement with the US for bilateral consultations on trade and investment

18 World Bank (2010b).

19 Castel-Branco (2010). According to a World Trade Organization (WTO) report, high levels of economic growth in the country in the 2000s has been driven largely by FDI in mega-projects and public spending financed in large part by foreign aid (WTO, 2008).

20 World Bank (2010b).

21 World Bank (2010b).

22 SADC (2010) Mozambique: policy, plans and priorities. www.sadc.int/index.php/download_file/view/79/270/ (18 Nov. 2011).

23 See: http://www.unctadxi.org/templates/DocSearch.aspx?id=779 (18 Nov. 2011).

matters. Mozambique is also a signatory to the Cotonou Agreement, which provides preferential access to the EU market for 79 countries from Africa, the Caribbean and the Pacific[24]. As a member of the Southern African Development Community (SADC), Mozambique also plays a crucial role in enhancing regional trade and integration under the SADC Regional Indicative Strategic Development Plan. Under this integrated policy framework, Mozambique has embarked upon two development corridors linking its hinterlands and land-locked neighbouring states to the ports of Beira and Nacala. Important infrastructure improvement projects have been launched by the ministers of Zambia, Malawi and Mozambique to develop these transport corridors (SADC 2010). As a WTO member and Least Developed Country, Mozambique is a beneficiary of the Everything but Arms initiative, which provides duty free access to the EU for all products, except arms and ammunition[25]. While a 2010 report by SADC does not mention preferential trade agreements with countries other than Malawi and Zimbabwe, other reports highlight bilateral trade agreements with China dating to 2001 and 2007[26]. In 2001, the two governments also set up a joint Economic and Trade Commission[27].

It is also important to note that the country's geography raises a set of unique challenges for governance. With the country's capital and key institutions concentrated in the south, a 2470 km coastline and no working marine monitoring units or coastal protection vessels, there are many 'geographical opportunities' to circumvent the law[28]. This has already proven to be a significant constraint to the country's achievement of policy aims related to inward investment in value-added processing in the forestry sector. Yet according to several respondents, as well as a number of published reports, governance of FDI and corporate practice often boils down to conflicts of interest between public functions and private endeavours that are endemic in the country[29]. It remains to be seen how the recent influx of large-scale investments in the mining sector and related transport corridors to major ports will shape or be shaped by current instruments to govern trade.

Land acquisition procedures

The 1997 Land Law is the key piece of legislation governing land use and allocation procedures in Mozambique[30]. By law, land is the property of the state and cannot be sold or alienated. Rights to land in Mozambique are governed by the issuance of a Direito de Uso e Aproveitamento da Terra (DUAT) (land use and exploitation right), which are transferrable through inheritance. DUATs may be acquired

- Through land occupation by individuals or local communities following customary norms and practices
- Land occupation by Mozambican nationals who intend to use the land for at least 10 years
- Official authorisation of a request.

While customary land users may obtain a DUAT title, the absence of a title does not undermine the first two means of acquiring land rights. While DUATs intended for 'economic uses' (by foreign entities or market-oriented activities carried out by Mozambican nationals) are subject to a maximum period of renewal of 50 years, customary rights are not subject to such limits.

For all areas falling outside urbanisation plans, the authorising agency is determined by the size of the landholding, as follows:

- Less than 1000 ha – approved by provincial authorities
- Between 1000 ha and 10 000 ha – approved by the Minister of Agriculture and Fisheries
- Greater than 10 000 ha – approved by the Council of Ministers.

The titling process requires former approval by local administrative authorities, a community consultation to ensure the area is free and without occupants and a land use plan. The community consultation

24 See: http://ec.europa.eu/europeaid/where/acp/overview/cotonou-agreement/index_en.htm (18 Nov. 2011).

25 See: http://ec.europa.eu/trade/wider-agenda/development/generalised-system-of-preferences/everything-but-arms/ (18 Nov. 2011).

26 Bosten (2006); Janssen and Kiala (2009).

27 Bosten (2006).

28 CIFOR interview with the Head of Cooperation of an OECD member country, 4 Nov. 2010.

29 CIFOR interview with the Head of Cooperation of an OECD member country, 3 Nov. 2010; CIFOR interview with the director of a Maputo-based NGO, 25 Nov. 2010.

30 República de Moçambique (1997b).

is carried out by representatives of the Cadastral Services unit, the district administrator and the local communities and it is intended to involve a highly participatory delineation process.[31] The result (sketch map and descriptive report) has to be written up and must carry the signatures of between three and nine community members, all of whom must be title holders and include those occupying neighbouring properties. Thus, the law gives communities a veto power over land access by investors[32]. Mining licenses are an exception to the rule, involving compensation duties, but no community consultation.

Those holding titles are subject to an authorisation tax and annual land taxes[33], with preferential tax rates for Mozambican citizens. DUATs are free for family or local communities operations and small-scale agricultural cooperatives and associations.

Foreign entities may obtain a DUAT, provided they either reside in Mozambique for at least five years (if individuals) or are registered in Mozambique (if a collective). Once an application for a DUAT has been submitted, a provisional authorisation for no more two years[34] is issued, allowing land developments to begin. After this period, a title is issued. However, should exploitation plans not be carried out by the end of the period of provisional authorisation without a valid justification, or if fiscal obligations are not met, the provisional authorisation may be revoked without indemnity. If such rights are revoked because of non-compliance or non-extension of the title, such rights return to the state.

The 1997 Land Law is considered by many to be exemplary for the innovative ways with which it deals with customary tenure and for balancing the rights of customary land users with those of investors[35]. However:

> "Ten years after its approval, it is clear that its implementation is weak, and that the reality on the ground is one of extensive extra-legal land markets, multiple claims to the same pieces of land, and a lack of guidance on how to protect or compensate customary and good-faith occupation rights. This has led to extensive land speculation and corruption potentially leading to land conflicts and landlessness in the future." (World Bank 2010b. p. 15).

A number of recently published reports highlight a host of irregularities in land acquisition, the majority associated with the community consultation process. They include:

- Bypassing the community consultation process or falsifying consultation reports
- Token or poor quality consultation processes (including refusal by government technicians or intermediaries to honour community boundaries)
- Consultation with only a fraction of the affected households
- Corrupt consultations in which local leaders receive bribes to consent to land allocations, including the allocation of occupied land
- Authorisation of land transfers by local leaders despite widespread objection by the affected communities
- Utilisation of maps by intermediaries at a scale that does not enable the location of community lands to be pinpointed
- Failure to record titles within affected areas
- The approval of title applications without recorded consultations
- Consultation by local authorities without the awareness of district officials
- Limited understanding among affected communities of what is being given up
- Failure to verify that development plans are carried out before issuing definitive titles

31 According to the technical annex of the regulation of the land law (República de Moçambique, 2000), the delineation must involve men and women, representatives of diverse socio-economic groups and neighbouring communities. It starts with a participatory diagnostic in which the community talks about its history, land and natural resource uses, special occupation conditions, population dynamics and possible conflicts and methods of resolution. Various groups draw participatory maps, which are then integrated into a sketch map drawn on an official topographic map. A written report is compiled to describe in detail the boundaries of the community land based on identifiable landmarks (streams, roads, trees, stone piles). See also Hanlon (2002).

32 Hanlon (2002).

33 The regulations accompanying the land law set the provisional authorisation at MZN 600 000, the definitive authorisation at MZN 300 000 and the annual land tax at MZN 30 000 per ha (República de Moçambique, 1998).

34 For Mozambican nationals, the provisional title is for a period of five years.

35 Hanlon (2002); World Bank (2010b).

- Political pressure from higher level authorities to approve investments[36].

Civil society respondents also suggest that corruption is endemic at all levels, with people in positions of authority (military and party elites, district administrators) reportedly using their positions to secure land for their own benefit[37]. Yet there are also definitional problems, with many people making the mistaken assumption that underutilised land is vacant and key terms, such as 'consultation' and 'representative', not being defined in the legislation.

These difficulties highlight the risks associated with the rapid increase in demand for land and in the size of recent land requests[38]. In response to public concerns over the issuance of DUATs for large-scale investments, these were temporarily suspended in Maputo and Zambézia Provinces[39].

Social and environmental protection

The primary legislation related to social and environmental protection concerns the management of environmental and social effects associated with project development and the policies and legislation governing the management of production forests.

Environmental and social impact assessment and mitigation

The National Environmental Policy of 1995, the 1997 Lei do Ambiente and the 2004 regulations on environmental impact assessment and mitigation procedures are the primary pieces of legislation relating to the environmental impact of large-scale investments[40].

The 2004 regulations establish three categories of activities, for which different environmental impact assessment procedures are required:

1. Category A – for areas requiring resettlement, regions where there are conflicts over the use and distribution of natural resources, areas containing valuable resources, activities leading to more than 50 ha of deforestation, activities involving harvesting or degradation of more than 100 ha of native vegetation, conversion of agricultural land for commercial purposes or bringing areas of more than 100 ha back into intensive agriculture after five or more years without crops, extractive industries – requires a full environmental impact assessment (EIA)
2. Category B – activities that do not fall within Categories A or C – requires a simplified environmental study, or Estudo Ambiental Simplificado (EAS)
3. Category C – activities with negligible, insignificant, minimal or no impacts and with no irreversible impacts – must abide by the norms established through various environmental directives.

Both the EIA and the EAS require

- Public participation reports
- Articulation of how the plan fits into land use plans
- Identification and evaluation of environmental impacts
- An environmental management plan (including impact monitoring, environmental education and contingency plans in the case of accidents)
- Identification of the multi-disciplinary team that carried out the assessment.

The main differences are the EIA requirements to include

- A comparison and description of alternatives and estimated future impacts, with and without mitigation activities
- A mitigation plan
- Employment of only registered environmental impact consultants.

The evaluation criteria for EIAs include the

- Number of affected people and communities
- Ecosystems, plants and animals affected

36 Vermeulen (2010); FIAN (2010); Hanlon (2002); Overbeek (2010); Nhantumbo and Salomão (2010); Ribeiro and Matavel (2009); Sitoe (2009); Waterhouse *et al.* (2010).

37 CIFOR interviews with Maputo-based civil society actors, 24, 25 Nov. 2010.

38 CIFOR interview with Maputo-based staff of the Ministerio de Agricultura and the Departamento Nacional de Terras e Florestas, 24 Nov. 2010; CIFOR interview with Maputo-based staff of the Ministry of Agriculture's Direção de Economia, 25 Nov. 2010.

39 CIFOR interview with Maputo-based staff of Centro de Promoção da Agricultura (CEPAGRI), 30 Nov. 2010.

40 República de Moçambique (1997a; 2004).

- Size and location of the affected area
- Probability, nature, duration, intensity and significance of any impacts
- Direct, indirect, potential, net and cumulative impacts
- Reversibility of impacts.

The regulations give wide-ranging responsibilities to relevant environmental authorities. These include

- Coordination of the EIA process
- Evaluation and orientation of the revision of the EIA reports
- Authority to designate and preside over a Technical Evaluation Commission for all Category A projects
- Organisation of public consultations (and ensuring effective participation)
- Responsibility for ensuring environmental license material is available to the public
- Conducting (in collaboration with relevant bodies) monitoring and environmental audits to ensure compliance.

The Ministry of Coordination of Environmental Affairs (MICOA) is the entity responsible for the environmental licensing and monitoring of project activities. MICOA has an Environmental Auditing Department responsible for monitoring project implementation vis-à-vis the environmental management plans and an Environmental Inspection Department to follow up and prosecute offenders.

There is no comprehensive account of the effectiveness of these environmental controls. In theory, monitoring should occur at least once a year, but resource limitations means that in reality monitoring is less frequent and focused on larger projects. Despite provincial environmental protection offices, enforcement outside Maputo is more difficult[41]. Furthermore, Mozambique's unique history also has a profound effect on environmental controls. During the war, no environmental controls were in place, resulting in intense pressure on wildlife and forests (primarily for fuelwood). Furthermore, only since 2005 has a system of penalties been enacted and only since 2009 have they actually been applied. That year, a total of 10 penalties were applied across all sectors, two of these in agriculture and none in mining or forestry. To date, there have been no court cases to prosecute environmental crimes[42]. Thus, it has been entirely the responsibility of companies operating in these sectors to ensure their own compliance. According to the evaluation by the Inspector General of MICOA, the majority of large multinationals comply with the environmental laws.

Projects requiring a full EIA must identify mitigation measures, which are unspecified, but presumably require attention to the general evaluation criteria outlined in Article 8 of the Environmental Impact Assessment Regulations of 2004. Social criteria are limited to the 'number of people and communities affected' and a set of general criteria related to the significance of impacts. Labour standards also apply, and include standard legislation on minimum wage and working conditions, restrictions on short-term employment and a quota system for foreign staff – requiring that companies employ 10 to 20 Mozambican nationals for every foreigner employed, depending on the size of the company[43]. Despite these regulations, a number of respondents and written reports note workers' rights violations in the country[44]. Yet, while there is no requirement that investors engage in corporate social responsibility practices which finance social services and infrastructure, the larger mining companies have reportedly invested in housing, schools, hospitals, orphanages and water supplies[45]. Respondents, however, disagree over whether the housing supplied to the 2500 families resettled by the early mining houses in Tete Province (Riversdale, Vale) are of better or worse quality than those destroyed[46].

Forest management

In a bid to guarantee the sustainability of forest management in areas designated as production forests, two forest harvesting 'regimes' have been established – simple licenses and concessions.

41 CIFOR interview with Maputo-based staff of MICOA, 26 Nov. 2010.

42 CIFOR interview with Maputo-based staff of MICOA, 30 Nov. 2010.

43 Lei No. 23/2007; Ministerial Diploma 123/2006.

44 CIFOR interview with the Head of Cooperation of an OECD member country, 4 Nov. 2010; CIFOR interview with Maputo-based staff of the Ministerio de Trabalho, 25 Nov. 2010; AFRODAD (2007).

45 CIFOR interview with the Head of Cooperation of an OECD member country, 3 Nov. 2010.

46 Selemane (2009, 2010).

Table 1. Key features of the two forest harvesting regimes

Parameters	Simple License	Forest concession
Purpose	Commercial, industrial and energetic uses	Harvesting to supply industry
Eligibility	Restricted to Mozambican nationals	National and foreign individuals and companies
Validity	1 year	Renewable up to 50 years
Maximum volume	500 m^3	Unspecified
Maximum area	Unspecified	Unspecified; areas in excess of 20 000 ha must be approved by the Conselho de Ministros
Mechanisms to ensure sustainability	Topographic sketch; harvesting plan; simplified management plan (including preliminary inventory of species present, estimate of the quantity and quality of products to be harvested, estimated annual harvest, industrial and mechanical methods to be used); verification of production potential; simplified environmental license	Topographic map; forest inventories; specification of species and quantities to be harvested; management plan with delineation of annual harvesting blocks; environmental license
Mechanisms to enhance local benefits capture	Restricted to Mozambican citizens; community consultation; declaration of the number of jobs to be created and other benefits for local communities; 20% of the timber revenues generated in a simple license area are to be returned to the communities living near to that area	Negotiation of terms and conditions for harvesting with local communities (community consultations); survey of third party rights and plans to harmonise these concession activities; submission of plans for processing; declaration of the participation of and benefits to communities; harvesting quotas; installation of timber processing facilities prior to issuance of license; requirement to allow local subsistence uses in concession area; preferential hiring from local communities; 20% of the timber revenues generated in a concession area are to be returned to the communities living near to that area
Revenue generated	Harvesting fees; a [*cauçau*] equivalent to the value of the harvesting fee; and a 15% surcharge on the harvesting fees for reforestation purposes	Annual concession fees; harvesting fees based on volume and species (reduced for operators supplying a national industry), and a 15% surcharge on harvesting fees for reforestation purposes

Sources: Decreto 11/2003, altering Article 29 of the Lei de Florestas e Fauna Bravia; Ministry of Finance, 2010; República de Moçambique, 2002a

Interested operators are required by law to comply with the regulations and procedures that apply to the respective harvesting regime. The key features of each scheme are summarised in Table 1. In addition to these 'regulated' regimes, local residents can harvest forest resources at any time for subsistence purposes without paying fees, provided the resources do not leave the administrative post in which they were harvested. A revision of the simple license regulation, currently under approval (passed by the Conselho de Ministros in 2011), would increase the period of validity from one to five years, set the maximum area to 10 000 ha and make a management plan a requirement[47].

While the majority of harvesting is carried out through simple licenses (Ministry of Finance 2010), the National Forestry Strategy aims to slowly phase out simple licenses given concerns about sustainability and local benefits capture. Efforts to enhance local benefits capture for communities

47 'Mozambican government approves new Forestry and Wildlife Law regulations,' Club of Mozambique, 8 Dec. 2011.

residing in areas designated as production forests also include the establishment of a mechanism to channel 20% of revenues to communities in logging areas governed by both regimes (Diploma Ministerial No. 93/05). Implementation of this requirement reportedly remains slow, constrained by mechanisms for channelling these funds to communities (e.g., group registration, bank accounts) and the mismanagement of funds[48].

In a bid to promote investment in value-added processing and strengthen regulatory functions, the current policy seeks to minimise the export of unprocessed logs. Forestry and wildlife legislation passed by the Council of Ministers in 2002 (Decreto 12/2002) specifies five classes of commercial timber – precious, first class, second class, third class and fourth class. It also prohibits export of unprocessed logs for the 21 species classified as first class[49].In 2007, a new decree was issued (Decreto 20/2007) which requires processing prior to export for species classified as precious, and moved some species into the first class and precious categories – thus tightening the restrictions on exports[50].

According to MICOA, the primary challenges in the forestry sector include enforcement of the 2007 log export ban and ensuring value-added timber processing, forest degradation from firewood and charcoal production and enforcement of environmental laws in the case of simple licenses[51]. Ensuring compliance with simple licenses is undermined by resource limitations (e.g., lack of transport) and safety considerations – the traders are often armed. Furthermore, while there is selective monitoring of forestry concessions at the provincial level based on management plans, for simple licenses there is only law enforcement for carriage, but not for forest management or harvesting. This, however, is subject to change; under the new simple license legislation. Simple license holders will also be required to develop a simplified management plan. Very often, the only means of monitoring compliance with environmental laws is through local chiefs, who must report illegal activities to the local administration for any action to be taken. Other independent reports note the establishment of forestry plantations without environmental licenses, removal of natural forest cover to establish plantations and other environmental protection offenses[52].

48 Ministry of Finance (2010); CIFOR interviews with various stakeholders in Cabo Delgado, Feb. 2011.

49 These include Afzelia Quanzensis, Androstachys johnsonii, Albizia glaberrima, Albizia versicolor, Balanites maughamii, Breonardia microcephala, Baikiaea plurijuga, Combretum imberbe, Cordyla africana, Diospyros sp., Erythrophloeum suaveolens, Faurea spesiosa, Inhambanella henriquesii, Khaya nyasica, Millettia stuhlmannii, Monotes africanus, Morus lacteal, Pterocarpus angolensis, Podocarpus falcatus, Pseudobersama mossambicensis, and Swartzia madagascariensis. (República de Moçambique, 2002a).

50 While this decree was widely referred to, we were unable to secure a copy and verify its provisions.

51 CIFOR interview with Maputo-based staff of MICOA, 30 Nov. 2010.

52 Sitoe (2009); AFRODAD (2007).

3. Methodology

3.1 Objectives and research questions

Research objectives

The overall objectives of the project are to advance understanding of the social, economic and environmental effects of Chinese investment in commodities or sectors affecting forests and livelihoods in Africa, and to strengthen the capacity of decision-makers in government, civil society and the private sector to enact reforms to leverage more equitable and sustainable outcomes.

The objective of the scoping phase – on which this report is based (Activity 1.2) – is to gain an understanding of the trends, effects and trade-offs of Chinese trade and investment in key sectors shaping forests and forest livelihoods, and the legal and institutional frameworks governing FDI, corporate practices and related impacts. This report focuses on the southern African woodlands, in the case of Mozambique, where the aims of the scoping were somewhat broadened to explore the key characteristics of Sino-Mozambican diplomatic and economic relations and their relevance to sectors of interest.

Research questions

The questions guiding the research during the scoping phase are as follows:

1. What economic sectors (excluding the oil sector) are receiving the majority of investments from the Chinese government or private sector?
2. What are the characteristics of current and planned Chinese investments in commodities of interest in the forestry, agricultural and mining sectors? Who are the corporate actors involved in investment and trade and where are these investments channelled?
3. What other (non-Chinese) companies are involved in similar or identical activities in commodities of interest, and what are the characteristics of their investments?
4. What governance conditions currently shape the FDI and corporate practices of Chinese and non-Chinese actors and what are the related social and environmental impacts?
5. How do key experts assess the trade-offs (societal benefits and costs) of Chinese and non-Chinese investments in commodities or sectors of interest?
6. What kind of local social, economic and environmental effects may be observed from rapid field-based scoping of selected Chinese investments/concessions in commodities of interest? Is there evidence of widespread deforestation?
7. Based on questions 2 to 6 and other supporting information, what projections may be made about likely deforestation from planned investments?

3.2 Methods

The scoping phase was carried out in two stages. The first stage, focused on the national level actors, captured the major issues and trends related to both Chinese economic and diplomatic cooperation with Mozambique and private sector engagements in sectors of interest (forestry, mining, agriculture). The second stage, focused on the sub-national level, verified the key observations from the national level interviews, explored the nature of the impacts of different commodities and business models on forests and identified the priority questions and research design features for more in-depth research.

The primary methodologies employed in the first stage consisted of a review of published and grey literature, and key informant interviews with representatives of various government agencies, embassies, civil society organisations, research organisations and companies. The primary methodologies employed in the second stage consisted of key informant interviews with government agencies, civil society organisations and private sector actors in Pemba, and focus group discussions with residents of three communities in an area with one timber concession and several simple

licenses in Katápua, Chiure District, and Cabo Delgado Province.

3.3 Limitations

This scoping study faced a number of limitations. The first relates to the extent to which official data on topics of interest has been compiled and made publicly available. The extent to which a truly comparative analysis could be carried out at this stage was limited by a number of factors. These included:

- The reported absence of a land title registry
- The loss of investment data resulting from staff turnover
- The lack of survey data for large-scale operators in the agricultural sector
- The difficulty in gaining access to data on concession holders (in the forestry sector)
- The lack of information on investors' countries of origin (for all sectors).

Furthermore, while CPI, the National Directorate of Lands and Forests (DNTF) and the National Directorate of Mines responded to follow-up emails requesting promised data, several other government agencies did not. And with most of the data received not including the nationalities of the investors, this information had to be deduced from company names and exhaustive internet searches – with many gaps remaining. The further limitation is one of representativeness. Direct interviews with Chinese actors were limited to a single staff member at the Chinese Embassy during the urban scoping in Maputo. Hence our analysis of Chinese business practices in the timber sector relies on information from third parties. A further challenge relates to conceptual biases, making it difficult to differentiate Chinese from non-Chinese behaviour, including preconceived ideas about Chinese misconduct that were poorly substantiated, and the apparent tendency of some informants to assume anyone with Asian features is Chinese. A final limitation was related to the field scoping, which was restricted to stakeholder interviews near the port city of Pemba because of the difficulty in accessing concession areas in the rainy season. As the current practices in the forestry sector are politically sensitive in Mozambique, time was, and is still, needed to identify and build the right kinds of partnerships to enable access to information, conduct balanced research and identify the kinds of analyses that can be most useful to ongoing policy debates.

4. Sino-Mozambican relations

This section presents an overview of findings related to Sino-Mozambican relations. The findings are broken down into four sections. The first section provides an overview of what stakeholders believe to be the characteristics that differentiate the Chinese from other trade and development partners. This is followed by a detailed look at data on Chinese aid, trade and foreign investment, in which an attempt is made to relate stakeholder perceptions to published data.

4.1 Perceived features of Chinese influence in Mozambique

Interviews with individuals from key government ministries, foreign embassies and civil society organisations point to a number of perceived differences between the Chinese government's and the private sector's engagements in the country:

1. *Flexibility in accessing Chinese finance*. Respondents suggested that the volumes of Chinese finance and the ease with which this finance may be accessed are key features giving China greater economic bargaining power relative to European powers. A case in point is the bridge linking Maputo to Catembe, which the Portuguese have been promising to build for many years, but which China has recently agreed to finance. While some posited this had to do with the limited political and legal conditionalities of aid, others indicated it had more to do with lax standards or the 'politics of compensation' being employed by the Mozambican government[53]
2. *Aid that places no performance conditionalities on recipient governments*. Often termed China's 'no questions asked policy', this has been framed by China as a principle of equality and non-interference in the internal affairs of sovereign states and by others as turning a blind eye to questions of social and environmental justice[54]
3. *Sectors or areas of involvement.* From the standpoint of bilateral cooperation, the Chinese were said to focus on infrastructure development rather than other areas of cooperation (e.g., technical), a sector that is both lucrative and marginalised by other donor countries. For example, one respondent indicated this had to do with a reduction in interest by Organisation for Economic Co-operation and Development (OECD) countries in financing infrastructure, a gap which the Chinese have been able to fill. In terms of the areas of private sector involvement, there was a perception that Chinese firms are more involved in trade (e.g., in manufactured goods, timber) than in land-based investments[55]
4. *Backing of companies by the public sector*. Several respondents indicated that Chinese investors benefit from substantial support by the Chinese government, which actively promotes foreign investments through fiscal incentives. Some respondents indicated that China has greater flexibility than OECD member states, as it is not bound by the same rules of economic cooperation limiting public backing to gain competitive advantage[56]
5. *Weaker corporate social responsibility practices*. The main concern was the poor record in labour conditions among the Chinese and a long history of violation of workers' rights[57]. One individual went so far as to say that Chinese companies are

53 CIFOR interview with Maputo-based staff of a national NGO, 3 Nov. 2010; CIFOR interview with the director of a Maputo-based NGO, 24 Nov. 2010; CIFOR interview with the Head of Cooperation of an OECD member country, 3 Nov. 2010.

54 CIFOR interview with the Head of Cooperation of an OECD member country, 4 Nov. 2010; Chinese Academy of International Trade and Economic Cooperation (2010).

55 CIFOR interview with a Counsellor of an emerging economy embassy, 24 Nov. 2010; CIFOR interview with the Head of Cooperation of an OECD member country, 3 Nov. 2010.

56 CIFOR interview with the Head of Cooperation of an OECD member country, 3 Nov. 2010.

57 CIFOR interview with the Head of Cooperation of an OECD member country, 3 Nov. 2010; CIFOR interview with the director of a Maputo-based NGO, 25 Nov. 2010; Interview with Inspectors at the Ministerio de Trabalho, 25 Nov. 2010.

not interested in the well-being of workers, only 'brute force'

6. *Compliance with quotas on foreign employment.* There was a widespread observation that Mozambican restrictions on the employment of foreign workers apply to everyone except Chinese companies[58]. Some see this as a manifestation of a policy of preferential treatment of Chinese interests by the Mozambican government
7. *Economic Self-Interest.* Some respondents indicated that while Chinese aid often has the appearance of being given for free, there are always strings attached – whether money or access to resources (concessions, agricultural land)[59]
8. *Aggressive business attitude*. Several respondents pointed to the 'aggressive' working attitude of the Chinese actors. This refers to what is perceived as a highly dynamic, pragmatic and competitive business approach in which profit-making is seen to be of greater importance than social relations (whether with nationals, or other donors and investors)
9. *Non-transparency.* Some respondents suggested that there is a lot of opacity in the workings of both public and private sector actors. This was said to apply to the mechanisms employed to do business (e.g., operating behind and through others, thus washing their hands of any wrongdoing), as well as the terms of official agreements[60]. As stated by one individual, "It is difficult to find a document that says what the agreement is between China and Mozambique."

Despite these claims, there is a prominent debate over the extent to which such factors are a consequence of the unique traits of the Chinese public and private actors, or simply a by-product of opportunities presented by contextual factors, such as corruption and weak law enforcement. According to the non-governmental Centre for Public Integrity, the determining factor in social and environmental performance is not the country of origin, but political connections (e.g., the ability of firms from any country of origin to corrupt public officials) and the non-application of the law. As such topics are characterised by lively public debate, it is important to explore the extent to which they are supported by official statistics. Subsequent sections look at the nature of Chinese involvement in ODA, trade and investment in Mozambique.

4.2 Chinese ODA to Mozambique

Chinese aid to Mozambique consists of loans, technical agreements and direct investments in trade and services (AFRODAD 2007). A significant proportion of this aid flows to infrastructure, particularly the rehabilitation of roads and bridges and the construction or renovation of public buildings. It has been termed a 'mutual benefit-based approach' (AFRODAD 2007, p. 13) which does not discriminate against regimes and is widely perceived as untied aid (lacking political and economic conditions characteristic of aid from western donors). Indeed, Mozambican politicians have been receptive to China's interest in the country as they view China "… as a partner and not as a colonizer…" (Chichava 2008, p. 2).

Form of aid

Government stakeholders in Mozambique, as elsewhere, draw an important distinction between the provision of budget support and project support. Traditional aid to developing countries came in the form of projects financed and managed by specific donors, with funding bypassing the government coffers and accountability mechanisms. In the 1990s, this approach began to draw the criticism that it advanced donor rather than host country priorities, lead to an inefficient use of funds and undermined the recipient government's authority, capacity and accountability[61]. The international community began to call for a shift towards budget support mechanisms to avoid such pitfalls and to tie funding to established policy priorities.

58 CIFOR interview with the Head of Cooperation of an OECD member country, 4 Nov. 2010; CIFOR interview with a Counsellor of an emerging economy embassy, 4 Nov. 2010; CIFOR interview with the director of a Maputo-based NGO, 24 Nov. 2010.

59 CIFOR interview with the Head of Cooperation of an OECD member country, 4 Nov. 2010.

60 CIFOR interview with the director of a national NGO, 23 Nov. 2010; CIFOR interview with the director of a Maputo-based NGO, 24 Nov. 2010.

61 See DFID (2006); Lawson *et al.* (2002); 'Sector-wide Approaches (SWAps)'. http://www.who.int/trade/ glossary/ story081/en/ (31 Jan. 2011).

Within the general category of budget support, several different cooperation mechanisms may be identified. One of the broadest distinctions is between general budget support and sector budget support, otherwise called the 'Sector-wide Approach' (SWAp). In the second case, funds are earmarked for a specific sector or budget line (e.g., health, education) and thus tied to sector-specific policies. Another distinction is that between grants and loans, each of which may characterise both budget and project support. While grants were once considered superior to loans as they were provided for free, it is now recognised that grants may also carry drawbacks in the form of reduced aid to the poorest countries, reduced domestic revenues, lower incentives for fiscal discipline, enhanced susceptibility to foreign shocks and donor conditionalities[62].

Such distinctions are important in framing the Chinese influence in and aid to Mozambique. According to the Chinese ambassador to Mozambique, agreements signed by the two sides cover agriculture, education, sports, preferential loans, interest-free loans, debt cancellations and tariff exemptions[63]. Focusing on aid alone, Chinese support to Mozambique is primarily in the form of grants and loans[64] (Table 2). Contrary to recent trends, Chinese ODA is largely project-based and negotiated at the highest levels of public administration (AFRODAD 2007). Chinese aid also consists of debt cancellation and emergency relief. In total, China has cancelled USD 52 million of Mozambican debt (Janssen and Kiala 2009). Emergency relief was for example provided during the 1983 famine crises.

In addition to the above projects and the financial inflows from trade and investment (to be discussed below), China plans to invest USD 13 billion in 19 industrial, tourism, mining and energy projects over the next five years. The details of these projects are unknown, but are said to include a bridge linking Maputo to Catembe[65], a 20 km^2 town near Catembe, a cement factory, car factory and hydroelectric dams – including a USD 300 million investment in the Moamba-Major dam to supply Maputo[66].

While grants and loans are similar in number, far larger volumes of aid come in the form of concessional loans – most of these from China's Eximbank. According to the Economic and Commercial Counsellor's office of the Chinese Embassy, bilateral cooperation between China and Mozambique has shifted away from aid and moved towards private sector-based cooperation and partnerships of mutual interest[67]. According to the former Prime Minister, Luisa Diogo, China has a "… very specific manner …" of cooperation which differs from Mozambique's traditional development partners[68]. She indicated that, unlike these countries, China does not do budget support, but focuses instead on project support – much of it in the form of infrastructure. She indicated that most of Mozambique's traditional partners will not even consider such projects.

China is not a party to the group of OECD development partners aligning funding to national development plans and budgets under the Partnership General Budget Support programme. As such, its assistance is also not subject to alignment with Mozambique's Poverty Reduction Strategy – Plano de Acção para a Redução da Pobreza Absoluta (PARPA) – harmonisation initiatives, accountability standards or peer review mechanisms (AFRODAD 2007). Although the same is true for other emerging countries, Brazil and India are perceived by some respondents as more open and approachable, transparent (e.g., in disclosing lending levels), as well as collaborative – as reflected in emerging trilateral cooperation (e.g., Japan-Brazil-Mozambique, Germany-Brazil-Mozambique).

62 See Gupta *et al.* (2003); OECD (2007).

63 See http://www.focac.org/ eng/jlydh/t716145.htm.

64 In fact, China may view loans as part of 'aid'. This is reflected in the statement by the Chinese Embassy staff that "… today, China does mainly loans, not aid." and "… before China did some aid, but today the focus is on private sector development." (CIFOR interview with staff of the Chinese Embassy in Maputo, 26 Nov. 2010).

65 While some claim the financing is available through a subsidised loan, the Minister of Public Works and Housing has refuted this claim. See: www.clubofmozambique.com/solutions1/sectionnews.php?secao=business&id=23262&tipo=one (17 Feb. 2012).

66 See: http://af.reuters.com/article/topNews/idAFJOE67Q08P20100827 (2 Feb. 2010).

67 CIFOR interview with staff of the Chinese Embassy in Maputo, 26 Nov. 2010.

68 Hanlon (2010).

Table 2. Chinese aid to Mozambique

Description	Year	Type of aid	Value (USD million))
Parliament building	1999	Grant	Unknown
Debt cancellation	2001	Debt cancellation	22
Joaquim Chissano conference centre	2003	Grant	5
Police equipment	2003	Loan	3.9
Ministry of Foreign Affairs building	2004	Grant	12
Low-income housing (Zimpeto, Maputo)	2004	Unknown (conflicting data)	3.9
National stadium (Maputo)	2006	Concessional loan	60
Mphanda Nkuwa mega-dam in Tete Province	2006	Concessional loan	2,300
Debt cancellation	2007	Debt cancellation	30
Support to Mozambican armed forces	2007	Grant	1.5
Rehabilitation of infrastructure destroyed by natural disasters	2007	Emergency relief (grant)	0.3
Justice Ministry buildings (including office of the Attorney General, houses for magistrates)	2007	Concessional loan (preferential credit protocol)	40
Technical cooperation with the Ministry of Youth and Sports	2007	Concessional loan	15
Maputo water supply system	2008	Grant	145
Construction of Maputo International Airport (Phase 1)	2009	Concessional loan	75
Construction of Maputo International Airport (Phase 2)	2010	Concessional loan	65 (3% interest)
Unspecified infrastructure	2010	Concessional loan	135 (3% interest)
Agricultural technology demonstration centre (Boane District, Maputo Province)	2010	Grant	55
Anti-corruption Bureau building	Unknown	Unknown	Unknown
Prison building (Matola)	Unknown	Unknown	Unknown
Primary schools	Unknown	Unknown	Unknown
Water supply systems in Beira and Quelimane	Unknown	Unknown	15
Military housing project	Unknown	Unknown	7

Sources: AFRODAD 2007; Janssen and Kiala 2009; Chichava 2008

Several questions must be asked regarding this mode of cooperation. The first is about public accountability for these expenditures, particularly given the potential implications of project-based finance for aligning aid to Mozambique's official development priorities. According to some respondents, China comes with offers that do not emanate from requests – a relationship from which Mozambique has limited capacity to benefit. The second question that must be asked is, "On what terms are such projects provided, both in terms of the sustainability of debt servicing and what is China getting in return?" According to PM Diogo, the Chinese government does request any guarantees in return, such as natural resources. She indicated that this was not possible under Mozambican law, for which any use of natural resources must be based on a formal project proposal[69]. Yet other respondents stated that this does occur, with loans for

69 See: http://www.gg.rhul.ac.uk/simon/GG3072/2010-64.pdf (2 Feb. 2010).

infrastructure requiring payment in cash or in kind (in the form of resource concessions or timber)[70]. Some suggest that the country's indebtedness to China for supporting the liberation struggle and the personal relationships established at that time make it difficult to avoid the granting of political favours[71]. If these claims are true, it would suggest a very direct link between official diplomatic relations on the one hand, and China's ability to secure natural resources on the other.

Role of the government in supporting firms operating abroad

It is also interesting to explore the role of the government in supporting private sector actors operating abroad. According to the Economic and Commercial Counsellor's office, the Chinese government provides three basic forms of support to private firms:

1. It encourages companies to invest abroad
2. It provides information on investment opportunities in countries where China has a diplomatic presence
3. It finances Chinese and African small- and medium-scale enterprises (SMEs) through loans from the China Development Bank.

Official sources support the involvement of the Chinese government in both encouraging companies to invest abroad and in financing SMEs. A recent publication by Luo *et al.* (2010) highlights a host of measures through which the Chinese government encourages overseas FDI by Chinese firms. This included a 2003 notice on credit support to FDI projects encouraged by the state, with a lower lending rate credit fund for 'natural resource seeking in areas where China is lacking' and manufacturing which promotes Chinese exports. It also includes a 2004 stipulation on preferential treatment (including finance, tax collection, foreign exchange and customs) for firms investing in official target nations and industries. A special fund was also established in 2005 to encourage Chinese enterprises to invest abroad, including subsidies for pre-operational fees, interest discounts for medium- and long-term loans and subsidies for operational fees. At the Beijing Summit of the forum on China-Africa Cooperation (FOCAC) in 2006, the Chinese President, Hu Jintao, also announced the launch of a USD 5 billion China-Africa Development Fund as one of the eight measures to enhance Sino-African cooperation. It is a special fund to support investments by Chinese companies in Africa, with the first phase of funding – USD 1 billion – provided by the China Development Bank[72]. The recent USD 13 billion agreement between China and Mozambique also reportedly involves a plan to establish a USD 2 billion investment fund to support Chinese companies operating in Maputo[73].

There is also evidence to up hold the claim that the Chinese government is supporting Chinese and African SMEs on the continent, as one of the measures pledged in the Fourth FOCAC. The Measures of Capital Support for Small and Medium Enterprises to Develop International Markets, adopted in October 2000, provide funds to SMEs for the development of international markets[74]. Through the China National Development Bank, the Chinese government is establishing special loans to finance African SMEs and facilitate cooperation between Chinese and African SMEs[75].

Such government backing, including ODA, has been crucial in supporting the resource-seeking investments of Chinese firms (Ilhéu 2010). This observation was supported by staff at the investment promotion agency in Maputo (CPI), who claimed that Chinese firms are unique in coming exclusively with their own capital (as opposed to promises of capital on loan). It is also borne out in official investment data. While significant amounts of the finance for the USD 364 million in investments involving Chinese capital in the 2001-2010 period

70 CIFOR interview with the director of a Maputo-based NGO, 24 Nov. 2010.

71 The current Mozambican president was reportedly the focal point or 'chief negotiator' between Mozambique and China during the period of the revolution.

72 This China-Africa Development Fund (CADFund) is described as the "… first equity investment fund in China focusing on investments in Africa." It has reportedly funded development projects, established many Chinese industries and financed debt relief on the continent, with USD 3 billion earmarked for preferential loans and USD 2 billion for preferential buyers' credits. For more details, see: http://www.chinafrica.asia/tag/development-fund/ (2 Feb. 2010).

73 See: http://af.reuters.com/article/topNews/idAFJOE67Q08P20100827 (2 Feb. 2010).

74 Ilhéu (2010); Luo *et al.* (2010).

75 See: http://www.focac.org/eng/dsjbzjhy/t696509.htm (2 Feb. 2010).

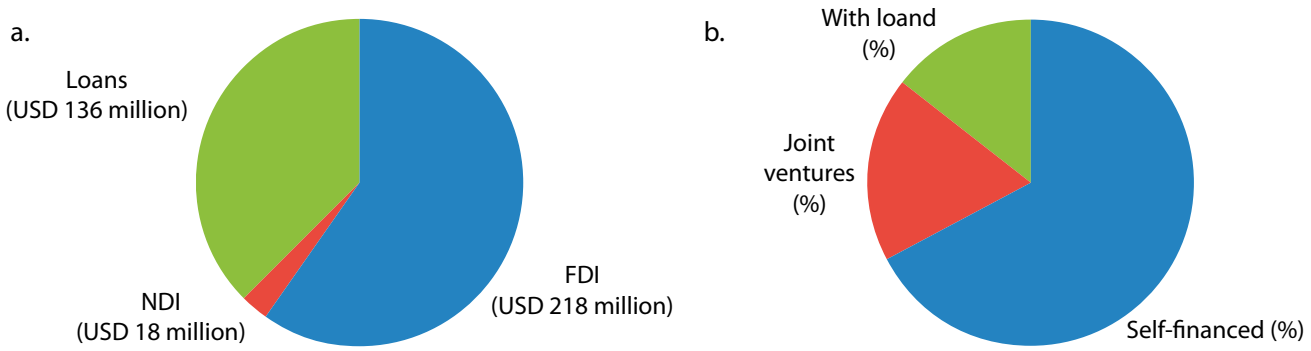


Figure 2. Composition of investments involving Chinese capital from 2001 to 2010, analysed according to (a) total investment levels (USD)[a] and (b) the percentage of investments with different capital mixes

a Of the total FDI, 98.5% of the capital is of Chinese origin – with the remainder representing joint ventures with foreign companies registered in other foreign countries.

Source: Compiled from official CPI data

are provided by loans (Figure 2a), the vast majority of projects are self-financed (Figure 2b). Furthermore, with the exception of one outlier in the forestry sector[76], 99% and 95% of the capital invested between 2001 and 2010 by projects involving Chinese firms in the timber and fisheries industries is of Chinese origin. In contrast, only 31% of the capital invested in agricultural projects during the same period is of Chinese origin (Figure 3). It is important to note that investment data for the forestry sector capture only formal investments (e.g., in processing), with large volumes of the timber in the trade not captured in these figures.
It is also interesting to note that while a sizeable number of investments involve Mozambican partners, the proportion of finance arising from national direct investment is low (only USD 10 million of the approximately USD 364 million invested over the 10-year period).

Yet, what are the mechanisms by which this funding and other forms of government support enable the establishment of Chinese firms on the continent? Two different mechanisms were identified. The first supports the establishment and financing of Chinese firms operating abroad, and the second enables the effective positioning of Chinese firms in official government tenders. For the former, a host of reforms were carried out in 1999 to provide fiscal and non-fiscal incentives to support overseas processing and assembly[77] (Wenbin and Wilkes 2011). This was followed by the establishment of an export credit system by the Export-Import (EXIM) Bank in 2003 for overseas investments of strategic interest – including those related to the exploration of resources that are 'in domestic shortage'[78]. The Ministry of Commerce and the **C**hina Export and Credit Insurance Corporation (SINOSURE) also issued a host of policies to provide insurance to lower the investment risk and increase access to finance, with an emphasis on oil, metals, forestry, fishing and agriculture and to companies engaged in outward project contracting and labour services (Wenbin and Wilkes 2011). Also the Chinese Wealth Fund was established in 2007 by the Chinese Investment Cooperation (a quasi-government investment firm) to invest a portion of China's foreign exchange reserves to support enterprises investing abroad[79]. With an initial capital of USD 200 billion, the Fund

76 This investment is listed with a total investment of USD 63.7 million, of which only 1.6% is financed by investor capital (FDI and national direct investment).

77 This included both administrative reforms to facilitate approval and foreign exchange procedures, as well as financial assistance in the form of soft loans, tax incentives (no taxes on profits for the first five years), export tax rebates and from 2% to 50% subsidies on loan interest.

78 Also includes 'manufacturing and infrastructure projects that can stimulate exports of domestic technology, products and labour'; 'research and development centred projects that can make use of international advanced technologies, management experience and intellectual property'; and 'overseas merger and acquisition projects that can enhance international competitiveness and expand international markets' (Wenbin and Wilkes 2011: 30).

79 Ilhéu (2010).

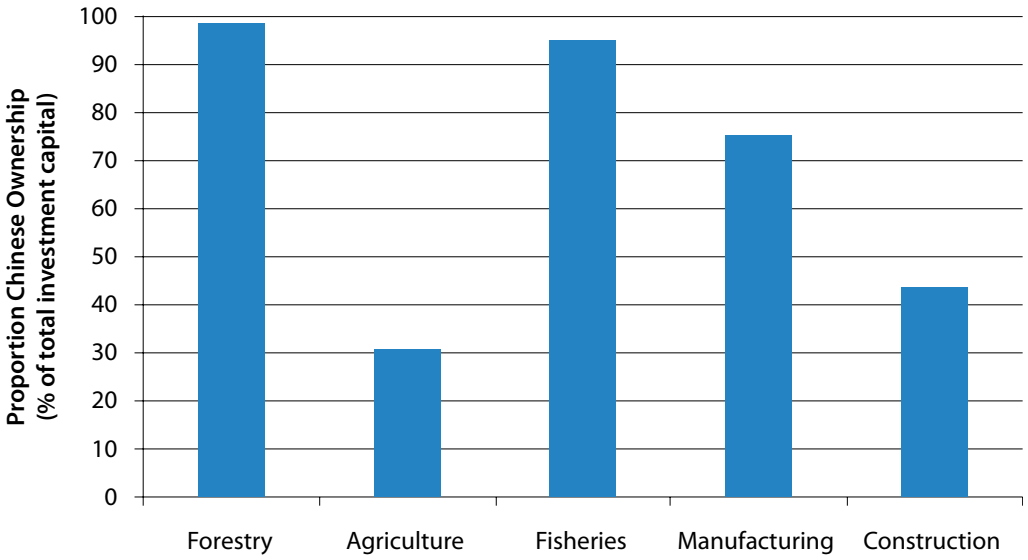


Figure 3. Proportionate representation of Chinese capital in investments involving Chinese shareholding, as a percentage of total investment value, 2001-2010

a Data were compiled from 55 projects, representing a total investment value of USD 296 million.

Source: Compiled from official CPI data

channels public monies to Chinese firms in the form of credit funds and credit insurance. The sizeable loans provided by the Chinese government as aid to Mozambique seem to come with the condition that Chinese firms be hired to carry out the work[80]. For construction projects, the Chinese government launches tenders in China exclusively for Chinese companies. Thus, in addition to the public treasury being responsible for servicing the (admittedly low) interest on loans, sizeable amounts of public finance (in the form of payments on principal) are effectively channelled to Chinese companies. Furthermore, those companies winning contracts bring most of the required materials and human resources from China – further undermining positive economic spillover for Mozambique[81]. According to one report, this may be part of a more general trend of donor influence over the selection of contractors in public works projects in Mozambique[82].

The second mechanism through which the government supports Chinese firms is by the Chinese Embassy actively informing Chinese construction companies about upcoming international tender opportunities in the road construction sector (Bosten 2006). Interestingly, Mozambique stands out in this regard. Approximately 70% of the value of contracts won by Chinese firms under multilateral projects was found to be associated with just four African countries – Ethiopia, Mozambique, Tanzania, and the Democratic Republic of Congo[83]. As just one example, the public tender for a large bridge connecting Mozambique and Tanzania was won by a Chinese company (Bosten 2006). While the bulk of Chinese involvement in public tenders is in the public works and construction sector[84], it is also particularly noticeable, given the strong presence of Chinese firms and individuals, in the illegal logging in southern Tanzania and northern Mozambique (Milledge *et al.* 2007; Ribeiro and Nhabanga 2009). Thus, "Chinese contractors have significant presence and experience in a number of countries

80 CIFOR interview with the director of a Maputo-based NGO, 24 Nov. 2010; see also Bosten (2006).

81 Boston, 2006.

82 AFRODAD (2007).

83 This is apparently different from the geographical spread of firms supported by projects receiving Chinese finance, where the majority (55%) of the contract value is accounted for by Angola, Sudan and Nigeria. For more information, see: http://www.ide.go.jp/English/Data/Africa_file/Manualreport/cia_10.html (2 Feb. 2011).

84 With one-third of all new roads in 2008 built by Chinese firms (CIFOR interview with the Head of Cooperation of an OECD member country, 3 Nov. 2010).

that have not yet featured prominently in Chinese financing deals."[85]

These accounts suggest the strong role of the government in enabling Chinese firms to capture value from Chinese development lending and other sources of ODA and public finance in Mozambique. The policy orientation toward the natural resource sectors also seems to be playing a significant role in enabling Chinese firms to become established in natural resource-based sectors abroad.

It is important to note that state backing to the private sector in Mozambique and elsewhere is not unique to China[86]. One of the conditions of Indian loans to Mozambique is that Indian contractors be hired to carry out the work, through a tender process similar to that employed by the Chinese government[87]. The Portuguese government, concerned about economic stagnation in Europe, is also supporting Portuguese firms interested in investing in Mozambique through the Banco de Investimento Moçambicano[88]. Indeed, the U.S. and other G-7 countries have their own respective export credit agencies supporting domestic exports (GAO 2012). Yet while many countries have export credit agencies, the range of allowable behaviours by donor countries in backing the private sector and providing development lending is restricted for OECD member states. For example, several OECD instruments regulate the activities of publicly financed export credit agencies (ECAs) providing export financing (credits or credit insurance and guarantees) to underwrite the activities of firms operating abroad. Since 1978, the OECD Arrangement on Guidelines for Officially Supported Export Credits has placed "… limitations on the terms and conditions of officially supported export credits (e.g., minimum interest rates, risk fees and maximum repayment terms) and the provision of tied aid."[89] The Arrangement is designed to prevent countries from competing to offer the most favourable terms of finance to exporters competing for overseas sales[90]. Principles and guidelines to promote sustainable lending practices in the provision of official export credits to low-income countries are also part of the World Bank and International Monetary Fund efforts to help countries achieve their Millennium Development Goals without creating future debt problems[91]. As a result of this imbalanced playing field, it is much easier for China, India, Brazil and other non-signatory countries to offer linked and concessional loans[92].

The importance of such finance should not be under-estimated. ECAs represent the largest class of public finance institutions operating internationally, exceeding in size the World Bank Group and funding more private sector projects in the developing world than any other class of financial institution[93]. Current estimates suggest that ECAs finance or underwrite about USD 430 billion of business activity abroad (approximately USD 55 billion in project finance to developing countries and USD 14 billion of insurance for new FDI), dwarfing all other official sources of finance combined[94]. And while accounting for the largest component of developing country debt (over 25%), ECAs have limited accountability to national development priorities[95]. It also raises risks for the future indebtedness of developing country economies, as the tendency to focus on the availability of financing will tend to undermine quality and price considerations – with related costs

85 See: http://www.ide.go.jp/English/Data/Africa_file/Manualreport/cia_10.html (2 Feb. 2011).

86 WIR (2008).

87 CIFOR interview with staff of the Indian High Commission in Maputo, 23 Nov. 2010. This policy has applied to two lines of credit offered by the Indian government since 2004. The first involved a USD 140 million line of credit for rural electrification, water management and IT. The Indian government announced a new USD 500 million credit line for Mozambique in 2010 in support of projects in energy, infrastructure and agriculture. The government of Mozambique provides proposals for specific projects, and the Export-Import Bank will administer them. The loans are reportedly provided at interest rate of from 4% to 5% for a period of 20 years.

88 CIFOR interview with the Head of Cooperation of an OECD member country, 3 Nov. 2010.

89 Participants to the Arrangement include Australia, Canada, the European Community, Japan, the Republic of Korea, New Zealand, Norway, Switzerland and the United States. For further information, see: http://www.oecd.org/about/0,3347,en_2649_34171_1_1_1_1_1,00.html (2 Feb. 2011).

90 See: http://www.oecd.org/document/29/0,3746,en_2649_34171_1830173_1_1_1_1,00.html (2 Feb. 2011).

91 Available at: http://www.oecd.org/department/0,3355,en_2649_34179_1_1_1_1_1,00.html (2 Feb. 2011).

92 CIFOR interview with the Head of Cooperation of an OECD member country, 3 Nov. 2010.

93 See: http://www.eca-watch.org/eca/ (4 Feb. 2011).

94 Including from the World Bank, Regional Development Banks, bilateral and multilateral aid. http://en.wikipedia.org/wiki/Export_credit_agency.

95 See: http://www.eca-watch.org/eca/ecas_explained.html (4 Feb. 2011).

(and, in essence, loan concessionality levels) passed on to taxpayers[96].

4.3 Sino-Mozambican trade

Sino-Mozambican trade has grown rapidly over the past decade (Figure 4). In 2010, the trade volume reached USD 698 million, with USD 201 million of this (40.5% of bilateral trade) accounted for by Mozambican exports. Important drivers of this increase in bilateral trade are likely to include the trade agreements signed in 2001 and 2007 and tariff exemptions covering 60% of Mozambique's exports to China[97]. Other drivers are related to market demand in China, such as the Chinese logging ban and related domestic shortfalls of timber to feed the growing wood processing sector in China (Barr and Cossalter 2004).

Mozambican imports from China are dominated by manufactured goods (vehicles and parts, electrical appliances, iron and steel articles), while Chinese imports from Mozambique consist primarily of logs, sesame and processed wood products, followed by smaller shares of various ores and concentrates (Figure 5). The increase in Mozambican exports to China is largely attributable to increasing Chinese imports of logs and processed wood products and sesamum.

It is interesting to note the strong and growing composition of unprocessed logs relative to processed lumber in Chinese customs data, given the requirement stipulated in the 1999 Lei de Florestas e Fauna Bravia that concessionaires process timber prior to export, and the 2002 and 2007 regulations making log exports for many of the most sought after species illegal. The sharp decline in log exports in 2007 presumably relates to a regulation that went into effect in June 2007 obliging most exporters to export sawn timber, and the 2008/9 global economic recession. However, as seen by the less significant rise in lumber exports in the years following the decree, and the sharp increase in log exports in 2010, these regulations may not be having their intended effect. For example, one report suggests that traders were initially storing their logs following the 2007 decree to await opportunities to export logs at a later date[98].

4.4 Chinese direct investment in Mozambique

The FDI statistics are derived from data managed by Mozambique's investment promotion agency (CPI), and reflect all sectors with the exception of mining – for which statistics are registered instead with the Ministry of Mineral Resources and Energy (MIREME)[99]. Based on these official statistics from CPI, Chinese FDI investments have been increasing since 2000 (Figure 6).[100] As of September 2010, 66 projects worth USD 216 million had been registered since 2000 with CPI[101]. Most of these investments (note that mining FDI is excluded) – both in terms of number of projects and investment capital – are concentrated in the manufacturing sector. Of 66 projects registered between 2000 and 2010, 41 (62%) are classified as manufacturing industry sector projects (Figure 7). These projects were worth USD 166 million and corresponded to 77% of all Chinese FDI capital registered between 2000 and 2010 (Figure 8). The largest volume of Chinese FDI (81.4%) during 2000 and 2010 was registered in Maputo Province. The forest-rich northern provinces (Cabo Delgado, Niassa, and Nampula) only accounted for 1.29% of Chinese FDI during

96 Other criticisms raised by civil society include financing projects with significant social and environmental impacts that would not otherwise have come to fruition; limited due diligence; lack of free, prior and informed consent practices or public disclosure of project impacts; and high levels of corruption associated with export credits. For more information see: http://www.eca-watch.org/eca/ ecas_explained.html and http://www.odiousdebts.org/odiousdebts/index.cfm?DSP=content&ContentID =2379.

97 See: http://www.focac.org/eng/jlydh/t716145.htm (2 Feb. 2011).

98 See Mackenzie (2006).

99 However, we only had access to the following data from MIREME: (i) the list of mining concessions, (ii) the contacts of mining concessionaires, and (iii) aggregate yearly data on the evolution of investments in the mining sector. From this data, it was not possible to identify the proportion of FDI in the mining sector, or to identify the country of origin. Figure 3, therefore, lacks information on the proportion of Chinese FDI in the mining sector.

100 Note that the definition of FDI in Mozambique requires a minimum of USD 50 000 of own investment capital (CPI regulations). In turn, not all foreign investors – including the many small Chinese investors in the trade sectors – are recorded officially as FDI (AFRODAD 2007).

101 Official data of the *Centro de Promoção de Investimento*. Note that the CPI data only reports 'registered' projects, which is different from the number of projects actually 'implemented'. Currently, there is no systematic monitoring of project implementation in Mozambique (CIFOR interview with Maputo-based staff of the Centro de Promoção do Investimento, 5 Nov. 2010).

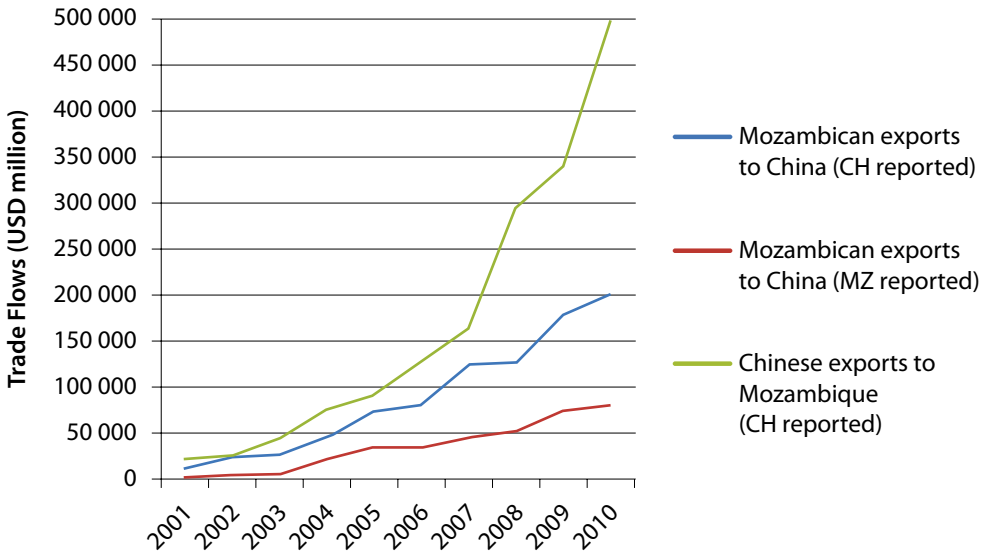


Figure 4. Sino-Mozambican trade, 2001-2010

Source: UN Comtrade

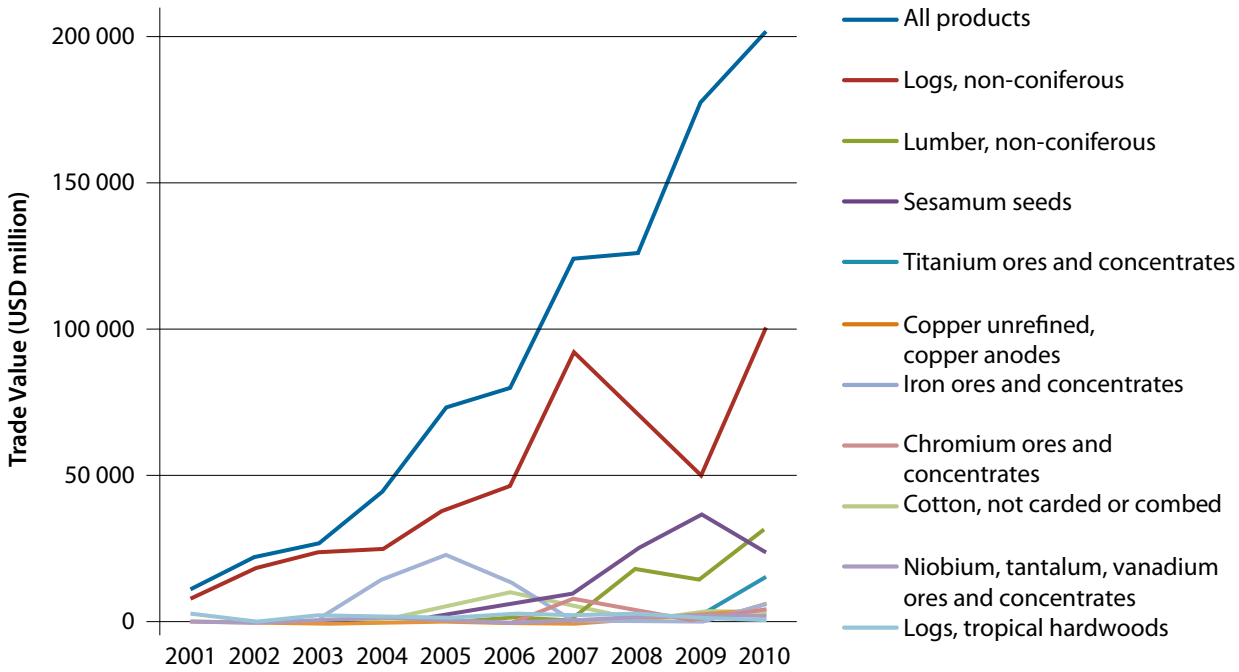


Figure 5. Top 10 Mozambican exports to China by value, 2001-2010

Source: UN Comtrade

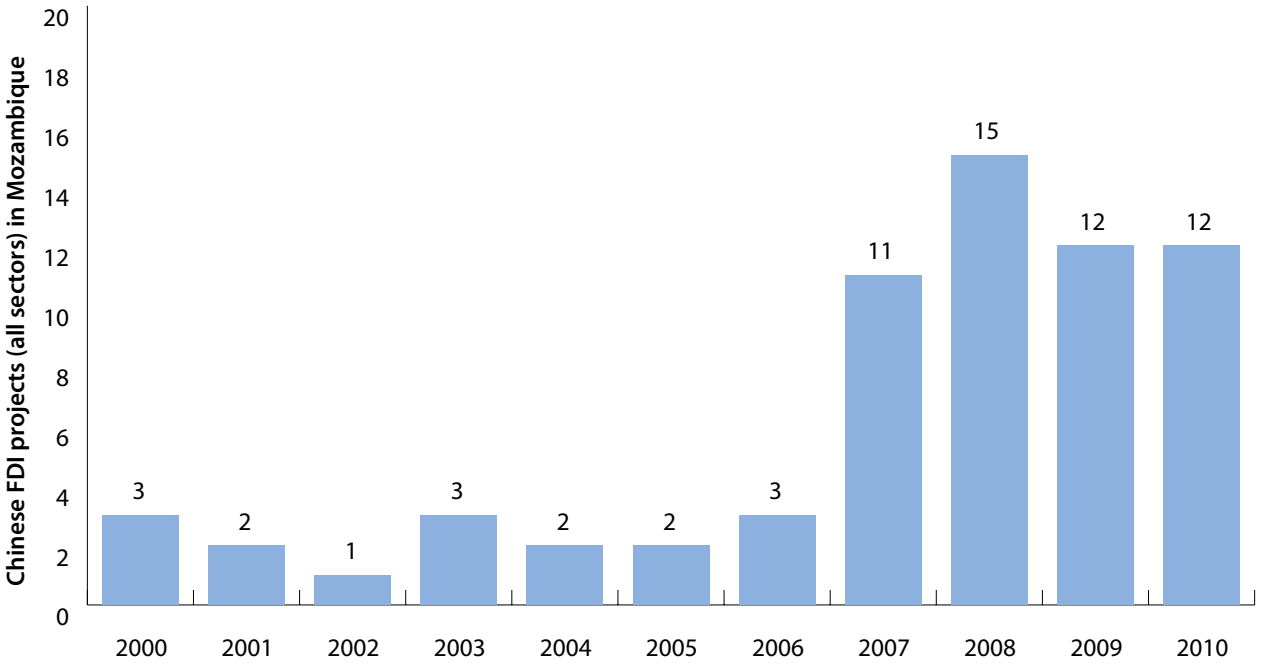


Figure 6. Number of Chinese FDI projects (all sectors, except mining) in Mozambique from January 2000 to September 2010

Source: Calculations based on official CPI data

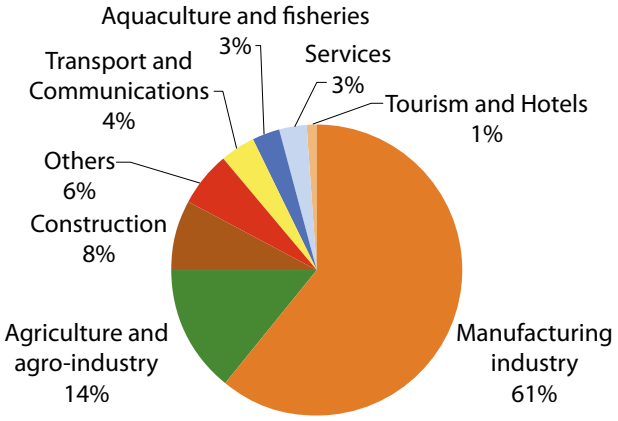


Figure 7. Chinese FDI projects by sector (except mining) from January 2000 to September, 2010

Source: Calculations based on official CPI data

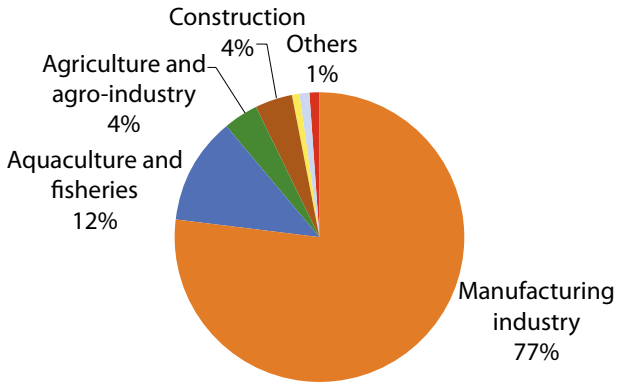


Figure 8. Chinese FDI capital by sector (except mining) from January 2000 to September 2010

Source: Calculations based on official CPI data

the same period; this investment being intended, primarily, for the agro-industrial sector (e.g., jatropha cultivation and timber processing). These investment volumes are interesting, given the statement by officials of the Mozambican investment agency that the majority of Chinese investors are interested in the forestry sector. Thus, low investment flows to forestry in financial terms should not be taken as indicative of limited involvement in the sector, in particular given the relatively low investments required to engage in the timber industry.

The key sectors of Chinese interest are mining (coal, titanium), technology, agriculture (rice) and trade[102]. However, FDI in the Mozambican mining sector has originated so far primarily from non-Chinese sources, such as from Brazil (Vale), India (Tata Steel) and Australia (Riversdale)[103]. Chinese mining activities are still mainly limited to research and prospecting, such as for limestone in Maputo Province[104]. There were also reports of illegal small-scale mining activities with Chinese capital[105].

According to the Chinese Embassy in Maputo, many Chinese companies are interested in Mozambique as it is considered to be a new market. One important factor behind the rising interest of Chinese FDI in Mozambique is related to the aforementioned Chinese government policy, such as subsidised loans and import tax cuts, to encourage private sector investments (especially by small and medium-sized enterprises) in foreign countries and the re-import of raw material to China for processing (value addition)[106]. Key target sectors include mining, technology and agriculture. Once the project is approved (by the host country, e.g., Mozambique), the Chinese company is eligible to access a loan from the China Development Bank[107].

102 CIFOR interview with staff of the Chinese Embassy in Maputo, 26 Nov. 2010.

103 CIFOR interview with the Head of Cooperation of an OECD member country, 4 Nov. 2010; CIFOR interviews with Counsellors from the embassies of two emerging economies, 23, 24 Nov. 2010; CIFOR interview with Maputo-based staff of the Directorate of Mines at the Ministry of Mineral Resources, 29 Nov. 2010; see also Selemane (2009, 2010).

104 CIFOR interview with Maputo-based staff of the Directorate of Mines at the Ministry of Mineral Resources, 29 Nov. 2010.

105 CIFOR interview with the director of a Maputo-based NGO, 25 Nov. 2010.

106 CIFOR interview with staff of a Maputo-based NGO, 5 Nov. 2010.

107 CIFOR interview with staff of the Chinese Embassy in Maputo, 6 Nov. 2010.

5. Overview of key sectors

This section presents findings related to the three sectors studied – forestry, agriculture and mining. In each section, in addition to presenting findings related to the Chinese presence, general features of the sector are presented to enable the findings to be placed in context. This aids in assessing the extent to which the findings are specific to the Chinese presence or general features of the sector in question.

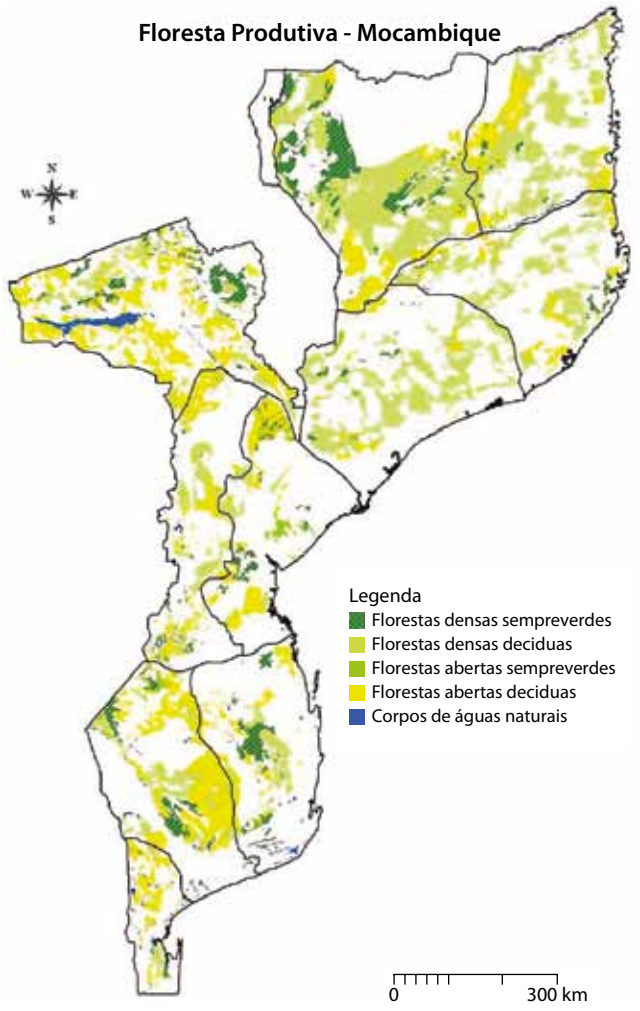


Figure 9. Spatial distribution of 'productive forests' in Mozambique

Source: MINAG-DNTF, undated

5.1 Forestry sector

Sector overview

The majority of Mozambique's forests are located in the northern provinces of Niassa, Tete, Cabo Delgado and Zambézia and in the southern province of Gaza (Figure 9; Table 3).

The private sector is active in both timber extraction from natural forests and in plantation forestry. After Mozambique's independence in 1975, only one registered timber operator, a state company called Madeira Moçambique (MADEM), was operating in the country. According to stakeholders in Cabo Delgado, interest in timber exploitation increased during the 1980s, with traders of South African origin dominating the business until the early 2000s. The main export destinations at this time included South Africa and Europe. A total of 167 concessions have been authorised since the establishment of the two forest harvesting regimes, collectively occupying an area of more than 6 million ha – 26% of the area of productive forests in the country (DNTF unpublished). Of these 167 concessions, 75% were located in the forest-rich central and northern provinces of Zambézia, Sofala, Cabo Delgado and

Table 3. Occurrence of productive forests by province

Province	Area (km²)	Forest area (000 ha)
Cabo Delgado	78 665	47 535
Gaza	75 714	37 709
Inhambane	68 536	23 057
Manica	62 428	34 560
Maputo	22 989	8 151
Nampula	78 816	26 910
Niassa	122 459	94 210
Sofala	67 542	28 497
Tete	100 944	42 067
Zambézia	103 036	48 478
Country total	781 129	391 174

Source: Ministério das Finanças (2010)

Table 4. Annual allowable cut (AAC) and licensed timber volumes by province, 2009

Province	Licensed volume (m^3)				AAC(000 m^3)
	Forest concessions (2009)	Simple licenses (2009)	Total (2009)	Total (2008)	
Maputo	0	0	0	212	(10.1 -10.2)
Gaza	0	2 161	2 161	1 297	(62 – 113.9)
Inhambane	1 931	10 617	12 548	12 019	(28.2 – 33.3)
Sofala	26 236	19 309	45 545	54 591	(53.3 – 81.2)
Manica	1 741	12 949	14 690	12 945	(49.0 – 64.2)
Tete	250	23 929	24 179	11 652	(31.9 – 48)
Zambézia	18 046	22 345	40 391	32 003	(121.6 – 91.2)
Nampula	1 890	5 161	7 051	11 018	(42.6 – 57.1)
Cabo Delgado	7 174	8 794	15 968	30 351	(84.1 – 120.4)
Niassa		420	420	693	(31.5 – 21.2)
Total	57 268	105 686	162 954	166 781	(515.7 – 640.5)

Source: DNTF (2009)

Nampula (DNTF unpublished). Only 92 of the 167 concessions have an approved management plan, a deficiency which is attributed to the limited economic capacity of the majority of Mozambican nationals to carry out forest inventories and develop detailed management plans (DNTF 2009). Total licensed volumes, relative to the annual allowable cut, in the different provinces are summarised in Table 4 for 2008 and 2009, with the 2009 figures broken down by harvesting regime.

The verdict is still out on whether the policy aims of promoting value addition and sustainable forest management, through a shift away from simple licenses to concessions and a reduction in exports of unprocessed logs, are being realised. Of the total licensed timber volume, 65% still comes from simple licenses (Table 4), confirming widespread stakeholder perceptions about their prevalence, despite official intentions to phase them out[108]. Nevertheless, since 2003 relative decreases were observed in the number of simple license holders in several of the heavily forested provinces in the north (Zambézia, Niassa, Nampula). Cabo Delgado, where the number of simple license operators increased in 2007 and 2008 following a temporary decline, appears to be one of the exceptions (Figure 10).

The number of concessions authorised from year to year has also been erratic, pointing to the challenges associated with attracting more durable investments into the sub-sector (Figure 11).

However, official data from Mozambique would suggest that the policy objective of enhancing value-added processing prior to export is largely being achieved. According to the 2009 annual report of the DNTF, the volumes of processed wood increased by 19% from 2008 to 2009, reaching 70% of the licensed wood volumes. Furthermore, according to Mozambican customs data, the proportion of unprocessed logs in the total timber exports dropped from a 10-year high of 78% in 2005 to 18% in 2010 and reached an all-time low of 13% in 2009. Yet with mirror statistics from important trade partners diverging significantly from the Mozambican customs data, as will be discussed below, it is difficult to know what proportion of this decrease represents a real achievement.

The other major area of foreign involvement in the forestry sector is in the area of plantations. The plantation forestry sector is rapidly expanding, with a number of large new investments in eucalypt and pine plantations for pulp and paper[109] (Table 5). This is part of a wider trend in large-scale, land-based investments in the country[110]. It also reflects a policy commitment to establish at least 2 million ha of tree

108 Mackenzie and Ribeiro (2009); CIFOR interview with a foreign technical advisor of MINAG, 18 Nov. 2010; CIFOR interviews with various stakeholders in Cabo Delgado, Feb. 2011.

109 CEPAGRI (2009).

110 CEPAGRI (2010); CIFOR interview with Maputo-based staff of CEPAGRI, 30 Nov. 2010.

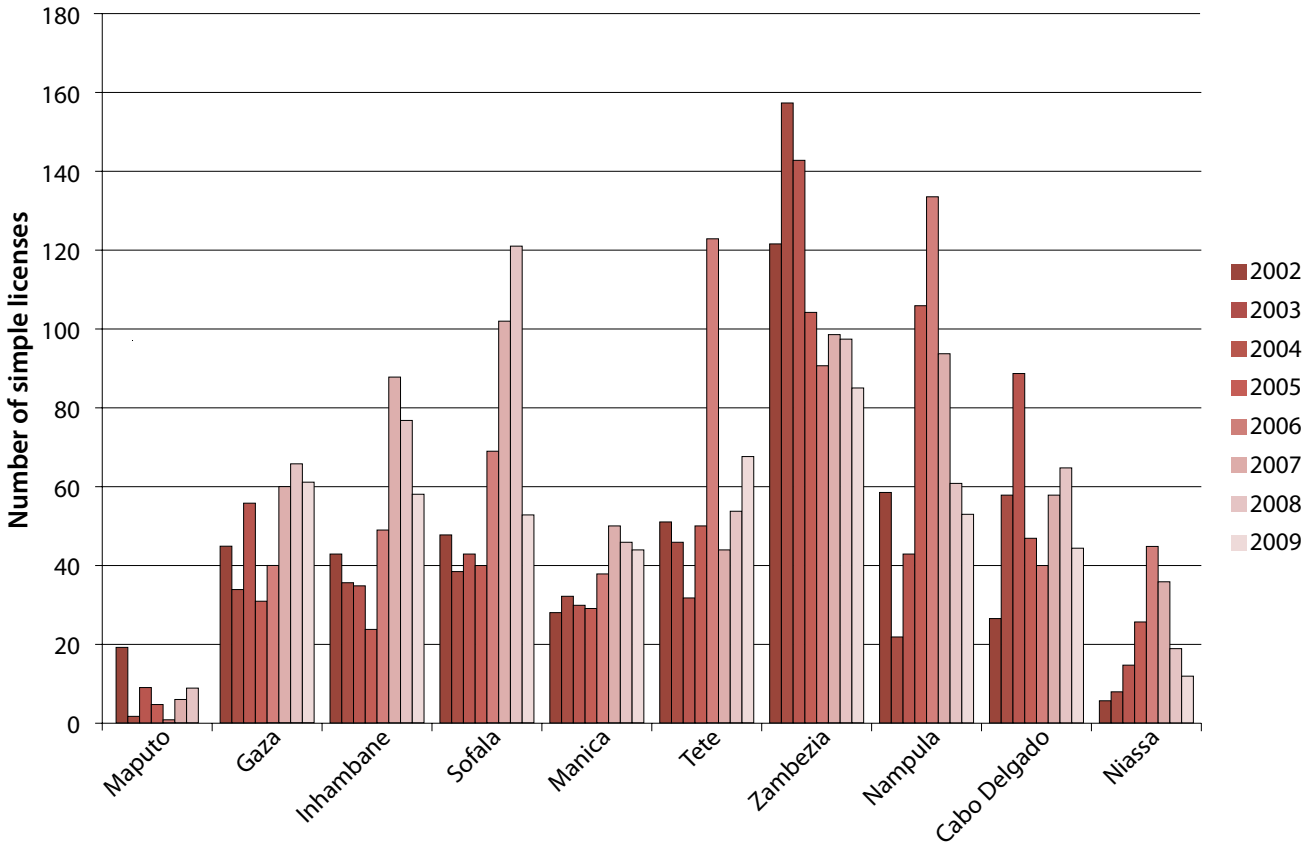


Figure 10. The evolution of operators with simple licenses, 2002-2009

Source: Taquidir (2009)

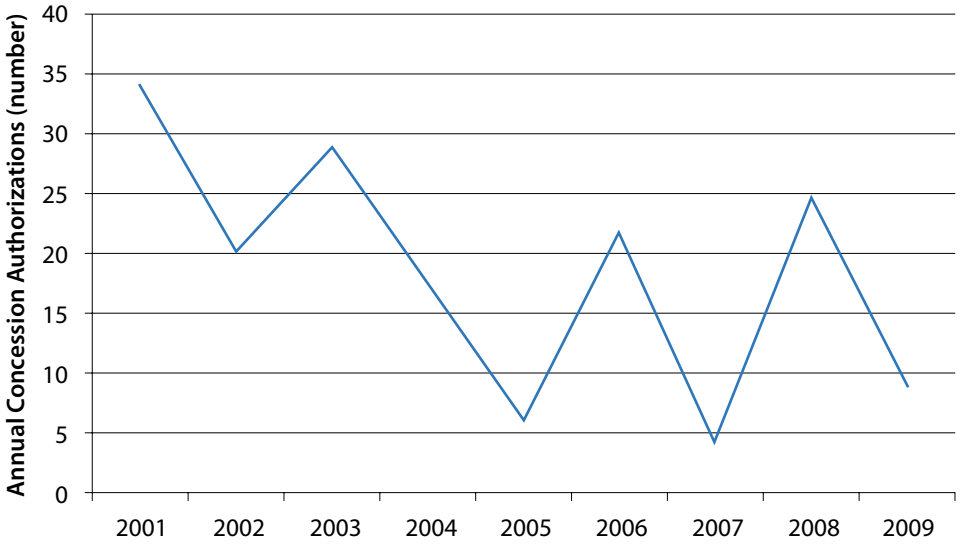


Figure 11. Number of concessions authorised nation-wide, 2001-2009

Source: DNTF (unpublished)

Table 5. Investors in forestry plantations in Mozambique

Project name	Country(ies) of origin	Business partners or Group	Province (District)	Investment pledge (USD million)	Current concession area (ha)	Area planted (ha)	Expansion plans/ targets
Companhia Florestal de Massangulo	USA, Sweden	Chikweti Forest of Niassa	Niassa (Ngaúma)	0.30 by 2008; 1 after	Unknown	85 (by 2007)	1 000 ha expansion per year; USD 1 million; 1.3 million seedlings
Lúrio Green Resources	Norway	Green Resources AS	Nampula (Erati, Mecuburi, Nampula, Ribáuè)	2 209	126 000[a]	80 (2009)	1.3 million tonne pulp; 52 000 m^3 sawn timber
Portucel	Portugal	Portucel Moçambique Lda	Zambézia (Ile, Namarroi)	2 311	173 327[b]	Unknown	220 000 ha in Niassa (pending DUAT)
Floresta do Niassa	Ireland, UK	Fundação Malonda; Rift Valley Forestry	Niassa (Lichinga)	10.00	210 000[c]	Unknown	120 000 ha
Chiconono – Projecto de Reflorestamento	UK	Unknown	Niassa (Muembe)	9.30	Unknown	Unknown	Unknown
Chikweti Forest Niassa	Sweden, USA	Global Solidarity Fund International (50%)	Niassa	25.6[d]	140 000[e]	10 000 (2009)	68 500 to 110 000 ha (6 000 ha/yr); USD 16 million
New Forests	UK	Rift Valley Group	Niassa (Muembe)	Unknown	40 000	1835	
Sanga Forest Project/ Malonda Tree Farms	Norway	Green Resources AS (80%); Malonda Foundation	Niassa (Sanga)	10	4 800	906 (2009)	2 500 ha of plantations
Fundação Malonda (para o Desenvolvimento Comunitário)	Mozambique	New Forest; Tree Farms	Niassa (Sanga, Lichinga, Muembe); Nampula	Unknown	170 000	Unknown	102 000 ha (60% of concession area)
Manica Forestry Industries	South Africa	Komatiland Forests (80%); Government of Mozambique – Instituto de Gestão das Participações do Estado (20%)	Manica	85	23 600[f]	7000	50 000 ha (5 000 ha/ yr); USD 100 million; 1 million m^3 chips/yr

continued on next page

Table 5. Continued

Project name	Country(ies) of origin	Business partners or Group	Province (District)	Investment pledge (USD million)	Current concession area (ha)	Area planted (ha)	Expansion plans/ targets
Suzano	Brazil		Nampula	Unknown	Unknown	Unknown	Unknown
Tectona Forests of Zambézia	Norway, USA, Sweden	Diversified International Timber Holding, LLC; Global Solidarity Fund International (17%); Diocese of Niassa (10%)	Zambézia (Gurue, Milange, Morrumbala, Namarroi)	101	19 540[g]	Unknown	66 000 ha (teak)
Sappi	South Africa		Zambézia		5 200		150 000 ha

a February, 2011 data from the DNTF contrasts with company claims, and suggests that only 75 685 ha was approved in Rapale and Ribáuè Districts.

b February, 2011 data from the DNTF suggests that only 149 800 ha was approved, in Namarroi District.

c February, 2011 data from the DNTF suggests that a request for 99 000 ha in Majune District, Niassa was under review. As it is unclear whether this forms part of one of the other two Malonda Foundation projects, it has been left out of the table.

d Company promotional materials put this investment at USD 60 million (GSFF, 2007).

e February, 2011 data from the DNTF suggests that only a request for 30 827ha was under review, with none yet approved.

f February, 2011 data from the DNTF suggest a request for 72 517 ha in Muanza District is under review.

g 'Government Authorises Forestry Mega-Project'. http://allafrica.com/stories/201110080064.html (22 Nov. 2011).

Sources: Official CPI data; CEPAGRI (2010); Embassy of Finland (2009); Overbeek (2010); Sitoe (2009); company websites (www.chikweti.com; www.greenresources.no/Plantations.aspx; http://www.newforestscompany.com; http://www.3ignet.org/resourcecenter/resourcePDFs/2007FebGSFFMemInv.pdf); http://wood.lesprom.com/news/39800/; http://wood.lesprom.com/news/42266/); www.ionline.pt/conteudo/38906-mocambique-governo-autoriza-entrada-da-portucel-no-pais; http://forestindustries.eu/content/mozambique-government-approves-eucalyptus-plantations; http://www.finnpartnership.fi/content/tiedostot/investement_mozambique.pdf; http://macua.blogs.com/moambique_para_todos/2009/11/green-resources-investe-com-dois-bili%C3%B5es-de-dolares-americanos.html#showToolbar; http://economico.sapo.pt/noticias/portucel-investe-23-mil-milhoes-em-mocambique-ate-2010_83211.html; http://www.safcol.co.za/index.php?option=com_content&view=article&id=41&Itemid=13; http://www.timberwatch.org.za/old_site/archives/20060212%20IFLOMA%20Managers%20Accused%20of%20Refusing%20to%20Produce%20Paper.htm); http://mozahub.com/index.php?option=com_content&view=article&id=876%3Agoverno-de-mocambique-autoriza-projecto-florestal-na-zambezia&catid=35%3Amozambique&Itemid=81&lang=en; http://www.golder.com/af/en/modules.php?name=Pages&sp_id=1180; Golder Associates (2009); unpublished data of the DNTF

plantations (and zoning an additional 3 million ha for potential investors) as outlined in the National Reforestation Strategy of 2006[111]. Most of the current investments are located in Niassa and Nampula Provinces, but selected investors are also targeting Zambézia, Sofala and Manica[112].

Governance challenges are also apparent in the plantation forestry sector. According to the DNTF, land disputes resulting from people being dislocated by war are a major risk to plantations[113]. In Niassa Province, where many of the larger plantations are located, the land acquisition process for plantations was facilitated by the Fundação Malonda, a private non-profit organisation working to facilitate private sector development in agriculture and agro-processing[114]. The employment of maps with a resolution that did not enable the location of local communities to be pinpointed has resulted in conflicts from the widespread overlap of the agricultural lands of local communities and areas allocated for plantations[115]. A report commissioned by the Rural Association for Mutual Support (ORAM) looked into some of the factors underlying these conflicts in Niassa, and found a lack of legal literacy among traditional authorities, the tendency of local leaders to involve family members rather than a representative of the local authorities in the negotiations (and therefore a failure to inform the majority of the affected parties) and the signing of documents about which the local signatories had very little understanding[116].

Chinese operations in the forestry sector

Mozambique is currently China's leading supplier of wood in East Africa[117], with the volumes of timber traded playing a significant role in shaping forest management in the country. This section describes Chinese involvement in the forestry sector in terms of the scope of operations, trade value, business models employed, legality and market drivers behind the observed trends.

Scope of operations

The vast majority of firms operating in the forestry sector are said to be in the business of harvesting from natural forests rather than investing in plantation forestry[118]. While recent investments in plantation forestry are sizeable, both in terms of investment levels and land area, there is no evidence of any Chinese investment in this sub-sector (see Table 5, above). It should be noted that the heavy involvement of European companies in plantation forestry in Mozambique does not seem to have enhanced compliance with EIA and mitigation legislation. As recently as December 2010, the provincial assembly of Niassa Province issued a recommendation that all forestry companies be obliged to carry out EIAs. Of the five large companies operating in the province, only one had complied with the environmental laws[119].

The presence of Chinese operators in the Mozambican timber trade increased dramatically in the 2000s, expanding from Mozambique's central province of Zambézia northwards to Cabo Delgado (Mackenzie 2006; Ribeiro and Nhabanga 2009). According to a government official in Cabo Delgado, Chinese operators began to arrive in Cabo Delgado in 2004/5 and the demand for timber 'exploded' in 2005. According to local respondents, the Chinese entered the market aggressively ('com muita forza') and quickly managed to out-compete the South African traders. In 2010 alone, three new companies of Asian origin (2 Chinese, 1 Cambodian) established operations in Cabo Delgado. Chinese companies currently constitute roughly half the number of larger operators in the province, yet only one of these larger companies (Mofid Lda) appears to hold a concession license. Table 6 provides information on the business models employed by the larger concessionaires operating in the province (a sub-set of the total). From the entire set of forest concessions in Cabo Delgado (21 authorised in 2011), Mozambican

111 Nuñez and Ribiero (2006).

112 CEPAGRI (2010); Sitoe (2009); official investment statistics from the CPI.

113 CIFOR interview with Maputo-based staff of the Ministerio de Agricultura and the Departamento Nacional de Terras e Florestas, 24 Nov. 2010.

114 Available at http://www.malonda.co.mz/ (7 Feb. 2011).

115 Sitoe (2009).

116 Sitoe (2009).

117 Janssen and Kiala (2009).

118 CIFOR interview with Maputo-based staff of the Ministerio de Agricultura and the Departamento Nacional de Terras e Florestas, 24 Nov. 2010.

119 See: http://www.portaldogoverno.gov.mz/noticias/agricultura/dezembro-2010/exploracao-florestal-niassa-exige-estudos-de-impacto-ambiental/ (2 Feb. 2011).

Table 6. Major timber operators in Cabo Delgado

No	Company	Nationality	Timber regime	Involvement in market chain[a]	Characterisation of business model
1	Miti Lda	Mozambican	1 concession 5 simple license associates	H, P, T, E	Forward finance for simple license associates; complies with reforestation requirement
2	Mofid Lda	Chinese	Concession	H, P, T, E	Purchases additional timber
3	GAK	Mozambican	Concession	H, P, T, E	Forward finance to simple license holders
4	Mozambique Madeira	Swedish	Concession	H, P	No purchase of additional timber
5	Pacific International	Chinese	n/a	T, E	Timber merchant
6	Mozambique Tienhe	Chinese	n/a	T, E	Timber merchant

a [H = harvesting; P = processing; T = trading; E = exporting]

Source: CIFOR interviews in Cabo Delgado, Feb 2011

companies reportedly own about half, while only three are held by Chinese investors.

Thus, the defining role of Chinese markets and traders reported by most interviewees in the province appears to stem more from their involvement in the timber trade than their formal role in the concession system. This is corroborated by official data on timber purchasing companies in Cabo Delgado (Table 7). This is in contrast to the patterns reported in Zambézia Province, where ethnic Chinese operators are increasingly moving from the forward financing of simple license holders of Mozambican origin to become concession holders (Mackenzie and Ribeiro 2009).

It should be noted that despite the tendency for a northward expansion of the industry, there is talk of the establishment of an 'Industrial Park for Tropical Forest Exploration' in Zambézia Province as part of a wider plan for Sino-Mozambican economic and commercial cooperation. According to the document from the Ministry of Agriculture, 'Projeto Chave', an estimated USD 10 million investment would generate approximately 500 jobs and establish a processing facility with an estimated annual production value of USD 2 million. While relying initially on indigenous hardwoods, the proposal includes reforestation and afforestation activities.

Value of trade

The value of the timber trade between China and Mozambique has seen a strong increase in recent years (Figure 12). According to Mozambican customs data, the value of timber exports to China was of the order of USD 30 million in 2009 and, according to recently released statistics from China, reached USD 134 million in 2010. China's share of Mozambique's timber exports has risen sharply, from a low of 10% in the early 2000s to 80% by the end of the decade, according to official statistics. This trade relationship is clearly more important to Mozambique than to China, for whom the value of the timber trade with Mozambique for the decade is just 0.84% of total trade.

As can be seen from this graph, there are a number of discrepancies in the figures reported by Mozambique and China for the entire decade. The value of Mozambican timber imports reported by China far exceed the value of exports to all trade partners reported by Mozambique; this reached a high of USD 134.3 million in 2010. If Chinese statistics are assumed to represent the full value of trade then the difference can be interpreted as resulting from poor customs controls. This would imply that Mozambique has lost tax revenue on USD 361 million of trade with China in the period 2001 to 2010. Another possible explanation is that the excess

Table 7. Timber purchasing companies in Cabo Delgado

No	Company	Location	Nationality
Timber purchasing companies			
1	Madeiras Alman	Cities of Pemba and Montepuez	Indonesian
2	Pacific Internacional	City of Pemba	Chinese
3	Mozambique Tienhe	City of Pemba	Chinese
4	King's Way	City of Pemba	Chinese
5	Senlian Lda	City of Pemba	Chinese
6	Pingos Marinha	City of Pemba	Chinese
7	Sawers Cup Lda	City of Pemba	Chinese
7	Jian International	City of Pemba, Metuge	Chinese
8	Henderson International	City of Montepuez	Chinese
9	WTC	City of Montepuez	Chinese
10	Mpingo	City of Montepuez	German
11	Transworld Timber	City of Montepuez	Tanzanian
12	Guo Mao	City of Montepuez	Chinese
13	Leang Srun Heng Import and Export Ltd	City of Montepuez	Cambodian
Concession holders who also purchase timber			
14	Mofid Lda	City of Pemba	Chinese
15	King's Way	City of Pemba	Chinese

Source: Departamento Provincial de Agricultura de Cabo Delgado (2011)

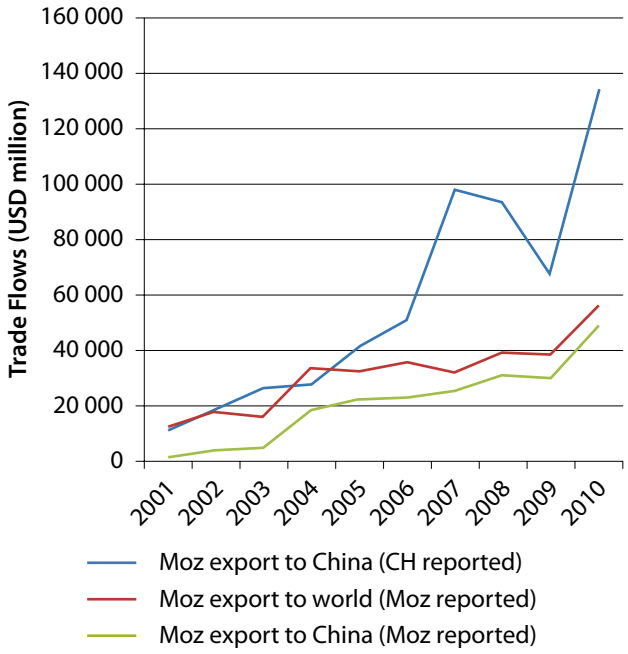


Figure 12. The value of timber exports from Mozambique to China and to the world, 2001-2010

Source: UN Comtrade

volume of timber is derived from neighbouring countries which is labelled as being of Mozambican origin. This would imply similar revenue losses to neighbouring countries[120].

Business models

To describe the involvement of Chinese firms in the harvesting and trade of timber from natural forests, it is important to take a historical perspective. According to a number of sources, there has been a significant shift in the business models employed by Chinese operators in the Mozambican forestry sector from the 1990s to the present. The original model, employed exclusively in the 1990s and still prevalent in some locations, was for Chinese traders to provide equipment on loan to Mozambican

120 Anecdotal evidence from the northern boundary with Tanzania suggests that this could be happening in response to the recent log export ban in Tanzania (CIFOR interview with staff of a Maputo-based NGO, 23 Feb. 2012); this, however, requires validation.

nationals holding simple licenses[121]. In the majority of cases where ethnic Chinese merchants work with Mozambican partners, the latter could, until recently, also receive forward financing to cover the costs of the license (estimated at USD 15 000), labour and transport[122]. Under this model, the local partner transports the logs to the ports, where the Chinese buyer is waiting with ships or smaller vessels that subsequently transport the logs to cargo ships waiting in international waters[123]. This is in contradiction to the intent of the simple license regime, which was intended for local house construction and furniture-making rather than to supply the external market[124]. Some sources perceive this to be a convenient strategy for Chinese merchants to wash their hands of any association with illegal practices. "They operate through licenses of Mozambicans rather than directly. It is part of their strategy. If there is a problem, it is with the license holder rather than with the Chinese [operator][125]." However, no hard evidence was found during the scoping to validate this statement.

More recently, increasing numbers of the Chinese have operated through concessions, along the lines of official policy[126]. According to one report, this is largely because of the risks associated with the provision of credit; too many simple license holders are defaulting or side-selling[127] (Mackenzie and Ribeiro 2009). As a consequence, in the mid-2000s many Asian traders, formerly buying from simple license holders in Zambézia Province, began to acquire their own concessions[128]. Yet this does not mean Chinese operators necessarily have a stronger presence on the ground or in forest management. According to reports from the province, a common practice is to sell off concession licenses at a premium (and then buy back the timber) or to provide the license to trusted loggers to log the concession on their behalf[129]. Unlicensed loggers or *furtivos* operate many concessions, with local villages often supplying to *furtivos*[130]. Concessions have, therefore, become a means to informally contract operations to individuals formerly operating as simple license holders.

These observations from Zambézia were only partially corroborated in Cabo Delgado. Respondents explained that forward finance by Asian traders is limited to simple license fees and gasoline for chainsaws. It is primarily provided to operators with guarantees (e.g., house, car) as a means to minimise risk. In addition, the contracts between traders and loggers include an advance purchase agreement at a given price. In some cases, the trader sends a truck to pick up the timber and to transport it to the trader's operating base (including, in some cases, simple saw mills) where containers are prepared for export. However, respondents also noted that the model of forward financing largely stopped three to four years ago. One respondent explained that abuses in the form of contracted loggers selling to another trader offering higher prices had become so frequent that only trusted partners became eligible for finance. Some timber merchants have started to acquire their own concessions to circumvent this problem. As one respondent in Cabo Delgado put it, "I need to prepare for when nobody wants to sell me timber, and with a concession I can securely cut for the next 15 years." However, as explained above, a larger number of Chinese companies continue to operate as traders rather than as concession holders. From the rural scoping in Pemba, no evidence was found that concessions were sold on or transferred to third parties as was stated to be the case in Zambézia.

121 CIFOR interview with staff of a Maputo-based NGO, 5 Nov. 2010.

122 CIFOR interview with faculty of the Universidade Eduardo Mondlane, 23 Nov. 2010; CIFOR interview with a foreign technical advisor of MINAG, 18 Nov. 2010; Jansson and Kiala (2009); Mackenzie (2006).

123 Jansson and Kiala (2009).

124 CIFOR interview with a foreign technical advisor of MINAG, 18 Nov. 2010.

125 CIFOR interview with faculty of the Universidade Eduardo Mondlane, 23 Nov. 2010.

126 CIFOR interview with faculty of the Universidade Eduardo Mondlane, 23 Nov. 2010.

127 Where operators sell timber to other buyers, in violation of written or verbal agreements with the companies providing forward financing.

128 Mackenzie (2009)

129 By law, it is not possible to transfer concessions or simple licenses to other operators unless transferring company ownership.

130 One consequence of this trend is for many of the individuals formerly holding simple licenses to acquire licenses or timber in other ways (Mackenzie and Ribeiro 2009). One model is to purchase licenses illegally from Serviços Provinciais de Florestas e Fauna Bravias (Provincial Services for. Wild Forest and Fauna) staff or from the field inspectors. Another is for simple license holders to go underground, operating as *furtivos* to buy logs from villages and sell them at local collection points or to licensed operators.

The trend of an increasing demand for concessions corresponds with the official policy to move away from simple licenses to concessions. Yet while the number of concessions is on the rise in some provinces, there is also evidence to suggest that new concessions are being acquired by powerful Chinese and Mozambican political elites to reserve prime forests for future use[131]. Some respondents in Pemba confirmed this trend for Cabo Delgado Province. Of the recently approved and contracted concessions in Zambézia Province, 35% were also found to lack the processing infrastructure required by law to start operations. Civil society respondents in Cabo Delgado similarly noted that many concessionaires only comply with the minimum requirements, with very simple saw mills for minimal processing and weak management plans.

This increase in the number of concessions has not always corresponded with a significant reduction in the number of simple licenses[132]. As an illustration, the temporary reduction in the number of simple licenses in Zambézia Province was followed by a modest increase, the proportion of timber harvested by simple licenses vs. that harvested by concessions remains high and the aforementioned trends have reportedly led to an explosion of illegal licensing and unlicensed logging (Mackenzie and Ribeiro 2009). Fluctuations in the number of simple license holders has also been observed in other provinces, with only Nampula and Niassa witnessing steady reductions in recent years (see Figure 10, above). We lack data to verify the proportion of these traders that are financed by, or sell to, ethnic Chinese merchants.

Legality

Large amounts of the timber being exported to China are reportedly illegal[133].
According to respondents in Cabo Delgado, illegal timber harvesting and export has increased substantially in the last five years. According to one government official, the South African traders, who have historically dominated trade in the province, are 'more organised' and 'more compliant with Mozambican laws'. However, such statements are common and may reflect how individuals perceive the familiar vs. the new or less understood. The irregularities associated with the Sino-Mozambican timber trade are reported to include:

- Illegal harvesting (harvesting in excess of licensed amounts, harvesting without a license or harvesting in an area other than the licensed one)
- Violations of labour laws (e.g., illegal employment of foreign workers)
- Illegal transit and purchase of timber
- Illegal exports (exports of unprocessed logs of species classified as first class, and under-reporting of the volumes exported)[134].

There is also evidence pointing to discrepancies between the maximum allowable cuts, official records and Chinese imports. Official data from one province showed 400 m^3 of Pau Preto (*Dalbergia melanoxylon*) with documents, despite a legislated maximum of 100 m^3 for the province. They also calculated an estimated 3000 m^3 to 4000 m^3 leaving the province for China. When looking for Pau Preto in China, they found an estimated 10 000 to 15 000 m^3 from Mozambique without documentation. Exports of 30 times the annual quota for Pau Preto were also reported for one year from Zambézia Province (Mackenzie and Ribeiro 2009).

The absence of trade data broken down by species makes it difficult to evaluate the extent to which Decreto 12/2002, which specifies which species must be processed prior to export, is followed. However, evaluation of the composition of processed vs. unprocessed exports and the level of processing can provide some indication of whether official policies on value-added processing are being achieved. Data show high levels of exports of unprocessed logs through 2007, with a sharp decline thereafter (Figure 13). Yet the decline suggested by Chinese imports data is much more subtle than that indicated by data reported by Mozambique. The former suggests that 76% of exports to China – the main trade partner – remain unprocessed. When looking at the level of processing of timber exports classified as processed, nearly 100% of those exports classified as processed are processed only minimally (classified

131 Mackenzie (2009).

132 CIFOR interview with a foreign technical advisor of MINAG, 18 Nov. 2010; Mackenzie and Ribeiro (2009).

133 Mackenzie (2006); Mackenzie and Ribeiro (2009); Ministry of Finance (2010); Ribeiro and Nhabanga (2009); CIFOR interview with a foreign technical advisor of MINAG, 18 Nov. 2010.

134 Mackenzie (2006); Mackenzie and Ribeiro (2009); Ministry of Finance (2010); Ribeiro and Nhabanga (2009).

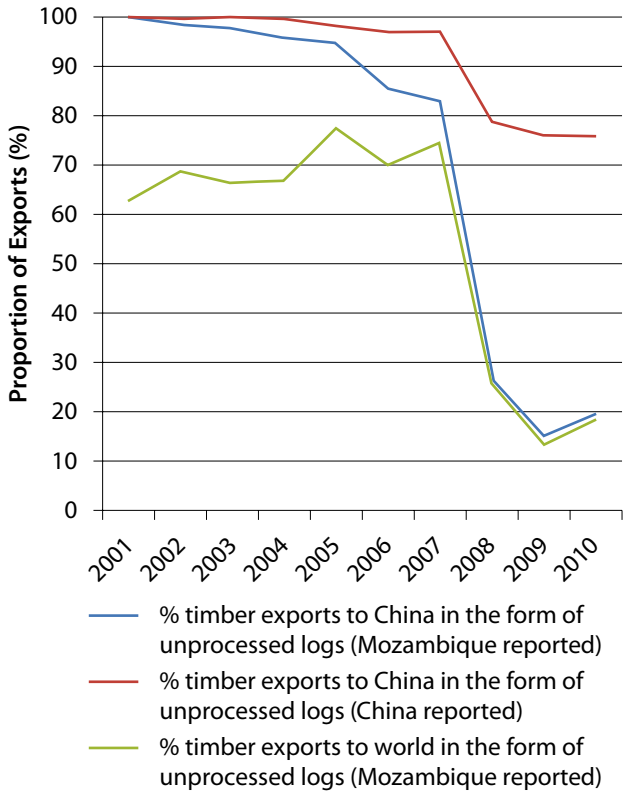


Figure 13. Proportion (%) of timber exports to China which are unprocessed, 2001-2010

Source: UN Comtrade

as 'wood sawn/chipped lengthwise, sliced/peeled'). This figure stays remarkably constant from 2001 to 2010 (97% to 100%), suggesting very limited achievements vis-à-vis official policy objectives[135].

This observation is corroborated by other strands of evidence. Research carried out in 2004 in Zambézia Province found the vast majority of Chinese exports to be unprocessed logs (Mackenzie 2006). A later study found a low value (Class 3) species being used as a cover for the export of more valuable species and the reporting of Pau Ferro planks as a cover for exports in logs[136]. In January 2011, a ship was also prevented from illegally exporting 161 containers from Pemba with mainly Chinese owned unprocessed logs and 126 elephant tusks[137].

Provincial labour departments and published studies also attest to the illegal employment of foreign workers (many, but not all, being Chinese) by the large timber companies[138]. Respondents in the Mackenzie and Ribeiro (2009) study also reported a practice by Chinese merchants of discounting USD 10/m^3 when purchasing illegal timber, which evidences engagement in the purchase of timber sourced illegally. This contravenes the 1999 Law requiring that only forestry products with the appropriate harvesting or transport licenses be acquired. The practice of discounting the value of illegal timber was also reported by respondents in Cabo Delgado. An industrial operator cited in one report claims that provincial level authorities are paid bribes by simple license holders and Asian operators to facilitate their operations[139]. Janssen and Kiala (2009) go so far as to say that illegal logging by Chinese companies in Zambézia, Cabo Delgado, Nampula and Niassa Provinces has become the most controversial issue in Sino-Mozambican relations.

The influence of the Chinese timber market

A number of market drivers within China have had a powerful influence in shaping forestry practices in Mozambique. The first is domestic consumer demand. Mozambican timber is used for four main purposes in China (Mackenzie 2009):

- Reproduction of Ming and Ching dynasty furniture, for which the more expensive rosewood species traditionally used are being

135 A 1999 law affirms that the state will, "Promote the establishment of processing industries for forestry and fauna products, with the aim of increasing, gradually, exports of manufactured products." (Article 8). Article 16 of the law also establishes a concession licensing system for "… supplying the processing industry …" and states that the concession license holder "… should guarantee the processing of forestry products obtained." (República de Moçambique, 1999).

136 Mackenzie and Ribeiro (2009).

137 Noticias, 12 de Janeiro 2011, 'Pemba: Abortada saída ilegal de madeira.' www.jornalnoticias.co.mz/pls/notimz2/getxml/pt/contentx/1164652/20110112 (27 de Janeiro 2011). 'Apreensão de madeira e marfim em Pemba.' www.verdade.co.mz/nacional/17011-apreensao-de-madeira-e-marfim-em-pemba. By the time of the rural scoping in Cabo Delgado (February 2011), officials from MINAG and the customs service charged with enforcement had been suspended from their duties (and have since been released from duty), and the timber companies involved were on trial.

138 Mackenzie and Ribeiro (2009); Ribeiro and Nhabanga (2009). Labour irregularities are not restricted to Chinese companies. Researchers in Cabo Delgado discovered an Israeli operation with working conditions described as 'horrible' (with salaries of MZN 500-800 per month for 7 days of work per week, from 4 am to dusk).

139 Mackenzie and Ribeiro (2009).

substituted with African species (primarily *Swartzia madagascariensis, Combretum umberbe, Millettia stuhlmannii*, classified as Class I, and *Dalbergia melanoxylon*, classified as precious)
- Solid wood flooring (primarily *Millettia stuhlmannii* and *Afzelia quanzensis*, classified as Class I and precious, respectively)
- Veneers for laminated flooring
- Carvings

Market forces driving high volumes of demand include the growing Chinese economy, the active wood processing sector and the logging ban in China. The is a tendency to import wood in excess of current demand, with some companies reportedly storing imported timber underwater for later sale at a premium[140]. It is important to note that domestic consumption represents only part of the Chinese demand for wood, with U.S. and European consumer demand for processed wood products from China also having a defining role (Canby 2008). Despite the preferred uses reported by Mackenzie (2009), other respondents suggest Chinese demand is endless, not just for commercially viable species, but for Mozambique's lesser known species[141]. Logging operators in Cabo Delgado confirmed the emerging demand for less known and regulated species, and emphasised that Asian merchants exported even "… the roots of the trees …" for which they must have uses.

Market factors driving demand for logs over processed wood include Chinese policies supporting the domestic wood processing industry and the fact that imports of unprocessed logs carry no import duties within China and most importing countries[142]. Exporters reportedly make less profit selling timber to the Chinese market as boards (first level processing) than as logs, given the requirements associated with the aforementioned end uses within China and the ability of Chinese wood processers to make efficient use of all wood scraps[143]. Thus, while some logs are sawn according to Mozambican regulations, most are not. There is some disagreement about the role of the Chinese government in driving the demand for unprocessed logs. One source suggests that the high level of participation of state-owned enterprises in the timber trade with Mozambique (accounting for from 40% to 60% of imports) would tend to encourage log imports in support of official policies supporting the domestic wood processing sector[144]. Others suggest the government is not interested in Mozambican timber given the small volumes involved and the political complications associated with the illegal timber trade[145].

In addition to the Chinese market, some respondents in Cabo Delgado pointed to the also significant, yet much smaller, Tanzanian market for timber. At least for the last six years, merchants from Tanzania were observed to operate in the northern part of Cabo Delgado, close to the Tanzanian border where timber was exported either by road or by small ships from the northern port town of Moçimboa da Praia. The trade is largely uncontrolled and constitutes another driver for illegal timber operations.

Some reports suggest that political interference has characterised trade relations between China and Mozambique to reconcile the disconnection between official policy and Chinese market demand. According to one report:

> "Because the Chinese market supposedly would not accept fully processed timber (and certain operators' sawmills were not capable of sawing to specification), the Asian lobby put pressure on the government in Maputo and in September 2007, got another Diploma published, which changed the sawing requirements to permit the export of slabs of rough cut timber, known as '*pranchas*' (rough sawn planks) … instead of fully squared (4x4 finished)." (Mackenzie and Ribeiro 2009, p. 32).

Similar pressure was reportedly applied just as the 2002 Forestry and Wildlife Regulations requiring the processing of Class I species was about the come into effect. The Ministry has reportedly issued subsequent decrees reclassifying the main commercial species as 'precious' to enable their export as logs. In 2003, for example, *Swartzia madagascariensis* and *Combretum imberbe* – two of the species in highest demand – were reclassified into the precious class. A January 2007 Ministerial Diploma returned these species, along with a few Class 3 and 4 species in high demand, to Class 1. However, exports continued on the basis that logs were harvested before the Diploma

140 Barr and Cossalter (2004); CIFOR interview with faculty of the Universidade Eduardo Mondlane, 23 Nov. 2010.

141 CIFOR interview with a foreign technical advisor of MINAG, 18 Nov. 2010.

142 Ministry of Trade and Commerce; CIFOR interview with a foreign technical advisor of MINAG, 18 Nov. 2010.

143 CIFOR interview with a foreign technical advisor of MINAG, 8 Nov. 2010.

144 Mackenzie and Ribeiro (2009).

145 CIFOR interview with staff of a Maputo-based NGO, 5 Nov. 2010.

came into effect and the deadline for implementing the Diploma was extended twice[146]. There was a sharp decline in exports of *Pterocarpus angolensis, Millettia stuhlmannii* and *Afzelia quanzensis* following the expiry of the 2005 regulation enabling their export as logs[147]. This illustrates the potential effectiveness of a species-based classification system for regulating exports – if implemented effectively.

During the period when log export bans were in place, companies reportedly stored logs in their log-yards rather than sawing and exporting, with the expectation that the regulations would be reversed[148].

Impacts on forests and domestic value capture

Observed impacts

The effects of the observed trends are reported to include the rapid depletion of economically important species and loss of value to the national economy. While no systematic studies have been carried out to assess the impacts on the resource base, a number of independent lines of evidence suggest that these trends have already been detrimental to forest sustainability in some locations. According to several respondents, the commercial timber species in the forests of Zambézia are largely depleted, with the hotspot of illegal logging having moved northward to the less disturbed forests of Cabo Delgado[149]. Yet even in Cabo Delgado, various respondents (timber operators, civil society and local community members) pointed out that commercial timber is already depleted in areas surrounding Pemba and that the 'logging frontier' was moving towards the north western part of the province. One report from Zambézia Province found an absence of any spatial control over annual timber harvests even within four 'managed' concessions[150]. Many of the commercial species reach maturity after 50 years or more – 200 to 300 years in the case of Pau Preto. With a very low density of commercial species and a forest structure that does not lend itself to mechanisation, the ecological characteristics of Mozambican forests undermine the ability to make a well-managed system of rotation forestry economically viable[151]. Concessions are large in size, but small in terms of productivity. Even in remote areas, forests reportedly contain only from one to three cubic meters of commercially valuable timber per hectare. According to one forestry expert, "When loggers go to forest, they go like picking berries…one here, one there."[152]

As for inward investment and value addition, several sources characterise Chinese firms as unique in placing the emphasis on quick returns rather than investment in a viable industry. They derive this conclusion from the emphasis of Chinese merchants on trade in indigenous timber species over investment in processing facilities and sustainable forest management.[153] According to one source, most Chinese economic actors active in the country's forestry sector are "… merchants [rather than investors], buying timber from local or other foreign operators and exporting to China." (Janssen and Kiala 2009, p. 12). This characteristic of Asian involvement in the timber sector was also confirmed during the rural scoping in Cabo Delgado. The processing requirement stated as a policy objective in the 1999 law on forests and wildlife was intended to stimulate inward industrialisation of the forestry sector, thus leading to job creation and domestic value capture. Non-implementation of policies and regulations has led to the loss of potential jobs and value to the Mozambican economy. Where effectively implemented, increases in the production of sawn timber and the number of operators processing for export have been observed[154]. However, many of the new sawmills are of low quality, process only enough to meet the minimum requirements for export and, therefore, employ very few people. Despite these concerns, the influx of Chinese operators into Cabo Delgado and the increase in demand for timber may be behind the reported increase in demand for concessions in the province – a trend which is reportedly driven by a desire to secure future timber

146 Mackenzie and Ribeiro (2009). An industrial operator cited in this report claims that these changes in regulations result from payments to the Directorate of Forestry and Wildlife.

147 Mackenzie and Ribeiro (2009).

148 Mackenzie and Ribeiro (2009); CIFOR interview with staff of a Maputo-based NGO, 5 Nov. 2010.

149 CIFOR interview with a Maputo-based staff member of an international agricultural research organization, 3 Nov. 2010; CIFOR interview with staff of a Maputo-based NGO, 5 Nov. 2010.

150 Mackenzie and Ribeiro (2009).

151 CIFOR interview with staff of a Maputo-based NGO, 5 Nov. 2010; CIFOR interview with a foreign technical advisor of MINAG, 18 Nov. 2010; Sitoe (2009).

152 CIFOR interview with a foreign technical advisor of MINAG, 18 Nov. 2010.

153 CIFOR interview with faculty of the Universidade Eduardo Mondlane, 23 Nov. 23, 2010; CIFOR interview with staff of a Maputo-based NGO, 19 Nov. 2010; CIFOR interview with Maputo-based staff of the IFC, 25 Nov. 2010.

154 Mackenzie (2009).

supplies[155]. If this is true, this could be seen as a welcome indirect impact reflecting the official policy objectives to strengthen the concession system[156].

Employment of foreign workers can further undermine local benefits capture from the industry. Anecdotal observations from Cabo Delgado suggest employment benefits do occur. In one Asian managed timber trading and processing company the staff was composed of four Asians (including the manager) and 45 Mozambicans working in the saw mill. Local respondents in the report by Mackenzie and Ribeiro (2009) claim that Chinese firms tend to pay no taxes or social security, making it difficult for other operators to compete with them. At the same time, the extent to which other national operators fully pay their taxes can be questioned. Besides these potential losses to the domestic wood processing industry and employment creation, illegal logging has resulted in sizeable losses to the national treasury. The insufficient implementation of the National Forest Strategy and its associated regulations, including limited financial and technical support for operators to shift from the simple license to the concession model (as stated by timber operators in Cabo Delgado), compromises the potential of the forestry sector in supporting rural development.

Rural scoping in Cabo Delgado also highlighted a number of features attributed to Chinese operations that had unique effects on local livelihoods. Some timber operators expressed resentment of the Chinese presence in the sector, because of their comparative advantage in accessing the Chinese market and their tough negotiating stances. These include a greater inflexibility in setting the price to be paid for logs, a tendency to 'discount' (underestimate the dimensions of logs) and a tendency to greatly discount the price paid for illegally sourced logs. Livelihood impacts are also felt indirectly, through the effects of the shifting logging frontier on operating costs. The forward financing scheme was also seen as exploitative, with only those who could not afford to self-finance reportedly engaging with Chinese financiers. And while it is unclear the extent to which Chinese involvement may be said to be favouring one of the two harvesting regimes, a clear set of trade-offs was seen to characterise the two regimes. While concessions were seen as more beneficial in generating government revenue and economic spillover (e.g., employment of skilled consultants and labourers), simple licenses were seen as generating more informal rents (through corruption) and as more beneficial for local employment.

With the exception of local livelihood impacts, which were clearly attributed to Chinese economic operators (albeit requiring further validation), it is currently unknown what proportion of these effects may be attributable to Chinese economic operators or the Chinese market. It is this issue that the next section tries to address.

Attribution of impacts

It seems that the problems in the forestry sector in Mozambique result from a confluence of factors, only some of which may be attributed to the influence of the Chinese market, government or private sector. A number of recent reports suggest that governance problems are systemic, with poor sector performance on a number of indicators[157] and a high level of complicity of civil servants and the economic, political and military elites[158]. This impression was corroborated during the rural scoping in Cabo Delgado. While the strong market demand certainly plays a role in straining the forest governance system and providing an opportunity for corruption and mismanagement, a recent audit of the sector points to a number of systemic problems across several provinces[159].

Many of the weaknesses are related to poor administration and law enforcement. These include the following[160]:

- Reporting discrepancies between different government agencies
- Lack of correspondence between licensed volumes and harvested amounts, based on official statistics, with licensing covering only 54% of the extracted amounts in 2009 (excluding illegal exports)
- The volumes of wood needed by industrial production are more than the volumes of raw material reported in the DNTF reports
- Non-compliance with '*caução*' fees
- Variable quality of systems for registering revenue among provinces

155 CIFOR interview with Provincial Directorate of Agriculture, 23 Feb. 2011.

156 CIFOR interview with the Provincial Directorate of Agriculture, 23 Feb. 2011.

157 Ministry of Finance (2010).

158 Jansson and Kiala (2009); Mackenzie (2006); Mackenzie and Ribeiro (2009); Ribeiro and Nhabanga (2009).

159 Ministério das Finanças (2010).

160 Ministério das Finanças (2010).

- Under-payment of 20% of all taxes due to the affected communities – despite annual improvements in the payment of the amounts due; reaching 71% in the latest reported figures. Major discrepancies in the amounts reported by different government agencies and in the amounts reported by government agencies and received by communities
- Only 56% of the fines issued in 2009 were actually paid, with failure to pay fees resulting in the loss of MZN 10 million (USD 392 759) in 2007 and MZN 8 million (USD 299 127) in 2009. Gaza, from where the majority of charcoal originates, is the province where sector performance regarding the payment of fees is lowest
- In the one province where sufficient data are provided for evaluation, levels of fee payment are higher for the fines with the lowest values. This suggests that major offenders have a greater capacity to evade payment[161]

High levels of variability in adherence to official licensing procedures, as indicated by levels of compliance with the key steps in the licensing process in different provinces (see Table 8)[162].

Other problems were found to be related to the management of AACs and declining revenues from unsustainable forest management practices. These include[163]:

- Harvesting in excess of the AAC
- The volume of charcoal production was found to grow rapidly (from 273 548 m^3 to 470 752 between 2007 and 2009), with harvested volumes almost six times the AAC and licensed volumes not more than between 10% and 20% of urban demand[164]
- While the net harvesting rate for all species is below the official AAC, wood harvesting is highly concentrated on just four species which together account for 58% of the harvest by volume[165]; these are being harvested in excess of regeneration rates
- A 50% reduction in the value, by volume, of harvested timber between 2007 and 2009 as a consequence of a shift towards less valuable timber species and an increase in charcoal production, both symptoms of unsustainable management practices
- The development of management plans with incorrect or falsified figures that have no basis in a forest inventory, undermining the procedure's relevance to resource management[166].

A third set of challenges relate to the harvesting and transport of timber without licenses. In 2009, 87 000 m^3 of timber worth an estimated MZN 71 million (USD 2.2 million at the time of writing) was harvested without a license. The report estimates losses in the range of MZN 72 to 150 million (USD 2.3 to 4.7 million) because of the under-licensing of charcoal in the same year[167]. In addition to illegal sourcing of timber, many logging concessions are used as a cover for the mining of precious stones[168].

Limited enforcement capacity is a factor often cited by government officials as a reason for the poor performance of the sector. Official statistics

161 Such uneven law enforcement is supported by findings in Niassa Province, where none of the fines were leveraged against commercial timber (Sitoe 2009).

162 This set of findings is also supported by Mackenzie and Ribeiro (2009), who cite discrepancies between official data supplied by different government agencies and misreporting of exports (including under-reporting of volumes, under-invoicing of values and under-declaration of container loading).

163 Ministério das Finanças (2010).

164 One respondent also talked of 'rumours' of several demands for charcoal from foreign companies in Sofala Province (CIFOR interview with a Maputo-based private consultant, 27 Nov. 2010).

165 Chanfuta (*Afzelia quanzensis),* Messassa (*Brachystegia* spp.*),* Mondzo (*Combretum imberbe)* and Jambire (*Millettia stuhlmannii*).

166 These findings are supported by other studies (Mackenzie 2006; Mackenzie and Ribeiro 2009; Ribeiro and Nhabanga 2009; Sitoe 2009), which document similar factors underlying unsustainable forest management. Among these are:

- The absence of approved management plans in a majority of concessions,
- Cutting in areas that are not properly inspected prior to licensing
- Harvesting outside of concession areas and limited effort to monitor such practices
- Licensing far in excess of annual allowable cut
- Harvesting and transporting more than 10% in excess of authorised volumes
- Poor quality management plans (with plans to exploit all commercial species in the first few years of operation)
- Failure to use for the designated purpose the 15% royalties operators pay to reforest
- Absence of good records at the national level on the permanent forest estate (e.g., species and volumes cut)
- The lack of permanent records of licensed harvesting areas.
- One study also questions the quality of forest inventories employed to justify a recent increase in the annual allowable cut (Mackenzie and Ribeiro 2009).

167 These findings are supported other studies (Mackenzie and Ribeiro 2009; Ribeiro and Nyabanga 2009), which report high levels of illegal licensing, falsification of documents and high levels of unlicensed logging.

168 CIFOR interview with staff of a Maputo-based NGO, 5 Nov. 2010; CIFOR interview with a Maputo-based private consultant, 27 Nov. 2010.

Table 8. Degree of compliance with required documentation in the forestry licensing process in selected provinces

Required documents	Maputo (%)	Gaza (%)	Sofala (%)	Zambézia (%)	Nampula (%)	Niassa (%)
Completed application form	100	73	100	100	100	100
Proof of nationality	100	63	92	100	100	100
Topographical sketch	100	63	80	100	100	93
Community consultation	100	73	52	100	100	0
Administrative approval	100	73	52	100	100	100
Simplified management plan	3	73	52	100	100	93
Management plan	3	67	52	97	100	73
Indication of possible markets	3	57	52	100	100	63
Indication of employment and local benefits	3	63	52	90	100	70
Declaration of not having requested other simple license for the current year	0	53	0	87	0	40
Certidao negativo confirming there are no other active licenses in the same area	0	63	12	0	100	97
Visit to the area by SPFFB	0	73	0	90	100	13
Approval by the Provincial Directorate of Agriculture	3	73	52	100	100	100
Final visit to review equipment	0	0	52	97	100	0
Payment of the pledge	100	73	52	33	100	0

Source: Ministry of Finance, 2010; República de Moçambique 2002a

suggest that this is true, with the current numbers of inspectors far below the recommended concentration of one person per 50 km^2 (Table 9)[169]. These data also suggest a lack of correspondence between forest area and the number of enforcement agents ('*fiscais*'). Provinces where enforcement agents are responsible for larger areas – and, therefore, can be expected to under-perform – include Niassa, Zambézia, Tete and Cabo Delgado, the provinces with the most sizeable forest areas. Furthermore, reductions in the number of enforcement agents nationally – reduced by 11.7% between 2007 and 2009 – suggest either financial limitations or limited policy support for improved enforcement. Political interference also undermines the effectiveness of those who are present on the ground[170].

Other endogenous factors shaping economic and ecological outcomes include the characteristics of the forest resource, as discussed earlier, and what some claim to be the limited 'professionalism' in the sector. Concessions were said to be given to those who have no knowledge of forest management or forestry as a business. A well-informed individual with years of experience in the sector claimed that they are given, rather, "… to those who are traders, opportunists who are linked to the high up powers. In Mozambique, the national property has been given to street vendors, to fish sellers, who know nothing about forestry but who want to make money." While some concession holders have taken the step to start employing professional foresters, these are by far the exception rather than the rule. At the same time, it is important to emphasise that a concession requires significant capital to comply with the requirements of forest inventories, management plans and investments in processing infrastructure. In Cabo Delgado, for example, respondents estimated the costs of management plans to be of the order of USD 15-20,000 and saw mills USD 400-500,000. Interviews with simple license holders in Cabo Delgado revealed that many simple license holders would like to get a concession, but lack the necessary financial means and knowledge.

169 Bila and Salmi (2003), cited by Ministry of Finance (2009).

170 CIFOR interview with faculty of the Universidade Eduardo Mondlane, 23 Nov. 2010.

Table 9. Data on number and concentration of forest inspectors by province

Province	Area (km²)	Forest area (000 ha)	Number of 'fiscais' (2007)	Forest area/fiscal (km²/fiscal)	Number of fines/1000 ha of forest
Cabo Delgado	78 665	47 535	36	1 320	n/a
Gaza	75 714	37 709	40	943	0.013
Inhambane	68 536	23 057	34	678	n/a
Manica	62 428	34 560	40	864	n/a
Maputo	22 989	8 151	52	157	0.240
Nampula	78 816	26 910	53	508	0.031
Niassa	122 459	94 210	38	2 479	0.001
Sofala	67 542	28 497	45	633	0.064
Tete	100 944	42 067	26	1 618	n/a
Zambézia	103 036	48 478	29	1 672	0.032
Country	**781 129**	**391 174**	**393**	**995**	

Source: Ministry of Finance, 2010

It is much harder to state conclusively which factors are specifically linked to the Chinese presence. The effects of the Chinese market demand, both in terms of volumes and preference for unprocessed logs, in taxing forest governance and quickening the pace of at which valuable hardwoods are depleted in Mozambique's central and northern provinces, seems clear[171]. While internal demand for timber was mentioned as a factor in Cabo Delgado, all respondents were consistent in saying that it was of a far lesser importance in driving logging operations in Cabo Delgado than the Chinese and Tanzanian markets. However, it remains unclear whether there are meaningful differences in the behaviours of firms from different countries of origin in the ways in which they interface with the identified shortcomings in sector governance[172].

In the case of log exports, market forces within China appear to be one factor placing a premium on unprocessed logs of high value. And while some European companies are engaged in high levels of processing, it is unclear what the composition is of those companies exporting primarily unprocessed logs (whether legally or illegally). Second, is the tendency (at least until recently) of Chinese firms to operate 'indirectly', as traders rather than loggers. They advance financing to other (largely Mozambican) actors who carry out much of the harvesting and transport of timber to the ports. Reportedly, this is a characteristic which is more common among Asian operators. At least one Mozambican company in Cabo Delgado started to use the same business model with five trusted partners ('associates'). However, it is unclear to what extent this dynamic has changed over time in response to changing market and governance conditions and exposure to other commercial actors (or competition between them). The 2010 performance audit report for the sector showed Zambézia and Niassa provinces to be the only provinces where data on payments made to communities were consistent[173]. Are the higher levels of commercial activity in these provinces leading to improved systems of forest governance, or enabling the evolution of increasingly sophisticated systems for circumventing the law? It would also be interesting to know whether there is a convergence in business models employed by companies that were once distinct.

The preference among Chinese firms to invest in commercial operations with low levels of investment may be one factor that sets Chinese firms apart from others, as evidenced by the apparent absence of Chinese firms in plantation forestry. However, such a distinction is less clear in the management

171 Mackenzie (2006); Mackenzie and Ribeiro (2009); Ribeiro and Nhabanga (2009); field scoping in Cabo Delgado, February 2011.

172 One respondent from civil society estimates that the model of timber exploitation is the same in Cabo Delgado, irrespective of actor or country of origin. Several respondents indicated that to get a concession, you reportedly cannot 'play clean' as there are administrative barriers for those who try to do so. Instead, commercial operators were said to adapt to the informal settings in which they operate.

173 Ministério das Finanças (2010).

of natural forests, as suggested by the emerging involvement of Asian actors in forest concessions. And, importantly, to what extent are Chinese firms participating or benefiting more than others from the 'power of the connected' – the apparent existence of well-connected actors at all levels overseeing and legitimising illegal timber extraction and trade? While this was claimed by some respondents, we were unable to identify concrete cases to support this.

5.2 Agricultural sector

Sector overview

The agricultural sector is a fundamental pillar to the Mozambican economy. Around 60% of the Mozambican population relies on agriculture for its livelihood and agriculture constitutes 31.5% of GDP[174]. The sector has also experienced impressive annual growth rates of around 11% in recent years (World Bank 2011).

Despite the fundamental economic importance of the sector, the number of agribusiness successes remains limited (World Bank 2010). With low levels of productivity linked to irregular and unpredictable rainfall, limited fertilizer availability, and lack of technology and technical know-how, many view the agricultural sector as falling far behind its potential[175]. Poor infrastructure presents a further impediment to market access and commercial agriculture. Despite recent surpluses in corn and cassava production, the overall production and productivity still fall short of reaching satisfactory levels for food self-sufficiency[176].

Industrial-scale farms in Mozambique have been the rare exception to the rule until very recently, with the war constraining foreign investment for many years[177]. According to the 2009-2010 agricultural census (INE 2011), 96% of cultivated land is managed by smallholders and just 1.3% by large-scale operations. The sector, therefore, continues to be dominated by traditional commodities grown primarily for domestic consumption (maize, cassava, millet and rice) and export (sugar, cashews, cotton and tea)[178]. Key crops grown by smallholder include maize (69% of households), cowpea (43%), sesame (38%), pigeon peas (27%) and manioc (26%). Agricultural exports are historically dominated by tobacco and sesame, with a number of minor exports seeing increasing trade volumes in recent years (see Table 10).

This situation is rapidly changing, however. General-purpose and sector-specific investment promotion authorities (Centro de Promoção de Investimento and Centro de Promoção da Agricultura) are seeking to attract foreign investors into the sector through fiscal incentives and support services as the country embarks on large agricultural modernisation schemes. The most significant of these initiatives is the effort to develop 'development corridors' linking key natural resources and high-potential agricultural land to the deepwater ports of Beira and Nacala. This reflects a growing emphasis within Mozambique's agricultural policy on agricultural intensification in a bid to stimulate a 'green revolution' in the country. The twin emphasis on food security and agricultural intensification are reflected in three key policy documents; the Agrarian Policy of 1995, the Green Revolution Strategy of 2007, and the Acção para a Produção de Alimentos of 2008[179]. The idea of the 'green revolution' was a recurrent theme as regards agricultural policy, which is seen by some as a means for attracting large-scale investors[180]. The most significant investment to date consists of a trilateral cooperation agreement between the Brazilian, Japanese and Mozambican governments entitled, 'Pro-Savana', This agreement seeks to re-create the agro-industrial development model of the Brazilian *cerrado* along Mozambique's Nacala corridor.

174 CIFOR interview with the Head of Cooperation of an OECD member country, 4 Nov. 2010; World Bank (2011).

175 MINAG (2010).

176 MINAG (2010).

177 CIFOR interview with Maputo-based staff of MINAG, 26 Nov. 2010.

178 World Bank (2010); MINAG (2010). Note that there is no complete agricultural database in Mozambique. Annual surveys of smallholder households (TIA) have been conducted since 2002, but they only survey a sample of the population and exclude large-scale producers. A TIA for large-scale producers exists, but the data has not yet been processed and was not available to us. There are plans by the Italian Cooperation to conduct a nation-wide survey of large-scale producers. The last agricultural census, which is less exhaustive in variables than the household survey, dates from 2000. An update was being conducted in 2010 and preliminary results are expected in spring 2011 (CIFOR interview with Maputo-based staff of MINAG's Direcção da Economia, 25, 26 Nov. 2010).

179 MINAG (2010).

180 CIFOR interview with the Head of Cooperation of an OECD member country, 4 Nov. 2010; CIFOR interview with a Counsellor of an emerging economy embassy in Maputo, 23 Nov. 2010.

Table 10. Top 10 agricultural exports from Mozambique (USD 000)

Product	2010	Average (2001-2010)
All products	**2,243,069**	**1,764,267**
Unmanufactured tobacco, partly or wholly stemmed or stripped	132,139	59,751
Sesamum	172,38	14,007
Beans, dried/shelled	14,118	5,406
Bananas, fresh or dried	13,797	3,029
Cashew nuts, shelled	11,475	8,268
Tobacco, unmanufactured, not stemmed or stripped	10,488	21,734
Wheat or meslin flour	10,240	4,789
Cashew nuts, unshelled	9,526	14,672
Almonds, shelled	7,610	1,850
Cotton waste	6,038	911

Source: UN Comtrade

To rationalise land allocation to large-scale investors, a national zoning exercise is being conducted. This has resulted in an estimated 6.9 million ha being made available for large-scale agricultural investments (consisting of plots larger than 1000 ha) (IIAM 2008a). Figure 14 shows the location of these areas – concentrated in the provinces of Niassa (north), Zambézia (centre) and Inhambane (south). It also shows their agronomic potential – with areas considered suitable for crop production concentrated in the south and for plantation forestry in the north.

Chinese involvement in the agricultural sector

The Chinese presence in the agricultural sector may be seen in three main areas – official aid, bilateral trade and FDI.

Aid

Emerging economies are becoming increasingly involved in project-based finance and technical cooperation in the Mozambican agricultural sector, although not at the scale of traditional development partners such as USAID. Brazil, for example, is a major player in 'Pro-Savana', a 10-year programme to build on Brazil's experience with dryland agriculture. Brazil has been gaining this knowledge, with Japanese assistance, since the 1980s when developing Brazil's savannah woodlands or *cerrado*[181]. Brazil is also assisting Mozambique to restructure its National Agrarian Research Institute (IIAM), with the assistance of the Empresa Brasileira de Pesquisa Agropecuária (the Brazilian Enterprise for Agricultural Research)[182]. India is providing a grant for a cashew nut processing plant in Cabo Delgado, and has forged a bilateral agreement between the agricultural ministries of the two countries[183].

China's role in providing aid to Mozambique's agricultural sector counts at least one project, an agricultural technology demonstration centre worth CNY 55 million (USD 8.2 million), donated to Mozambique and to in Maputo's Boane district[184].

Trade

The two main agricultural commodities featuring in Mozambican exports to China are sesame and cotton. Between 2007 and 2009, sesamum was the second commodity by value that China imported from Mozambique following unprocessed logs, and it remains the third most important Chinese import by value (UN Comtrade). While cotton is an important export crop for Mozambique, China's share in the trade has seen a dramatic fall in recent years (see Figure 15). This corresponds to a dramatic rise in sesame exports in the period 2004 to 2009, the vast majority of which is captured by the Chinese market. Despite the importance of tobacco as an export crop in Mozambique, no exports to China were registered in the period 2001 to 2009 and the Chinese market captured lust 1.6% of the exports in 2010, according to Mozambican customs data.

Sesame is one of the fastest growing commodities, with a huge jump in exports from 2008 to 2009 resulting from an expansion in the area under cultivation. The commodity experienced a sharp

181 CIFOR interview with a Counsellor of an emerging economy embassy, 24 Nov. 2010.

182 CIFOR interview with a Counsellor of an emerging economy embassy, 24 Nov. 2010.

183 CIFOR interview with a Counsellor of an emerging economy embassy, 23 Nov. 2010.

184 CIFOR interview with a Maputo-based staff member of an international agricultural research organization, 3 Nov. 2010; CIFOR interview with staff of the Chinese Embassy in Maputo, 26 Nov. 2010; Ilhéu (2010).

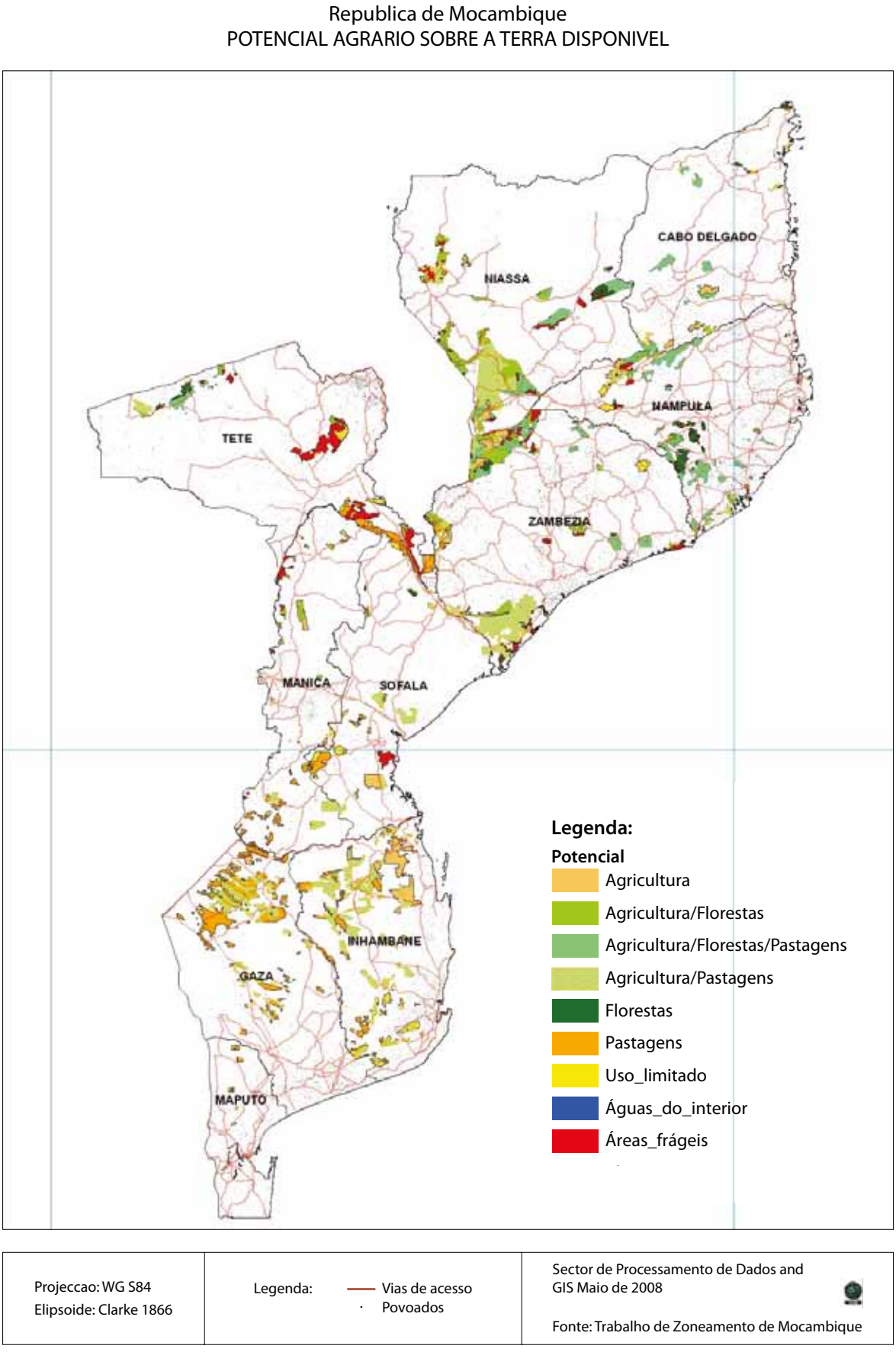


Figure 14. Agricultural suitability of land available for large-scale agricultural investments

Source: IIAM 2008b

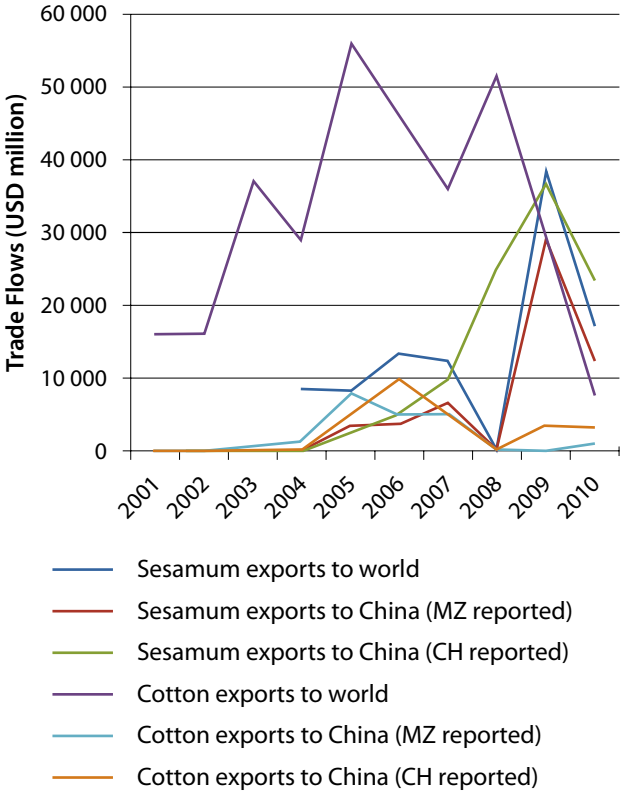


Figure 15. Mozambican agricultural exports with a sizeable Chinese market share, 2001-2010

Source: UN Comtrade

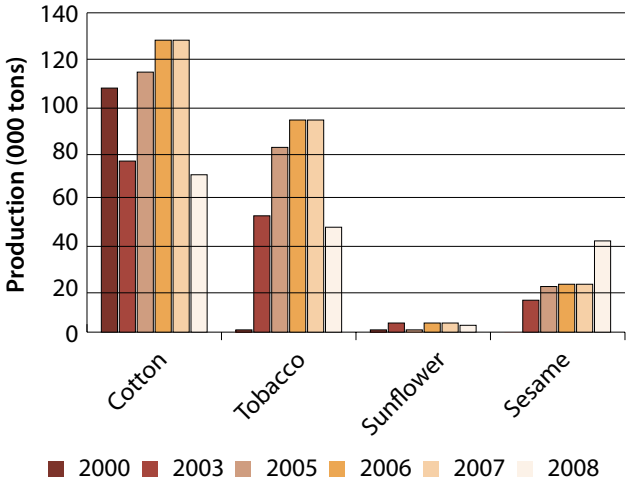


Figure 16. Annual cash crop production in small and medium farms in Mozambique

(Source: www.ine.gov.mz)

drop in exports in 2010, possibly as a result of the sharp declines in market prices following the 2008 season (Bennett 2008). Staff of the Chinese Embassy in Maputo also acknowledged the role of sesame in Sino-Mozambican trade[185]. Several agricultural experts confirmed that sesame was an emerging cash crop in Mozambique. Its production has been increasing strongly over the last few years, mainly replacing cotton as a cash crop among smallholder farmers[186]. The rapid expansion of sesame production on smallholder farms is confirmed by the national census data on annual cash crop production on small and medium-scale farms (see Figure 16). It is interesting to note that this increase occurred at a time when production of other major cash crops experienced a significant decline. This trend is reportedly driven by attractive market prices. The plant also has a number of agronomic properties favourable to smallholder farming under rainfed conditions. These include a short production cycle (leading to quick returns and enabling other crops to be grown in the same field), deep roots enabling the plant to withstand dry conditions, an ability to grow on relatively poor soils and the ability to be intercropped[187].

In the 2008 growing season, cultivation of the most important exports to China, cotton and sesame, was concentrated in Cabo Delgado, Nampula and Sofala Provinces (Figure 17).

Foreign direct investment

The FDI in the Mozambican agricultural sector originates primarily from Europe and South Africa (CPI 2010). Portugal invests in jatropha, soybeans, tobacco and rice, the UK and Italy in biofuels (sugar-based ethanol and jatropha, respectively) and South Africa in banana and coffee. The Chinese presence in the agricultural sector in Mozambique is still marginal, although interest does exist. Of the 66 registered Chinese FDI projects undertaken between 2000 and 2010, just eight (12%) are in the agricultural sector. These are primarily in poultry,

185 CIFOR interview with staff of the Chinese Embassy in Maputo, 26 Nov. 2010.

186 CIFOR interview with a Maputo-based staff member of an international agricultural research organization, 3 Nov. 2010; CIFOR interview with Maputo-based staff of a foreign university, 8 Nov., 2010; CIFOR interview with faculty of the Universidade Eduardo Mondlane, 23 Nov. 2010.

187 Chemonics International (2002).

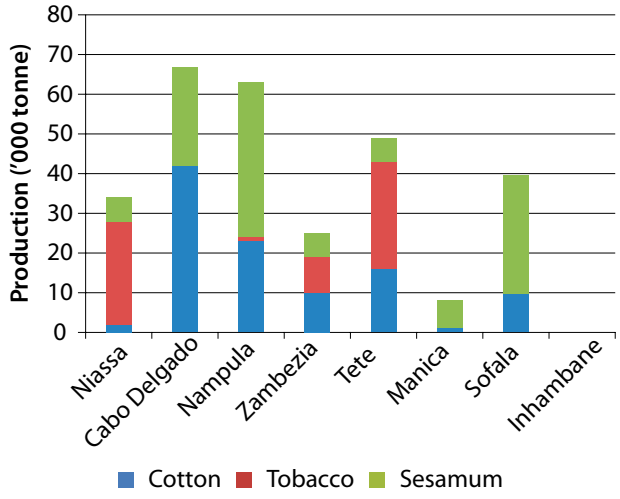


Figure 17. Production areas for key Chinese agricultural exports, 2008

Source: www.ine.gov.mz using TIA 2008

rice and jatropha (Annex 2)[188]. The associated capital, USD 8.85 million, corresponds to just 4% of the total Chinese FDI to Mozambique in the period 2000 to 2010[189]. Most of the investments are located in the central provinces of Mozambique (see Table 11)[190].

One company of the approximately 19 investors in the biofuel sector is also of Chinese origin. Zamcorp is a joint venture between the Mozambican state, the Macau-based company, Geocapital, and private Mozambican investors. Reportedly, it has acquired 20 870 ha in Mozambique's Sofala Province. Thus, Chinese firms are one set of players among many in the surge in large-scale commercial agricultural investments by foreign enterprises in recent years.

The extent of the involvement of Chinese firms in sesame and cotton goes beyond trade to investment. Whether this is in the form of forward finance to Mozambican growers or the establishment of plantations, is uncertain. Given the low volumes of cotton exports to the Chinese market and reports of farmers abandoning cotton for the burgeoning sesame trade with China, the presence of Chinese firms in the cotton sector is expected to be minimal. Sesame production is also largely small-scale[191]. However, with the agricultural sector not featuring in rural scoping activities, the presence of Chinese firms or capital in sesame and cotton production remains to be verified.

Impact on forests and livelihoods

Agriculture is one of the main drivers of deforestation in Mozambique. Direct effects occur through the conversion of forests to agricultural land (e.g., for shifting cultivation or permanent agriculture, as is done for cotton) by smallholders or large-scale investors[192]. Indirect effects on forests take place through the displacement of cropland by large-scale investors, or the harvesting of forest products for agricultural production or processing. This is the case for tobacco, where fuel wood energy is used to dry tobacco leaves[193]. It is also anticipated that the agro-industrial development schemes being promoted along Mozambique's development corridors are likely to contribute to significant deforestation, both direct and indirect – as infrastructure improves this lowers the costs of forest access[194].

With the focus of field-based scoping limited to the forestry sector, we were unable to visit the investments highlighted in Table 7 or the key production areas for the primary products in trade. Nor did third party accounts highlight any significant causal relationship between Chinese trade and investment in the agricultural sector on the one hand, and deforestation on the other. The one line of inquiry that would have been interesting to follow is the environmental effects of the burgeoning trade in sesame, and the socioeconomic effects of highly variable prices and demand. With the vast majority of the areas cultivated lying in the forest-rich provinces of Nampula, Sofala and Cabo Delgado, it is possible that forests could be affected by shifting patterns of land use over a large scale. This could be either

188 Official CPI statistics; Ilhéu (2010). These figures exclude the one forestry project that is also classified as an 'agricultural project'. CPI does not distinguish forestry projects from agricultural ones, but, instead, combines them into one class.

189 Official CPI statistics.

190 Note that the data reflects investment plans; monitoring of actual implementation is an activity for the Agricultural Sector Expenditure Program (CIFOR interview with Maputo-based staff of CEPAGRI, 30 Nov. 2010).

191 CIFOR interview with IKURU, a farmers' association in Nampula Province, 22 Nov. 2010.

192 CIFOR interview with Maputo-based staff of the Ministerio de Agricultura and the Departamento Nacional de Terras e Florestas, 24 Nov. 2010.

193 CIFOR interview with faculty of the Universidade Eduardo Mondlane, 23 Nov. 2010.

194 Laurance *et al.* (2009).

Table 11. Chinese FDI in the agricultural sector

Project title	Sector	Province	Capital (USD)	No. of employees
African Workers Union (authorised on 4 July 2003)	Agriculture and agro-industry	Sofala	1 000 000	150
Chinese Grains and Oils Group - CGOG África (authorised in 2005)	Agriculture and agro-industry	Sofala	5 500 000	150
Xin Jian Companhia (authorised in 2006)	Agriculture and agro-industry	Zambézia	195 000	200
Biworld International (authorised in 2006)	Agriculture and agro-industry	Tete	200 000	215
Hubei Liafeng Mozambique (authorised in 2007)	10,000 ha rice production scheme	Gaza	1 200 000	6
Wen Cheng Liao (authorised in 2009)	Agriculture and agro-industry	Sofala	60 000	60
Luambala Jatropha (authorised in 2010)	Various agriculture and agro-industry[a]	Niassa	200 000	160
Sunway (authorised in 2010)	Agriculture and agro-industry	Nampula	500 000	50

a According to the public registry of Niassa Province, primary activities include forest management, processing and trade in timber and non-timber forest products, energy production and supply, construction, arts and crafts, tourism and wildlife, and imports and exports.

Source: CPI 2010

through farmers bringing more land into production or changing land use practices. Anecdotal evidence from Nhatatanda District in Sofala Province, for example, suggests that sesame cultivation requires that new land be opened annually, as the crop suffers nematodes and other pests and diseases which may be controlled by shifting the areas under cultivation[195]. It was not possible to corroborate this claim, despite several attempts to verify it through interviews and literature searches.

In contrast, reports of many households shifting away from traditional cash crops, such as cotton, to sesame suggests that the effects on livelihood, at least over the short run, are likely to be positive. Nevertheless, a decision by farmers to replace a perennial crop like cotton, with an annual crop like sesame, may compromise medium-term returns to capital and labour in the context of volatile market prices (Figure 18).

The absence of independent verification of these effects, together with the paucity of published reports on what is a relatively new export commodity for the country, makes any assessment of impacts conjectural at this point in time.

5.3 Mining sector

Sector overview

Until recently, the mining sector in Mozambique was characterised by a few mining operators of medium and small-scale, focused on the exploration of coal and tantalite. The Ministerio de Recursos Minerais attributes this to restrictive land policies, outdated mining legislation unattractive to investors and a weak institutional infrastructure and services[196]. This changed in 2000, when a USD 1.34 billion investment[197], led by BHP Billiton, was made in an aluminium factory, Mozal, near the capital city of Maputo. Mozal imports the bulk of the alumina

195 CIFOR interview with faculty of the Universidade Eduardo Mondlane, 23 Nov. 2010.

196 Mabica (no date).

197 This initial investment was the largest single project investment ever made in Mozambique. A subsequent investment of the order of USD 860 million enabled the expansion of production. Mozal is the second largest aluminium producer in Africa, with an annual production volume of around 560 000 tonne of primary aluminium ingots. http://www.bhpbilliton.com/bb/ourBusinesses/aluminium/mozal/aboutMozal.jsp (11 Feb. 2011).

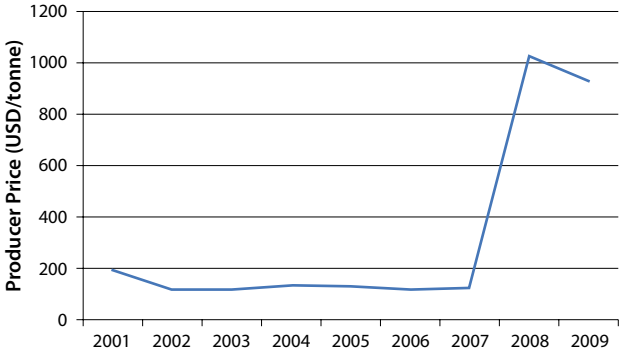


Figure 18. Producer price of sesame in Mozambique, 2001-2009

Source: FAOSTAT

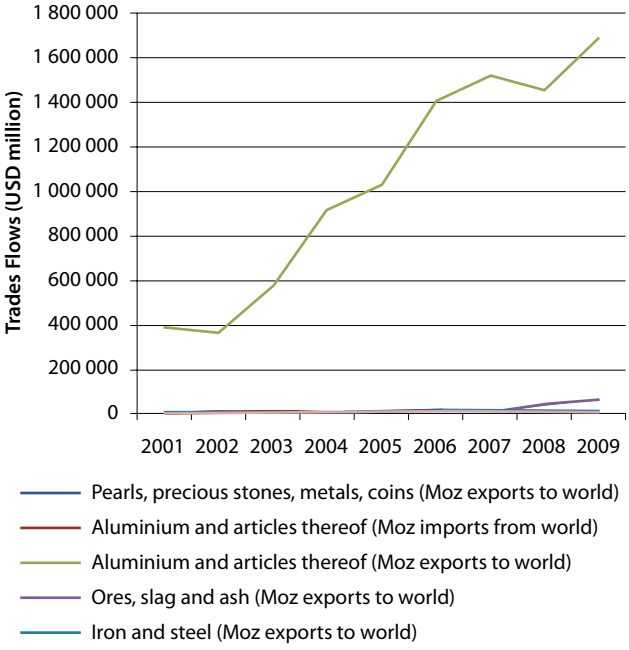


Figure 19. Evolution of the trade in metals, minerals and precious stones, Mozambique to/from the world

Source: UN Comtrade

for processing from the Worsley refinery in Western Australia and processes it into primary ingots for re-export. Current production and trade figures for the mining sector illustrate the important role of this single investment in driving the sector's exports (Figure 19). However, it is of less importance to the question of mining-forestry linkages given the extraterritorial origin of the raw material.

However, trade figures obscure the significance of recent mega-investments that have infused capital into the Mozambican mining sector and kick-started a phase of rapid expansion of the industry (Figure 20).

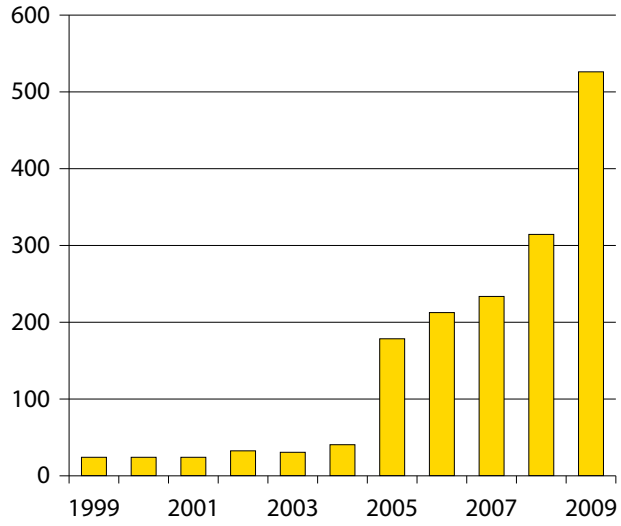


Figure 20. Active mining licenses by type, 2010

Source: Direção Nacional de Minas

This rapid expansion is largely a result of a host of institutional and legislative reforms in the sector carried out from 2002 to 2006[198]. The Mineral Resources Management Capacity Building Project, a USD 33 million project financed by the World Bank, African Development Bank, Nordic Development Fund and the Government of South Africa, initiated in November 2001, had a key role in driving growth in the sector[199]. The project sought to promote institutional development and regulatory reforms to encourage the expansion of private investment in mining as well as targeted interventions to alleviate poverty in areas with a prevalence of small-scale and artisan mining. It encompassed improvements in the legal and regulatory instruments in order to create an environment favourable to private investment. These improvements included:

- Strengthening the capacity of the government to provide 'geoscientific' data on the country's mineral resources (mapping, geochemical

198 CIFOR interview with Maputo-based staff of the Direção Nacional de Minas, 29 Nov. 2010.

199 Available at: http://web.worldbank.org/WBSITE/EXTERNAL/COUNTRIES/AFRICAEXT/MOZAMBIQUEEXTN/0,,contentMDK:21814230~pagePK:1497618~piPK:217854~theSitePK:382131,00.html (3 Mar. 2011).

and mineral surveys, development of a digitised database)
- Creation of a mining cadastre and digitised registry at the central level and in four provinces (Nampula, Tete, Manica, Cabo Delgado)
- Investment promotion efforts[200].

It also resulted in a host of legal reforms, including:
- A new principal law (Lei de Minas/Lei no. 14/2002) to replace the 1986 mining law
- Mining regulations in support of the new law (Decreto no. 28/2003)
- New environmental legislation for the mining sector (Regulamento Ambiental para Actividade Mineira, Decreto no. 26/2004)
- Regulations on trade in mining products (Regulamento de Comercialização de Produtos Minerais, Decreto no. 16/2005)
- A statute establishing a fund for sector promotion (Estatuto do Fundo de Fomento Mineiro, Decreto no. 17/2005)
- A new fiscal regime.

The jump in investment levels is also the result of the discovery of a massive coal deposit in Tete Province. While only one small coal mine (Chipanga XI) was in operation at the time of the research, three concessions and 66 licenses for coal exploration have been issued in Tete Province since 2004[201]. Vale, a major Brazilian mining company, was reportedly the lead in an effort to secure control over coal deposits that has come to be called the 'Tete coal rush'[202]. In addition to holding a 23 780 ha concession in Tete, it has acquired a 51% ownership of the Nacala Corredor, including the Nacala railway port[203]. Other major companies operating in the Moatize area, including the Australian mining company Riversdale, are reportedly in intense negotiations with the Beira Railroad Company (CCFB)[204] over transport tariffs through the Sena railway line linking Moatize to the port of Beira. Alternative transport options are also under discussion, including the use of barges down the Zambeze River and the construction of a new rail line to Nacala[205]. Major investments in the Mozambican mining sector are summarised in Annex III.

Yet investments in large-scale projects are not the only reason for the rapid growth of the mining sector. Data from the Ministry of Mineral Resources suggest the presence of 2012 active licenses in the sector in 2010, the majority in the form of prospecting and exploration licenses issued on a 5 year renewable basis (Figure 21)[206].

Mining concessions, issued on a 25 year renewable basis, were far less numerous at 130 active concessions – the majority of these in Maputo (Figure 22).

The main mineral resources currently being produced on a large scale include natural gas, coal (with exports to start in 2011) and titanium products from heavy sands[207]. Mozambique also produces tantalum, marble, bauxite and graphite. Gold, precious stones and semi-precious stones are also being produced, largely by artisanal miners.

The mega-projects initiated through foreign involvement in the Mozambican mining industry have radically altered the structure of the Mozambican economy. They have contributed favourably to several macroeconomic indices, but have increased the country's dependency on foreign capital[208]. The creation of favourable linkages with

200 Mabica (no date).

201 Data from the Direção Nacional de Minas.

202 See http://allafrica.com/stories/201011030138.html (11 Feb. 2011). Riversdale reportedly has an interest in relocating the Tete airport so as to gain access to 'one of the richest coal seams in the country' (Hanlon, 2010).

203 Data from the Centro de Promoção do Investimento; CIFOR interview with a Counsellor of an emerging economy embassy, 24 Nov. 2010. Nacala port is regarded as the best deep water port on the East African coast. Unlike Beira, it does not need to be dredged.

204 A consortium of Rites and Ircon International of India (51% ownership) and Portos e Caminhos de Ferro de Moçambique (CFM) (49%). This rail line, damaged during the war, is being refurbished with the help of USD 275 million in World Bank financing.

205 Hanlon (2010).

206 Unlike the other licenses, mining certificates are granted exclusively to Mozambican nationals and are oriented towards small-scale operations. They are valid for a period of two years and are renewable (República de Moçambique, 2002b).

207 'Mining' report http://www.un.org/esa/dsd/dsd_aofw_ni/ni_pdfs/NationalReports/mozambique/Mining.pdf (11 Feb. 2011).

208 The sector is expected to contribute between 7% and 10% of GDP in the next few years due in large part to coal projects in Moatize and Benga Districts, Tete (http://group.xiconhoca.com/2010/07/20/carvao-mocambicano-na-rota-do-mundo/ (14 Feb. 2011).

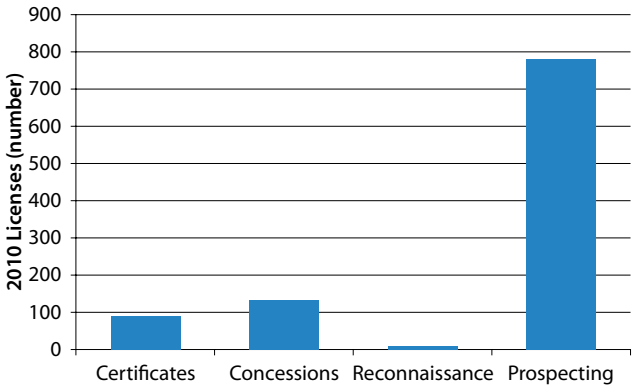


Figure 21. Distribution of active mining licenses of different types in 2010

(Source: Compiled from the Direção Nacional de Minas)

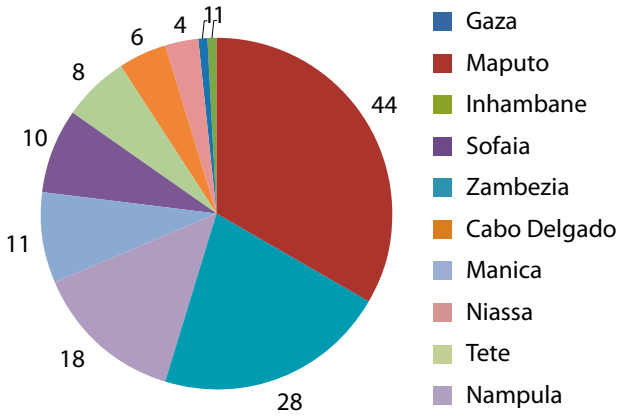


Figure 22. Distribution of mining concessions by province in 2010 (number)

Source: Compiled from the Direção Nacional de Minas

the rest of the Mozambican economy, contribution to poverty reduction and meaningful contributions to the national treasury are goals that have yet to materialise[209].

Chinese operations in the mining sector

This section explores the role of Chinese corporations in the Mozambican mining sector.

Chinese investment in the mining sector

The vast majority of respondents indicated that the presence of Chinese companies in the mining sector is relatively small and recent[210]. Among the emerging economies, Brazilian and Indian companies are much more advanced than the Chinese, having managed, alongside the Australian company Riversdale, to capture the largest mining concessions – largely for coal in the north western province of Tete (Annex III). Representatives of the Direção Nacional de Minas indicated that while the primary interest shown by Indian companies is in coal, Chinese companies have shown an interest in both lime and coal. They also indicated that there are many small-scale Indian and Chinese investors holding prospecting and exploration licenses. These observations are borne out in the official licensing data from the Ministério dos Recursos Minerais. The largest Chinese investor in the sector is Wuhan Iron and Steel Corporation, which holds a 40% ownership in the Zambeze Coal Project. An investment pledge of USD 2 billion has been made, together with Riversdale, in exchange for rights to an estimated 9 billion tonne coal reserve. The only other Chinese company holding a concession appears to be Sheng Bao International, Lda[211].

Despite the limited number of Chinese companies with mining concessions, they are actively involved in prospecting. Several large Chinese investors hold prospecting licenses for limestone and clay, including CIF-Moz, a company set up by the China International Fund and SPI (the FRELIMO holding company *SPI-Gestão e Investimentos*). The company plans to establish a cement factory in Matutuine District with an investment capital of USD 35 million[212]. The China-Mozambique Cement and Development Company also holds a prospecting license for limestone in Sofala Province. Several Chinese companies hold multiple prospecting licenses and are actively researching sizeable deposits of metals, minerals and precious stones throughout the country. The most notable of these is Jiangxi Mozambique Mining, a company which holds 13 prospecting licenses covering 254 720 ha distributed throughout five provinces (Table 12). This suggests

209 Castel-Branco (2010); see also http://www.africaneconomicoutlook.org/po/countries/southern-africa/mozambique/ (11 Feb. 2011).

210 CIFOR interview with staff of a Maputo-based NGO, 5 Nov. 2010; CIFOR interview with the director of a Maputo-based NGO, 25 Nov. 2010.

211 Given the absence of any details on investors in the concession and licensing databases, company names and online searches had to be used to deduce the country of origin. With this information difficult to find, our assessment of Chinese investment could be underestimated.

212 See: http://www.trademarksa.org/node/2820 (3 Mar. 2011).

Table 12. List of Chinese companies with prospecting licenses

Company name	Number and location of licenses	Resources covered by the license	Land area (ha)
Africa Great Wall Mining Development	7 (2 in Nampula, 2 in Zambézia, 1 in Inhambane), 1 in Manica and 1 in Cabo Delgado)	Copper, gold (Nampula); copper, heavy sands (Zambézia); limestone (Inhambane); gold (Manica); copper, cobalt, nickel (Cabo Delgado)	82 400 (28 960 in Nampula, 26,800 in Zambézia, 6 800 in Inhambane, 9 760 in Manica and 10 080 in Cabo Delgado)
African Mining and Exploration Company	2 (Manica)[a]	Gold	7080
Africa Yuxiao Mining Development	8 (1 in Zambézia, 1 in Gaza, 1 in Inhambane, 3 in Manica and 2 in Cabo Delgado)	Heavy sands (Gaza, Inhambane, Zambézia); gold, tin, niobium, titanium (Manica); heavy sands (Cabo Delgado)	86,680 (23 600 in Zambézia, 8 520 in Gaza, 7 800 in Inhambane, 21 020 in Manica and 25 740 in Cabo Delgado)
China-Mozambique Mining Development	2 (Sofala)	Limestone	12 660
Jiangxi Mozambique Mining Co, Lda	13 (3 in Zambézia, 2 in Sofala, 6 in Tete, 1 in Niassa and 1 in Manica)	Copper, iron, gold, nickel, mica (Zambézia), beryllium, iron, fluorite (Sofala), lead, copper, iron, nickel, corundum (Tete), lead, iron, gold (Niassa), stannite, iron, MNP (Manica)	254 720 (31 520 in Zambézia, 38 620 in Sofala, 140 660 in Tete, 22 400 in Niassa and 21 520 in Manica)
Lian Zheng Mineral Resources, Lda	2 (Gaza)	Heavy sands	12 880
Sheng Bao International, Lda	1 (Zambézia)	Tantalum	1 860
Zong - Hua Lda	2 (Zambézia)	Aquamarine, amethyst, bismuth, quartz (Zambézia)	3 600

a Africa Mining and Exploration Company also holds a 1180 ha gold concession in Manica.

Source: 2010 data from the Ministry of Mineral Resources

that the Chinese presence in production and exports is likely to increase rapidly in the coming years.

Business models

Several business models may be observed in the Chinese firms. The first is to have a large, formal presence through an investment in resource extraction and processing. This is the case for Chinese firms investing in coal (Wuhan Iron and Steel) and cement manufacturing (CIF-Moz and, presumably within a few years, China-Mozambique Cement and Development Company).

The other business model is to engage in resource extraction and trade, with or without a concession license. In this case, Chinese firms were said to exhibit behaviours that are unique to the Chinese. Unlike small companies from other countries of origin (Lebanon, Somalia, Nigeria), whose preferred business model is to engage only in trade, Chinese firms are reportedly present along the entire chain – from extraction to marketing and export. This would suggest that Chinese firms exhibit a pattern characteristic of larger operators despite lower levels of investment[213].

There appear to be two variants on this second model. In one case, mining is a primary occupation and in the other it is a secondary activity undertaken on an opportunistic basis. In the latter case, Chinese firms were found to engage in illegal mining under timber licenses[214]. This practice is apparently widespread. It is carried out with Mozambican nationals allegedly hired to work in timber concessions and is focused on gold, precious

213 CIFOR interview with the director of a Maputo-based NGO, 25 Nov. 2010.

214 CIFOR interview with staff of a Maputo-based NGO, 5 Nov. 2010; CIFOR interview with the director of a Maputo-based NGO, 25 Nov. 2010; CIFOR interview with a Maputo-based private consultant, 27 Nov. 2010.

stones and rare minerals (tantalite, aquamarine, tourmaline). While these are all products that may be mined without large investments, according to one respondent, this model does not result from a desire to avoid investment (" …they build large companies for wood harvesting."). Instead, "…*é um aproveitamento; não é o negocio deles*" ('…it is something they take advantage of; it is not their [main] business')[215]. By way of evidence, it was stated that concessions found on the primary deposits of precious stones are held by companies from other countries of origin, with Chinese firms occupying nearby areas[216]. One estimate by the Ministry of Mineral Resources suggests that about USD 10 million worth of gold and USD 30-40 million worth of semi-precious stones are illegally exported from Mozambique each year[217].

Trends in and composition of Sino-Mozambican trade

Official trade figures suggest that the Chinese market absorbs a very small share of Mozambican exports in the sector (Figure 23). Depending on whether one relies on exports reported by Mozambique or imports reported by China, this represents either 0.5% or 4% of total exports – with a potential loss of revenue of USD 127 million in trade between 2001 and 2009, if the variance is considered as leakage.

The value of Mozambican exports is strongly dominated by that of the aluminium exports. This is likely because of the in-country value addition is more than the trade volumes per se. This contrasts with the patterns of Sino-Mozambican trade, in which ores, slag and ash carry the highest export values (Figure 25a and 25b). Yet, as shown by the Mozambican export data (Figure 25a), this trade involves diverse products.

Impact on forests

To establish a linkage to forests, it is important to explore the likely causal relationship between mining

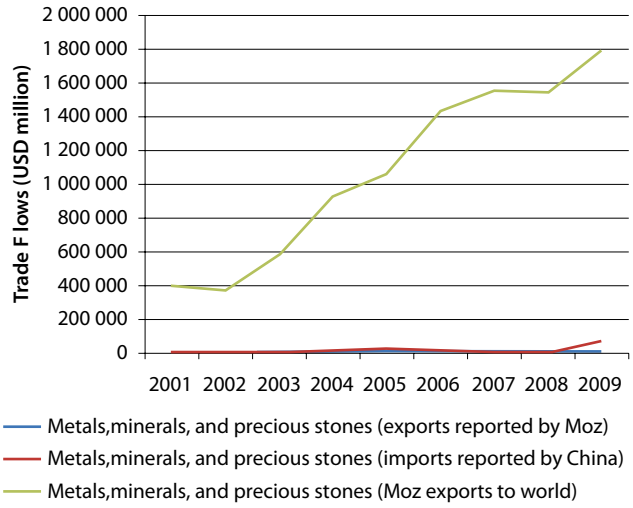


Figure 23. Recent trends in the Mozambican trade in metals, minerals and precious stones with China and the world (USD 000)

Source: UN Comtrade

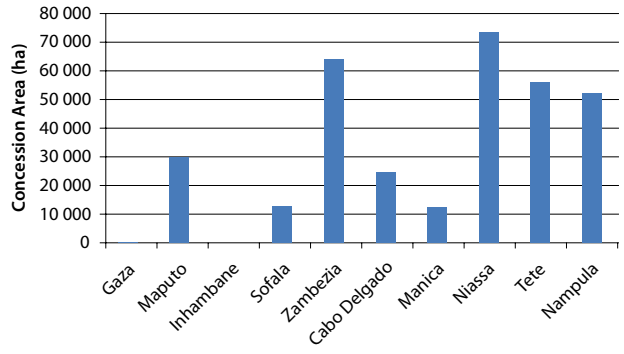


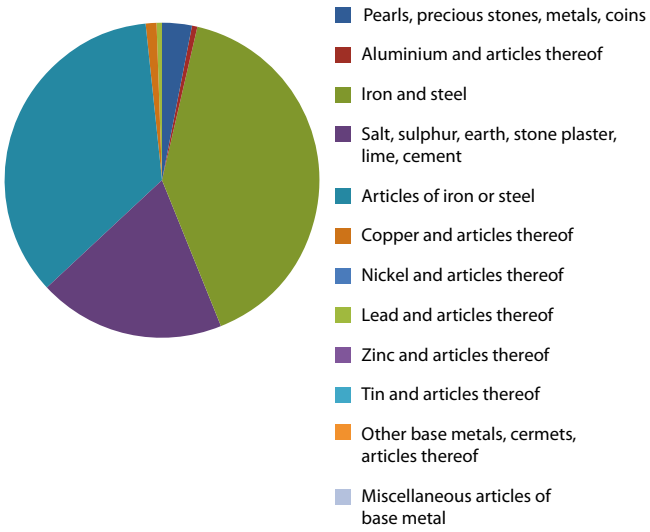
Figure 24. Total concession area by province

and deforestation. While mining can have both direct and indirect impacts on land use changes (Mwitwa *et al.* in press), the readily available data only enables an exploration of the former. If we are to compare the total land area allocated to mining concessions in each province using 2010 data (Figure 24) with estimates of the total forest cover by province (from Table 3), the greatest risk of direct forest removal from mining concessions exists in Niassa, Zambézia and Cabo Delgado provinces. Here forest cover is high and these provinces are where the more extensive mining concessions are located . Despite a relatively small area of investment, as compared with the forest area, the majority of consequences

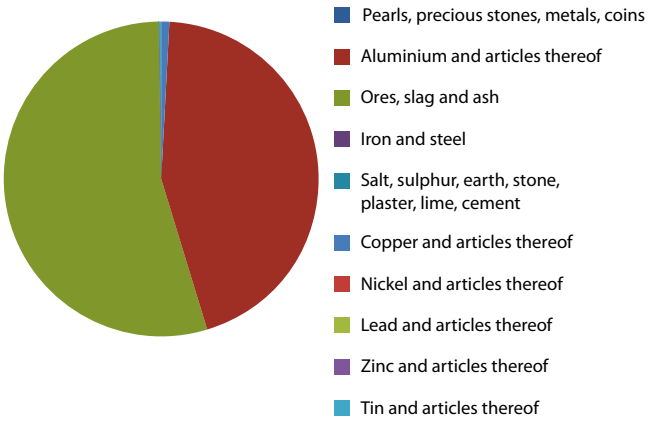
215 CIFOR interview with staff of a Maputo-based NGO, 5 Nov. 2010.

216 CIFOR interview with the director of a Maputo-based NGO, 25 Nov. 2010.

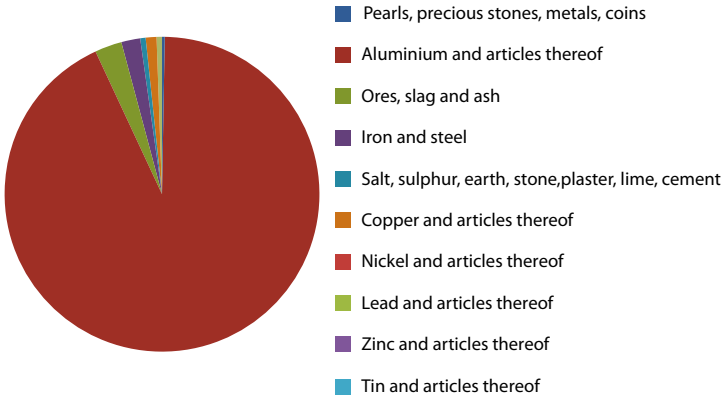
217 See: http://web.worldbank.org/WBSITE/EXTERNAL/COUNTRIES/AFRICAEXT/MOZAMBIQUEEXTN/0,,contentMDK:21814230~pagePK:1497618~piPK:217854~theSitePK:382131,00.html (3 Mar. 2011).



a. Exports to China, reported by Mozambique



b. Mozambican imports reported by China



c. Mozambique exports to the world

Figure 25. Proportionate share of Mozambican mining exports

Source: UN Comtrade

for the forests are likely to be indirect (e.g., through the economic activities induced by road construction and in satisfying the local food demand for a growing population).

These impacts are likely to be most significant for sub-surface resources exploited through open pit mining, such as coal. Yet according to several respondents, while southeast Tete has some denser forests, much of the affected area may be described as open forest or 'bush' – with the only large trees being baobab (*Adansonia digitata*)[218]. With only 0.6% of Tete's 100 724 km^2 land area currently allocated to mining concessions, such direct impacts can be expected to be minimal at present. However, with 42% of the province officially under forest cover and the discovery of vast coal deposits covering much of the province, both direct and indirect impacts can be expected to intensify in the future as the area under concessions, transport infrastructure and the region's population expands.

218 CIFOR interview with Heads of Cooperation of two OECD member countries, 3, 4 Nov. 2010.

6. Conclusions and implications for further research

6.1 Conclusions

This paper sheds light on the debate over the relative benefits and drawbacks of China's emerging influence in Mozambique. It is based on a rapid scoping exercise to explore what is known about patterns of official Chinese aid and private sector involvement in investment and trade in sectors of interest (agriculture, forestry and mining). The findings suggest that the Chinese government provides significant levels of *development assistance* to the Mozambican government, the bulk of which is in the form of project-based loans, followed by grants and small volumes of debt and emergency relief. The preference for project-based lending runs counter to recent wisdom, suggesting that budget support is more in the interests of the recipient country (enhancing efficiency, accountability, debt sustainability and alignment with national priorities).

Bilateral trade has seen a sharp and steady increase in the last decade for most products. Mozambican imports from China are dominated by manufactured goods (vehicles and parts, electrical appliances, iron and steel articles), while Chinese imports from Mozambique consist primarily of wood and wood products, aluminium and sesame, followed by much smaller shares of cotton, ores and concentrates.

Chinese firms have also gained a substantial influence in the country through *FDI*. Since 2000, 67 projects worth USD 364 million have been registered with the Mozambican investment promotion authority, excluding FDI in the mining sector. The majority of these investments, both in number (62%) and value (USD 166 million), are concentrated in the manufacturing sector. Yet with Chinese interests in just two mining concessions worth USD 835 million and many prospecting licenses in the hands of Chinese firms, mining is clearly receiving the majority of investment capital. The bulk of non-mining Chinese FDI is also concentrated in Maputo Province (81.4% by value), with the forest-rich northern provinces (Cabo Delgado, Niassa, Nampula) only accounting for 1.29% of all Chinese FDI inflows during the period. These were intended primarily for the agro-industrial sector, including jatropha cultivation and timber processing. Yet Chinese capital is noticeably absent in the recent surge of large-scale investments in plantation forestry for pulp and paper. While FDI in the Mozambican mining sector originates primarily from non-Chinese sources (Brazil, India and Australia), many Chinese individuals and firms are involved in prospecting – suggesting a growing presence. There were also reports of illegal mining activities with Chinese capital, mostly small-scale and opportunistic. Many Chinese firms have also proved to be successful in out-competing domestic and foreign firms alike for public tenders while also reportedly benefiting from tied loans and aid.

Following an in-depth look into priority sectors, *the presence of Chinese firms in the forestry sector* and its related impacts on forests stands out. Mirror statistics on trade show a high divergence between the timber exports, as reported by Mozambique (in value and composition), and the imports reported by China. However, with the value of Mozambican timber imports reported by China far exceeding the value of exports reported by Mozambique to all trade partners, one can assume a sizeable loss of tax revenue from the Sino-Mozambican timber trade – provided all of this timber is, in fact, of Mozambican origin. With a combination of a strong market pull in China to import unprocessed logs and weak law enforcement in Mozambique, the bulk of the timber exported to China remains in the form of unprocessed logs despite national policies requiring value-added processing prior to export. However, with highly aggregated official trade statistics as the main basis for analysis, there is currently a limited understanding of how different firms have responded to the 2007 regulations tightening restrictions on log exports.

Various sources indicate a shift in the business models employed by Chinese actors in the forestry sector between the 1990s and the present. The earliest model was for Chinese actors to work indirectly through Mozambican loggers and simple license holders, providing forward financing for their

operations. More recently, an increasing number of Chinese companies have acquired concession licenses, a shift that the government is trying to pursue to encourage longer-term investment and minimise the negative ecological impacts of logging. This trend is clearer in the central province of Zambézia than in the logging frontiers of Cabo Delgado. However, with concessions in Zambézia reportedly sold or sub-contracted to others to manage (Mackenzie and Ribeiro 2009), this does not necessarily imply a greater presence of Chinese firms in everyday forest management. There is anecdotal evidence suggesting high levels of illegality and unsustainable forest management practices by Chinese firms. However, several independent lines of evidence point to a host of general constraints resulting from weak governance and the characteristics of the forest resource itself. More work is needed to understand the extent to which observed patterns and behaviours are more prevalent under the influence of the Chinese market or official patterns of bilateral cooperation. Or do they result from sets of behaviours which tend to characterise Chinese individuals and firms? More research is needed to understand the implications of these patterns and behaviours for revenue generation, local livelihoods and forests.

The *presence of Chinese firms in the agricultural and mining sectors* is much less notable than in the forestry sector. While Mozambique exports significant volumes and value of tobacco and sesame to China, these crops are largely grown by Mozambican smallholders. While we do not expect to find issues more worthy of in-depth inquiry than the forestry sector, more research is needed to explore the extent to which Chinese capital is involved in financing these operations. Where do Chinese actors enter the marketing chain? Are there other interesting questions for further research? As for the mining sector, the entry of Chinese firms is too new to merit impact studies on these at this point in time.

6.2 Implications for research

Research findings to date provide a compelling case for further research into the forestry sector. While it is worth investing in additional rapid scoping in the agricultural sector to explore the patterns of Chinese involvement in sesame and tobacco production and trade before abandoning these lines of inquiry, this section is devoted to drawing implications for further research in the forestry sector where the case is clearer.

A number of existing reports explore the dynamics of the illegal timber trade in Zambézia and Cabo Delgado provinces[219]. These reports provide a strong case for the relevance of research on the topic, but do not provide a sound basis for drawing clear conclusions. While pointing to behaviours which appear to characterise Chinese operators and markets, these reports do not make a systematic effort to compare the behaviours of firms of different countries of origin. Thus, while certain Chinese firms or actors are implicated in certain types of (illegal) activities and outcomes, it is very difficult to understand whether this is a pattern *more prevalent under the influence of Chinese actors and markets.* It is also difficult to separate out the influences of wider structural factors (e.g., governance shortcomings) from those of human agency. Furthermore, the difficulty of gaining access to official statistics on concessions, investment and species-level trade make primary research essential. This interface of a compelling set of research questions and limited evidence builds a strong case for Phase 2 research on the forestry sector in Mozambique.

It is also possible to begin to develop a rough idea of the key research questions that would frame a Phase 2 for Mozambique. These may be classified into the following four key thematic areas:

1. *A characterisation of trade flows for Mozambican timber, with an emphasis on Cabo Delgado Province.*

   The defining role of the end market on timber sourcing practices, and the reported differences in market demands from China and other export destinations (most notably, Tanzania), could go a long way in distilling how to enhance domestic value capture and better govern trade flows along Mozambique's extensive coastline and in the remote northern provinces. The research should address characterising international trade flows (routing, actors involved, value capture at different stages), related demand (volume, product) and observed irregularities along the way, It would investigate the supply and demand dynamics of the trade in unprocessed logs, semi-processed and processed timber, and the market and governance factors driving these trends (e.g., end uses, tariff exemptions).

219 Mackenzie (2006); Mackenzie and Ribeiro (2009); Ribeiro and Nhabanga (2010).

2. *A comparative assessment of business models and practices and related social and environmental impacts for Chinese and non-Chinese firms.*

   Published reports from the sector make a number of claims about Chinese operators, and the merits and demerits of the two main timber harvesting regimes, which are poorly substantiated by evidence. This research theme would make a balanced comparison of Chinese and non-Chinese firms engaged in timber harvesting and trade. It would include

   - An analysis of the business models employed (concessions vs. simple licenses, involvement at different stages along the marketing chain and the extent of any value-added processing)
   - Species and species classes
   - Levels of legality[220] and the implications for local livelihoods (employment and in kind contributions)
   - Revenue generation (including benefits relative to timber volumes and quality) and forests.

   The research would also assess the factors conditioning the adoption of each model (e.g., knowledge, capital, political connections) and assess the economic requirements and constraints associated with consolidating a more formal, long-term presence in the sector (e.g., price and incentive structures, structural and institutional constraints).

3. *Governance of the concession system, with a focus on law enforcement and an enabling environment for firms to invest in value addition and sustainable forest management.*

   Mozambique has a stated policy goal of moving away from simple licenses towards concessions, as a means of enhancing value addition and employment creation in the sector while promoting more sustainable forest management. Yet achieving this goal is undermined by the constraints faced by the economic agents in moving from one regime to the other. There is a tendency to invest the bare minimum to comply with the law, and there is weak law enforcement. This research theme would consist of an in-depth analysis of sector governance. It would focus on the concession system and the key constraints to realising sector aims. A comparative analysis of concessions at the provincial level would enable a parallel assessment of the extent to which Chinese concessionaires interface in different ways with the current governance system, while identifying the key strengths of, and loopholes in, the system vis-à-vis the sector aims.

4. *The role of higher level diplomatic and economic relations, both official and unofficial, on the ability of firms of different countries of origin to gain access to forest resources or circumvent the law.*

   Published reports and field scoping all suggest the importance of public sector finance in enabling Chinese firms operating abroad. Research under this theme would explore the link between project-based finance for infrastructure and resource access for Chinese markets and firms (e.g., concessions, timber, etc.). It would explore as well the role of public sector finance and other forms of support in enabling Chinese firms to get established in natural resource-based sectors abroad. It would take the analysis an extra step and explore the implications of the findings for Mozambique. For example, what are the positive outcomes associated with support to small and medium-scale enterprises or the negative effects of competition with domestic firms? Preliminary findings also suggest that weak law enforcement is just one factor underlying illegal practices, with political connections also reported to affect the extent to which different actors are able to operate outside the law. This theme would further analyse reports of transactions brokered outside formal channels – between economic and political elites on the one hand and private actors and interests on the other – and the patterns of involvement of foreign firms. This would include an assessment of the factors (financial capacity, business ethic, etc.) driving participation and the benefits derived from the 'power of the connected' in shaping when and how the law is enforced.

220 Including the adherence of management plans to actual practices (species harvested, volumes harvested, locations where harvesting takes place); payment of required fees; access to unlicensed resources (e.g., fauna, precious stones).

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Annex 1. List of actors interviewed

Government

1. Centro de Promoção de Investimentos (CPI)
2. Ministério para a Coordenação da Acção Ambiental (MICOA):
   - Direcção Nacional de Avaliação do Impacto Ambiental
   - Inspecção Geral
   - Direcção Provincial, Cabo Delgado.
3. Ministry of Agriculture (MINAG):
   - Centro de Promoção da Agricultura (CEPAGRI)
   - Direcção Nacional de Terras e Florestas (DNTF)
   - Direcção de Economia
   - Direcção Provincial de Agricultura, Cabo Delgado.
4. Ministério de Finanças
5. Ministério da Indústria e Comércio de Moçambique
6. Ministério do Trabalho
7. MIREME – Direcção das Minas
8. Mozambique Ports and Railways (CFM), Cabo Delgado
9. Mozambique Customs (Alfândega), Cabo Delgado.

Embassies of emerging economies

1. Embassy for the People´s Republic of China in Maputo
2. Embassy of Brazil in Maputo
3. High Commission of India in Maputo.

Embassies of OECD countries

1. Delegation of the European Union to Mozambique
2. Royal Netherlands Embassy
3. Finnish Embassy
4. French Embassy
5. German Embassy
6. UK Department for International Development.

International organisations

1. International Finance Cooperation (IFC).

Civil society

1. Centro Terra Viva (CTV)
2. Centro da Integridade Publica (CIP)
3. Instituto de Estudos Sociais e Económicos (IESE)
4. Justiça Ambiental
5. Rural Association for Mutual Support (ORAM)
6. União Nacional de Camponeses
7. Associação Meio Ambiente, Cabo Delgado
8. World Wildlife Fund (WWF), Cabo Delgado
9. Fórum Terra, Cabo Delgado
10. Iniciativa Terra Comunitária, Cabo Delgado.

Private sector

1. Vale Mozambique
2. Association of timber operators, Cabo Delgado
3. 3 forest concession holders
4. 4 simple license holders

Communities

1. 3 communities in Chiure district, Cabo Delgado

Research

1. Faculdade de Agronomia e Engenharia Florestal, Universidade Eduardo Mondlane
2. Platform for Agricultural Research and Innovation for Mozambique (PIAIT)
3. University of Michigan.

Annex 2. List of Chinese FDI to Mozambique[a] from January 2000 to September 2010 (excluding the mining sector)

No.	Project title	Sector	Province	Capital commitments (USD)	Employment Commitments (number)
1	Iron and steel factory (authorised 15 Sept, 2000)	Manufacturing industry	Maputo	256 000	60
2	Fábrica de motorizadas e bicicletas da Beira (authorised 27 Oct, 2000)	Manufacturing industry	Sofala	469 112	107
3	Mozambique L & H Wood Co (authorised 28 Dec, 2000)	Manufacturing industry	Sofala	350 000	20
4	Exploration, processing and trading of timber (authorised 10 Apr, 2001)	Agriculture and agro-industry	Cabo Delgado	400 000	1 803
5	Honda shoe factory (authorised 28 Dec, 2001)	Manufacturing industry	Maputo	50 000	11
6	Chinelos de Moçambique (Mozambique footwear company) (authorised 6 Jul, 2002)	Manufacturing industry	Sofala	50 000	18
7	Khangelo Confections (authorised 13 Mar, 2003)	Manufacturing industry	Maputo	248 000	20
8	African Workers' Union (authorised 4 Jul, 2003)	Agriculture and agro-industry	Sofala	1 000 000	150
9	Fubeira International (authorised on 17 Dec, 2003)	Manufacturing industry	Sofala	105 000	33
10	Hua Long Mozambique Chinese Clinic (authorised 12 Jul, 2004)	Others	Maputo	52 000	34
11	Pharco – Moçambique (authorised in 2004)	Manufacturing industry	Maputo	240 000	20
12	CGOG África (authorised in 2005)	Agriculture and agro-industry	Sofala	5 500 000	150
13	Chen Chen Fundição (authorised 16 May, 2005)	Manufacturing industry	Sofala	50 000	60
14	Xin Jian Companhia (authorised in 2006)	Agriculture and agro-industry	Zambezia	195 000	200
15	Biworld International (authorised in 2006)	Agriculture and agro-industry	Tete	200 000	215
16	Yuan Feng Investments (authorised in 2006)	Manufacturing industry	Sofala	510 000	45
17	Hubei Liafeng Mozambique (authorised in 2007)	Agriculture and agro-industry	Gaza	1 200 000	6
18	Fabrica de sapatos Hua Feng (authorised in 2007)	Manufacturing industry	Maputo	100 000	42
19	Brikes Tiles Charcoal (authorised in 2007)	Manufacturing industry	Sofala	150 000	13
20	Jlagsu Metais (authorised in 2007)	Manufacturing industry	Nampula	300 000	50

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Annex 2. Continued

No.	Project title	Sector	Province	Capital commitments (USD)	Employment Commitments (number)
21	T.Y.T. (authorised in 2007)	Manufacturing industry	Manica	500 000	130
22	Jufeng (authorised in 2007)	Manufacturing industry	Zambezia	600 000	50
23	Furi (Africa) Importação e Exportação (authorised in 2007)	Manufacturing industry	Inhambane	1 200 000	37
24	Fundição de Ferro e Aço (authorised in 2007)	Manufacturing industry	Maputo	2 000 000	19
25	Formosa Textile (authorised in 2007)	Manufacturing industry	Maputo	10 000 000	2 970
26	Africa Great Wall Cement Manufacturer (authorised in 2007)	Manufacturing industry	Maputo	45 000 000	300
27	Estudio Dragão (authorised in 2007)	Other	Maputo	100 000	10
28	Clam Processing (authorised in 2008)	Aquaculture and fisheries	Sofala	50 000	50
29	China Town Imobiliária (authorised in 2008)	Construction	Sofala	100 000	150
30	Jingniu Moçambique (authorised in 2008)	Construction	Maputo	800 000	46
31	Amado Mobílias (authorised in 2008)	Manufacturing industry	Maputo	60 000	6
32	Indústria Plástica J.H. (authorised in 2008)	Manufacturing industry	Maputo	100 000	50
33	Decoration Materials Manufacturing (authorised in 2008)	Manufacturing industry	Maputo	100 000	20
34	Huaxia Tecnologia Moçambique (authorised in 2008)	Manufacturing industry	Maputo	100 000	10
35	Afigo (authorised in 2008)	Manufacturing industry	Zambezia	150 000	20
36	Oriental Oversease (Mozambique) (authorised in 2008)	Manufacturing industry	Maputo	200 000	30
37	África Wood (authorised in 2008)	Manufacturing industry	Maputo	495 000	50
38	Power Long Wood International Group (authorised in 2008)	Manufacturing industry	Manica	654 630	69
39	Weng Long Importação e Exportação (authorised in 2008)	Manufacturing industry	Maputo	1 000 000	50
40	CIF-Moz (authorised in 2008)	Manufacturing industry	Maputo	71 990 000	500
41	Long Zhou International Trading (authorised in 2008)	Others	Inhambane	1 000 000	60
42	SINOMOZ Internet & Tea House (authorised in 2008)	Transport and Communications	Maputo	50 000	6
43	Wen Cheng Liao (authorised in 2009)	Agriculture and agro-industry	Sofala	60 000	60

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Annex 2. Continued

No.	Project title	Sector	Province	Capital commitments (USD)	Employment Commitments (number)
44	Hong & Binga Development Fishery Company (authorised in 2009)	Aquaculture and fisheries	Maputo	26 000 000	80
45	Ying Cheng Trade International (authorised in 2009)	Construction	Maputo	100 000	66
46	An Xiao Furniture Factory (authorised in 2009)	Manufacturing industry	Maputo	60 000	12
47	An Xiao Industry Mozambique (authorised in 2009)	Manufacturing industry	Maputo	100 000	12
48	Yun Qiang (authorised in 2009)	Manufacturing industry	Sofala	106 845	40
49	Honlg Investment (authorised in 2009)	Manufacturing industry	Sofala	500 000	31
50	Pedreira da Namaacha (authorised in 2009)	Manufacturing industry	Maputo	500 000	50
51	Magnífico (Moç) (authorised in 2009)	Manufacturing industry	Maputo	1 000 000	50
52	Wang Rong International Trading (authorised in 2009)	Other	Inhambane	1 000 000	60
53	Zhi Cheng Transportes (authorised in 2009)	Transport and Communications	Maputo	180 000	10
54	Transporte Vitória Internacional (authorised in 2009)	Transport and Communications	Maputo	1 000 000	20
55	Euro Sun (authorised in 2010)	Services	Maputo	300 000	50
56	Nampula Plastic Factory (authorised in 2010)	Manufacturing industry	Nampula	1 000 000	40
57	Gigantic Africa Furniture Centre (authorised in 2010)	Manufacturing industry	Maputo	4 500 000	312
58	Palácio de Alimentos (authorised in 2010)	Tourism and Hotels		100 000	18
59	Luambala Jatropha (authorised in 2010)	Agriculture and agro-industry	Niassa	200 000	160
60	New World Supermarket (authorised in 2010)	Services	Inhambane	1 000 000	50
61	Henan Haode Mozambique Industrial Park (authorised in 2010)	Manufacturing industry		21 200 000	600
62	Zhengwei Tecnica (authorised in 2010)	Construction	Maputo	1 000 000	22
63	Indústrias Oasis (authorised in 2010)	Manufacturing industry	Maputo	400 000	39
64	Intertelha - Indústria e Coberturas (authorised in 2010)	Manufacturing industry	Nampula	370 000	150
65	Sunway (authorised in 2010)	Agriculture and agro-industry	Nampula	500 000	50
66	CCESCC Construções (authorised in 2010)	Construction	Maputo	7 000 000	800

Source: CPI

Annex 3. Major[a] investments in the Mozambican mining sector, 2000 to present

Project name	Ownership structure	Origin	Resources	Province	Investment level (USD million)	Scope of operations
Investments with current concession license						
Benga Project	Riversdale (65%); Tata Steel (35%)[b]	Australia; India	Coal	Tete (Moatize District)	8 000	Open pit mining (5.3 million tonne/year); 20 million tonne/year coking and thermal coal project
Moatize	Vale Moçambique Ltda.; Pohang Iron and Steel Company (Posco)	Brazil; S. Korea	Coal	Tete	1 500 (900 current; 600 additional projected by mid-2011)	Coal processing plant with a capacity to produce 26 million tonne/year (but plans to produce 11 million tonne/year). Vale also acquired a 51% stake in the 'Nacala corridor' from the port and railway company Sociedade de Desenvolvimento do Corredor do Norte that operates the 872 km rail line from Malawi to the deep water port of Nacala
Moma Titanium Minerals Project	Kenmare Resources Plc; MBJV[c]	Ireland	Titanium-bearing heavy sands (rutile, zircon, ilmenite)	Nampula	USD 269 million loan agreement signed in 2004 to raise the equity needed to complete the deal	Extraction; mineral separation plant. Estimated future annual production of 800 000 tonne ilmenite, 56 000 tonne zircon and 21 000 tonne rutile
G.M.C. - Gold Mining Corporation	Unknown Unknown	UK	EME[4], TOU Gold	Zambezia, Niassa	Unknown	Unknown
Gold One Mozambique, Lda	Gold One International Limited	Australia and Africa	Gold, TOU	Niassa	Unknown	Unknown
Great Western Mining, Lda 2	Unknown	Ireland	AQU, CAS	Tete	Unknown	Unknown
Investimentos Públicos Nacional, Limitada	Unknown	Unknown	Iron	Cabo Delgado	Unknown	Unknown

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Annex 3. Continued

Project name	Ownership structure	Origin	Resources	Province	Investment level (USD million)	Scope of operations
Highland African Mining Company, Lda	Unknown	Swiss	TAM, AQU, BER	Zambezia	70 (50 in Marua district and 20 Mutala district)	Unknown
Ceta –Construção e Serviços	Unknown	Mozambique	BAS, STO	Tete, Sofala	Unknown	Unknown
Companhia Mineira de Naburi, S.A.R.L	Pathfinder Minerals Plc (% unknown)	UK	HSA, Titanium	Zambezia	Unknown	Unknown
Wolf Gold Mining, Lda	Unknown	Unknown	Gold, Platinum	Manica	Unknown	Unknown
Cherif Brightland, Lda	Unknown	Unknown	GAR, MI	Manica	Unknown	Unknown
12 - Stony Lda	Unknown	Unknown	AQU, BER	Cabo Delgado	Unknown	Unknown
Construtora do Tâmega S.A.	Unknown	Portugal	STO	Maputo	Unknown	Unknown
Egemony Resources (Moz), Ltd	Unknown	Unknown	Gold, TAN	Zambezia	Unknown	Unknown
Investments with a current prospecting license						
Zambeze Coal Project	Riversdale (60%); Wuhan Iron & Steel Corporation (40%)	Australia; China	Coal	Tete (Changara District)	2 000	9 billion tonne coal reserve; estimated production capacity of 5.3 million tonne year
Coal India	Coal India Africana Lda. (unknown %)	India	Coal	Tete (Moatize District)	Up to 400 *(pending findings)*	Currently hold prospecting license for 22 400 ha; plan to export through Beira port
Essar Minas	Essar Minerals Ltd (unknown %)	India	Coal	Tete, Niassa	35	35 million tonne of mineable reserves
Rio Tinto	Rio Tinto Mining and Exploration Lda (unknown %)	Brazil	Coal	Tete, Gaza, Inhambane	Unknown	Unknown
Osho Gremach Mining	Osho Gremach Mining Lda (unknown %)	India	Coal	Tete: Changara, Moatize	Unknown	Unknown

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Annex 3. Continued

Project name	Ownership structure	Origin	Resources	Province	Investment level (USD million)	Scope of operations
Other (major investments mentioned by interviewees, but otherwise absent from the Ministry of Energy and Mineral Resources (MIREME) database)						
Changara Investments	Central African Mining and Exploration Company – CAMEC (unknown %)	UK	Coal	Tete	Unknown	Unknown
Jindal Resources	Jindal Steel and Power Ltd (JSPL); Government of Mozambique (10%)	India	Coal	Tete: Bassa Cahora	180	Have applied for 25 year concession license; plan to export 10 million tonne/year
Minas de Revobue	Talbot Group (59%); Nippon Steel Corporation (23%); Nippon Steel Trading (10%); Posco (8%)	Australia; Japan; South Korea	Coal	Tete	Unknown	Unknown
Mozal	BHP Billiton (47.1%); Mitsubishi Corp (25%); Industrial Development Corporation of South Africa Ltd (24%); Government of Mozambique (3.9%)	Australia; Japan; South Africa; Mozambique	Aluminium (imported from Australia)	Maputo	2 200	Importation of alumina and transformation into primary ingots
Midwest Africa Lda	Unknown	India	Coal	Unknown	Unknown	Unknown
CIF-Moz	Unknown	China	Limestone, iron	Matutuine District	35	Unknown
Africa Mining Company	Unknown	Ireland	Tantalite	Zambezia	Unknown	Unknown
Eurásia Natural Resources Corporation	Unknown	Russian	Hematite	Unknown	Unknown	Unknown

a 'Major' investments for concession holders are denoted by an arbitrary cut-off of 4500 ha of concession area and 500 mineral 'units' in the case of concessions, according to MIREME data. Major investments for the other two categories of investors (those holding prospecting licenses and 'others') were identified through stakeholder interviews and media reports, and classified as having a prospecting license or otherwise after cross-checking in the MIREME database.

b Riversdale Moçambique ownership is reportedly: Riversdale (46%); Tata Steel (22%); CSN (16%); Passport Capital (16%) (Hanlon, 2010). Riversdale reportedly holds 25 000 ha of land under 22 mining licenses (see: http://www.miningweekly.com/article/benga-project-on-track-for-2010-production-2009-03-13), (11 Feb. 2011).

c A joint venture between Bateman of South Africa and Multiplex of Australia.

d These acronyms are from official datasets; those that do not correspond with standardized mineral codes were left in their original form.

Sources: MIREME data for 2010; EIU Country Report on Mozambique; country websites and news articles[e]

e Hanlon (2010); 'Areias Pesadas de Moma' (http://www.acismoz.com/acisofala/UserFiles/file/Investor%20Profile/Kenmare.pdfwww.cip.org.mz/cipdoc/ 50_Questoes%20a%20volta%20 da%20mineracao%20em%20Moçambique_TS_CIP_2010.pdf); www.vale.com; http://www.macauhub.com.mo/en/news.php?ID=9523; http://www.riversdalemining.com.au/content/ view/19/index.php; http://www.railpage.com.au/f-t11330844-s15.htm; http://www.bloomberg.com/news/2011-01-09/coal-india-to-import-10-million-tons-of-coal-from-mozambique-over-5-years.html; http://classic.cnbc.com/id/41423896; http://www.jindalsteelpower.com/facilities/international/other-areas.aspx (11 Feb. 2011).

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