What Future for the Rubber Industry in Myanmar?

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The global demand for land

The world is currently witnessing the fastest-growing commercial pressure on land in history. The past decade has seen at least 49 million hectares of land in developing countries leased out by global investors[1] and agriculture is leading the way, accounting for approximately 79 per cent of targeted investments.[2] In a world experiencing food insecurity and unprecedented resource scarcity, this interest in farmland is set to rise. This is especially true for developing countries in which land deals are often done under the guise of 'national development'. The impacts on the ground, however, have been millions of people pushed off their land and deeper into poverty and the mass destruction of some of the world's last intact forests. This is causing widespread loss of livelihoods and food insecurity among rural communities, as well as irreversible environmental devastation.

Latex being collected from a rubber tree, also known as 'tapping'. © Global Witness

In South East Asia, large-scale rubber plantations are one of the main drivers of 'land grabs' and deforestation. Land deals don't need to happen this way – there is significant evidence to show that investing and supporting smallholder farmers brings lasting economic, social and environmental benefits.

Smallholder farming by its very nature means that there is less potential for land conversion and therefore greater maintenance of agricultural and wild biodiversity. Studies have consistently found that where smallholder farms adopt integrated cropping systems that promote biodiversity, both livelihoods and the environment benefit from a more resilient and organically regulated system.[3]

Leaders across the world face a choice in how their countries develop, including the Myanmar government. This paper aims to place Myanmar in the wider context of this global 'land grab'. It focuses on the development of the country's rubber production and makes recommendations for how the sector could progress differently to bring greater benefits.

Background to political reform in Myanmar and the impact on foreign direct investment

Myanmar is currently going through a political reform process which has the opportunity to chart a new course for the country after more than 60 years of civil war. Political and economic policy changes have increased foreign investment and private sector involvement in the country.

The majority of Myanmar's population rely on land and forests for its livelihoods. © iStock

Officially, poverty reduction has been at the core of Myanmar's economic reform package. In particular, stimulating massive foreign investment in agriculture is one of the government's main strategies to achieve poverty reduction.[4]

The last ten years has seen domestic companies in Myanmar investing heavily in land.[5] However, as the country becomes more locked-in to global markets, intensification of agricultural investment promoted on such a large-scale could lead to a surge of foreign investment in land, bringing the same negative impacts to Myanmar that it has elsewhere. This could not only destroy one of the most important remaining ecosystems in the world but harm an already vulnerable population.

Areas with valuable natural resources, such as minerals, hydropower, oil and gas, have been targeted by both state and private investors.[6] Now land itself is increasingly the commodity of choice for investors. As the peace process continues and new rounds of ceasefire agreements are signed between the government and armed ethnic opposition groups, more resource-rich areas will be opened up to resource extraction fuelled by foreign investment.

The negative risks that large-scale land investments pose are great. The majority of people in Myanmar live in rural areas and rely on farmland and forests for their daily needs and livelihoods – they make up nearly three-quarters of the population, or around 40 million people.[7] Poverty is around twice as high in rural than urban areas, accounting for almost 85 per cent of total poverty nationwide.[8] Agriculture contributes around one third of the country's GDP and 15 per cent of total export earnings.[9] It also employs over 60 per cent of the nation's labour force.[10]

Myanmar is also one of the world's most ethnically diverse countries – ethnic minorities make up an estimated 30-40 per cent of the total population and ethnic states constitute 57 per cent of the total land area.[11] Most of the people living in these areas are subsistence farmers practicing *taungya* – a form of shifting cultivation practiced by smallholder farmers predominantly in the uplands.[12] Due to a host of reasons, primarily related to on-going civil war, it is estimated that at least one-quarter of all farmers in government-controlled areas in Myanmar are now landless.[13]

In addition to this, about half of the household farms which do exist in these areas are less than 5 acres, which is below minimum subsistence levels.[14] Landlessness is therefore already a serious and growing problem throughout Myanmar.[15] Now the threats to land tenure, forests and ecosystems could increase because of the Myanmar government's policies to expand agribusiness in which rubber cultivation is central.

Asia's natural rubber boom: is Myanmar the 'final frontier'?

South East Asia has experienced a rapid growth in the production of natural rubber over the past decade, with Myanmar no exception. Demand is likely to increase, with the International Rubber Study Group (IRSG) predicting that by 2020, global demand for natural rubber will outpace supply by as much as 1.4 million tonnes – equivalent to a 10 per cent gap.[16]

Rubber has been cultivated in Myanmar since the early 1900s, primarily in Mon State.[17] Such 'traditional' rubber growing areas mostly comprise smallholder rubber farms which have provided sustainable livelihoods to local communities. These smallholders have been able to make a lucrative living from rubber-tapping all year round for several reasons. Firstly, is the fact that these small farms are owned and operated by families themselves, providing self-employment but resulting in low labour costs. Secondly, rubber plantations are profitable, even when international prices are relatively low because they entail such low costs and workloads during the tapping phase.[18] The income earned from selling the latex in turn contributes to both food security and poverty reduction. Finally, the resilience of rubber trees, their long life-span (30-40 years) and year-round tapping ensure a long-term stable income for farmers.[19]

However, two patterns of expansion in Myanmar have emerged. Over the past decade, a new 'non-traditional' frontier area is being targeted for plantation development. This has been led by the government which has helped expand the country's rubber sector through partial agricultural liberalisation. Official policy has shifted from relying on small-scale farmers to reach national agricultural production quotas to using private companies to achieve national targets.[20] As such, rubber has now expanded into northern Myanmar in Kachin State and northern and eastern Shan State. Large-scale plantations are sweeping across the hills in areas that were formerly *taungya* fields.[21] Secondly, in the past few years, new areas are being targeted by large-scale rubber concessions, this time near to where smallholder rubber farms already exist, reducing their access to land and natural resources. This can already be seen in areas such as Rakhine State, Mon State, Kayin State and northern Tanintharyi Region.[22]

In both models of expansion, these concessions are allocated in areas that the government has defined as 'wastelands', often in the uplands. But far from being wastelands, the areas, in fact, are often farmed by local households as *taungya* plots. As a result, large-scale rubber concessions are threatening the livelihoods of local farmers by undermining food security and access to natural resources in forests and farmland.[23] With the suspension of sanctions and Myanmar opening up for the first time to global investors, far from bringing progress this agricultural investment model risks exacerbating poverty levels and increasing deforestation.

Total rubber acreage in Myanmar has now reached 1.43 million acres[24] and Myanmar ranks ninth in the world, according to the Myanmar Rubber Planters and Producers Association (MRPPA), in terms of rubber production. The majority of exports go to China. According to MRPPA, nearly two-thirds of the total rubber cultivated comes from Mon State.[25] But production levels of rubber across the country are low considering the area of rubber planted. This is partly due to the poor quality of the rubber trees and tree management which has resulted in low productivity. It is also due to agricultural concessions often being a significant source of 'conversion timber' which may result in some companies simply abandoning the concession following forest clearance.[26]

Across South East Asia, latex is known as 'white gold'. © iStock

Latex being stored prior to processing, Cambodia 2013. © Global Witness

Tenure security provided under Myanmar law is weak. This is partly because the Government retains ultimate ownership of all land, and can rescind land use rights if the conditions of use are not met.[27] It also results from the fact that, unlike some other countries, collective and customary tenure rights are not fully recognised in law.[28] Over the last few years, several key laws have been passed as part of the agrarian transformation from rural subsistence farming to an industrial cash-crop economy. However, these new laws have been criticised for potentially undermining land rights in the ways outlined in the table below.[29]

Law	Responsible Government Agency	Aim	Area requiring clarification
Vacant, Fallow and Virgin Lands Management Law (VFV Law) 2012[30]	Government's Central Land Management Committee (LMC) chaired by the Minister of Agriculture and Irrigation (MOAI)[31]	To convert 'vacant, fallow and virgin land' into agricultural industrial estates (Chapter 3, Article 4.)[32]	• As very few farmers have official land title certificates, most farmers have no formal land use rights under the VFV Law. Those without title are thereby classified as 'squatters', leaving them vulnerable to losing their land to concessions.[33] This is due to the fact that under the VFV law, the LMC can allocate land used by smallholders (both upland *taungya* land and lowlands with no official land title) to domestic and foreign investors.[34]
Farmland Law 2012[35]	Farmland Management Body (FMB), a line agency within the MOAI and chaired by the Minister of the MOAI[36]	To secure rural land tenure through a land use certificate and registration system (Chapter 5, Articles 15a. and b.)[37]	• Land can be legally bought, sold and transferred on a land market but the process is problematic as it only applies to those with land use titles – which accounts for only a minority of the population. It therefore leaves those who don't have an official land use title without legal rights or protection, meaning their land can easily be sold-off to investors.[38] • Land use certificates can be issued to farmers by Farmland Administration Bodies (FAB) but the process for this is unclear, as are the government bodies responsible.[39] Decisions made by the FAB are outside judicial processes. This removes farmers' right to appeal.[40] It can therefore be argued that any project deemed to be in the 'national interest' can be pushed forward without question.[41]
Foreign Investment Law 2012[42]	Myanmar Investment Committee (MIC) under the Ministry of National Planning and Economic Development (NPED)[43]	Provides framework for and guides foreign direct investment into Myanmar (Chapter 6, Articles 11 a. and b.)[44]	• Has deemed the agriculture sector 'restricted' for large-scale (private) investments, along with other sectors such as toxic waste, livestock and fisheries. These 'restricted' sectors carry additional but ambiguous environmental and social precautions.[45] This ambiguity around the restrictions creates a potential loophole for damaging activities to be approved. What's more, if a project is deemed 'beneficial' to citizens then it may gain approval from the Myanmar government and therefore override these restrictions.[46] • Land use rights for concessionaires can last for up to seventy years[47] which, if for agricultural investments, contradicts with the former VFV law. Under that, the total acreage that can be leased for industrial crops is 50,000 acres for a 30 year period.[48] Longer leases can be obtained under the FIL if the investor gains permission from the Myanmar Government.[49] This further exacerbates the inequalities surrounding land tenure in Myanmar.

As a consequence of the above, there are serious concerns that these new laws governing land concessions could put communities under real threat. Ethnic communities living on the uplands are particularly at risk. The targeting of their land for rubber plantations could exacerbate insecurity of land tenure and access to food for the majority of Myanmar's population who rely on their land and forests for their livelihoods. Consequently, the new laws could be interpreted as benefiting the private sector, particularly large foreign investors, at the expense of the country's smallholder farmers.

The Ministry of Agriculture and Irrigation (MOAI) has produced a 30-year Master Plan for the Agriculture Sector (2000-01 to 2030-31). The development plan lacks detail but states that the government aims to convert 10 million acres of 'wasteland' for private industrial agricultural production.[50] However, no official national land-planning process has been produced to help form decisions around land use. In addition, the government also has a 30-year plan in the same timeframe to obtain 1.5 million acres of planted area of rubber in the country, and the capacity to produce nearly 300,000 metric tonnes (MT) per annum.[51] This target is expected to be reached earlier than expected: the area planted has already reached 1.4 million acres and the production target is predicted to be met in 2025.[52]

Myanmar is not alone in this surge of investments into rubber plantations. Smallholder rubber farmers have taken a central role in global production historically, but the last few years has seen a new wave of rubber investors acquiring large swathes of land in the neighbouring 'frontier' countries of Cambodia and Lao P.D.R. These investments have had devastating consequences for both countries' people and forests. The negative impacts that both countries are experiencing should act as a grave warning of what happens when governments ignore social, environmental and governance safeguards. In this respect, what lessons can Myanmar learn from Cambodia and Laos?

Cambodia and Laos: What lessons can Myanmar learn?

Cambodia and Laos are in the middle of a land-grabbing crisis.[53] Vast tracts of land are being leased out by both governments for rubber plantations with disastrous consequences for local communities and the environment. The negative impacts are hard to overstate: often the first people know about a company being given their land is when the bulldozers arrive. Families affected are impoverished, face food and water shortages and get little or no compensation. Indigenous minority peoples' spirit forests and burial grounds have been destroyed. When they attempt to complain or resist, communities face violence, arrest and detention. In both Cambodia and Laos, land investments are governed by legal safeguards intended to ensure national economic benefits and prevent negative environmental and social impacts. As in Myanmar, the majority of the population in both countries are rural subsistence farmers and agricultural investment is urgently needed to tackle poverty levels. But instead of their governments promoting investments in small holders, corruption and vested interests have meant that communities' needs have been consistently neglected in favour of leasing out huge tracts of land to the private sector.

In Laos, no official government statistics are available for the total land acquired by domestic or foreign investors. A recent government estimate stated approximately 2.7 million acres has been given out in land concessions alone.[54] This is equivalent to 5 per cent of national territory or 18 per cent more than the total arable land in Laos.[55] It is estimated that rubber accounts for 34 per cent of total

Community land cleared for a rubber plantation in Cambodia. © Global Witness allocated concessions.[56] However, the expansion of an existing but small rubber industry in Laos has happened only in the last decade. The promotion of rubber was intended to act as a modest supplemental cash crop to enhance livelihoods of upland farmers.[57] In reality, it has grown into a rapidly expanding agro-industry that is becoming tainted by mounting concern over a lack of government regulation and controls.[58] Due to the immature nature of the industry, government officials in Laos have relied on external inputs of knowledge and investments from state and private entrepreneurs from neighbouring countries, particularly Vietnam and China. This has triggered a huge and sudden increase in rubber planting with little planning or monitoring taking place.[59]

Cambodians protesting in Phnom Penh against a 'land grab' are met with force by the authorities. © Global Witness

In Cambodia, rubber plantations cover 2.9 million acres and make up 80 per cent of total land concessions.[60] Since 2001, the Royal Government of Cambodia has introduced new laws governing land and forest resources, as well as specific legislation for land concessions, community forest management and registering indigenous peoples' collective titles. These measures are intended to ensure more equitable and sustainable use of its natural resources and to protect the rights of smallholders and indigenous peoples to access land and forest resources.[61]

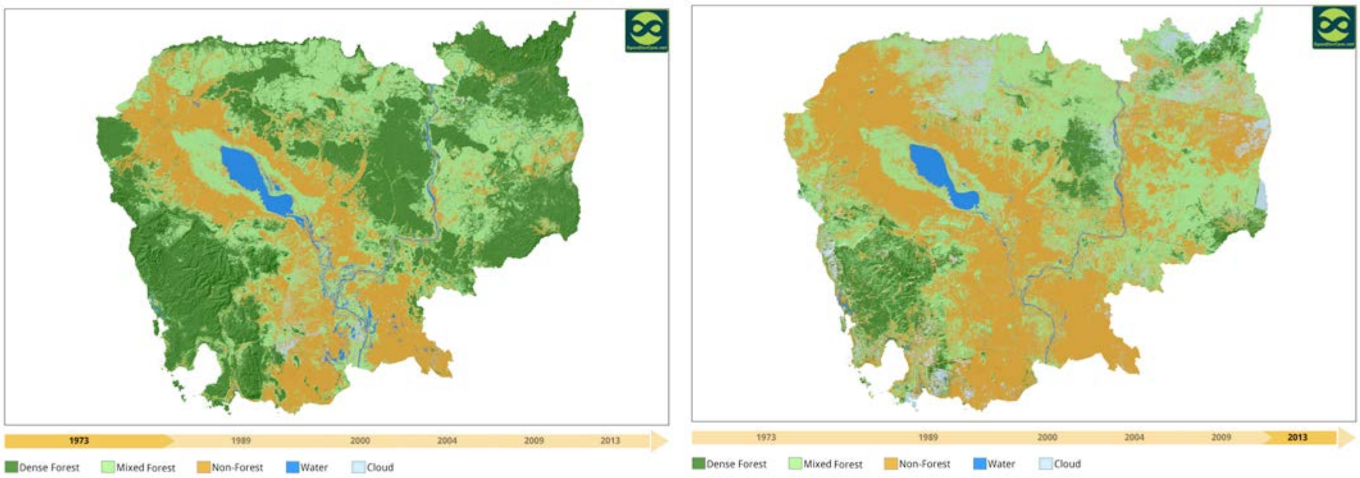
However, the implementation of these laws is weak and completely undermined by Cambodia's corrupt political and business elite. Land has become the latest example of how Cambodia's valuable natural resources have been captured by those in power growing spectacularly rich while one third of the population lives on less than US$0.61 a day.[62] The problem is exacerbated by the fact that millions of Cambodians do not have secure titles to their land. The consequences have been the loss of significant areas of land for local communities across the country due to an expanding encroachment of rubber and other land concessions, with an estimated 700,000 Cambodians adversely affected.[63] Protests against the rapid rise in land concessions have become increasingly common and violent: in 2012 the Government of Cambodia arrested twice as many people during housing and land disputes as in 2011.[64] Furthermore, land disputes factored highly in the 2013 general election and subsequent protests against the ruling Cambodian People's Party.[65] These demonstrations have continued into 2014 and were met with excessive use of force by the authorities, resulting in the deaths of several civilians.[66]

A shroud of secrecy also plagues the allocation process, which involves an almost total lack of community consultation and varying degrees of coercion. Local communities are offered wholly inadequate compensation for loss of land and resources and more often than not receive nothing. The government's land concession model has attracted significant international criticism, as illustrated by a statement from the United Nations Special Rapporteur on the situation of human rights related to economic and other land concessions in Cambodia, Professor Surya Subedi

"The current climate of development (in Cambodia) is characterized by low transparency and uneven access to information, inadequate consultation, and participation which is not inclusive, and, in my view, is unsustainable and likely to hamper future economic growth."[67]

In addition to the devastating negative social and environmental impacts, such investments carry significant corporate risks for companies. Due to escalating land disputes, on 7 May 2012, the Cambodian Prime Minister Hun Sen announced a moratorium on the granting of new land concessions and a review of those already in existence. The stated intention of this programme was to issue over 700,000 land titles to communities on more than 2.4 million acres of land before the July 2013 general election.[68] By January 2013, 617,000 acres of land had reportedly been removed from private investors' economic land concessions and returned to local people, thereby undermining Cambodia's legitimacy as an investment destination.[69]

Deforestation is also a major problem in both Cambodia and Laos. Investors appear to have deliberately targeted protected areas, with over 70 per cent of the concessions given out in 2012 in Cambodia situated inside national parks, wildlife sanctuaries and protected forests.[70] According to recent data, forest cover in Cambodia fell from around 72 per cent in 1973 to only 46 per cent in 2013[71] and satellite imagery demonstrates that land concessions have significantly contributed to the loss of intact forest.[72] In Laos, forest cover has also declined rapidly. Despite the law allowing only 'degraded' forest to be allocated as concessions, across the country intact forest is giving way to industrial-scale plantations at an unprecedented rate.[73] Forest cover has fallen from 70 per cent to just 40 per cent of total land mass over the last 50 years, according to official statistics.[74] This rapid forest loss has dire longer terms impacts on soil erosion and watersheds, loss of biodiversity and ecosystem services.



Satellite imagery showing deforestation between 1973 and 2013, including in areas protected by Cambodian law. Cambodia has the fifth highest deforestation rate in the world. © Open Development Cambodia

The financial risks to governments and investors of large-scale rubber concessions

The corporate risks associated with investing in land where tenure rights are unclear are very real. A 2012 report by The Munden Project analysed the financial costs associated with ignoring the issue of tenure in land investments.[75] The report demonstrated that the financial risks posed are numerous and range from unexpected cash flow loss due to suspensions, to seizure of assets following the loss of insurance coverage.[76] The escalation of risk can be extremely rapid and irreversible. The report concluded that the average global operating costs of a three-year investment of around USD$10 million could be as much as 29 times higher if the project was forced to stop its activities because of local opposition.[77]

The Munden Project published a further assessment in 2013 of 'land tenure risk' as a specific threat to corporate investments.[78] Using geospatial data from 12 emerging market economies, including Cambodia, the analysis highlights the problem of overlapping land claims diminishing the value and viability of industrial concessions.[79] The study concludes that *"industrial concessions on public lands representing 31% of the total hectares sampled had some overlap with a demarcated local territory"*.[80] This demonstrates to investors that such risks are already being realised and highlights the need for feasibility studies and consultation with local communities prior to securing a land acquisition.

This matches Global Witness' own experience. In May 2013, Vietnam's largest rubber company, Hoang Anh Gia Lai (HAGL), was exposed by Global Witness for a range of environmental and human rights abuses in the company's plantations in Cambodia and Laos in the report, *'Rubber Barons: How Vietnamese companies and international financiers are driving a land grabbing crisis in Cambodia and Laos'*.[81] Within 48 hours of the release of the report, HAGL's share price dropped by 6 per cent, attributed by some media reports to the exposé.[82] The company has since experienced consistent pressure from investors to bring its operations in line with the law, work directly with local communities to solve disputes and settle compensation claims, and publicly disclose details of its concessions. Some investors withdrew their funds from HAGL altogether due to the associated risks with the company.[83] At the time of writing, communities affected by HAGL's operations in Cambodia had submitted a complaint against the company to the International Finance Corporation, which invests in HAGL through a Vietnamese equity fund.[84]

Investment in land and agriculture provides an opportunity to tackle poverty and boost national economic development. But these can only be achieved if governments and companies stop prioritising large-scale private investments that lock them into weak relationships with volatile international markets, over investment in local sustainable livelihoods which leads to genuine national development. For investments in a high-risk sector such as land, several sets of international guidelines exist to help governments and companies invest in an environmentally and socially responsible way:

- Directly responding to the social problems that such investments can cause, in 2011, the United Nations Human Rights Council endorsed the **'Guiding Principles for Business and Human Rights'**.[85] These emphasise the responsibility to protect and respect human rights of both companies and governments, and include extra-territorial obligations on those operating across borders.[86]
- The following year, the **Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security** were adopted by the UN Committee on Food Security (CFS).[87] This is the first international standard defining best practice for the way in which human rights, land and natural resources inter-relate. They include strong provisions on consultation, customary rights, land reform and how investment in agriculture must prioritise smallholder production. Since adopting the Voluntary Guidelines, the CFS is now working on an aligned set of principles for responsible agricultural investments.

Guidelines are also being formed for the global rubber industry with the establishment of a 'Sustainable Rubber Initiative' which, although still at its early stages, was endorsed by the rubber industry at the World Rubber Summit in Singapore in May 2013. Recognising the potential social and environmental impacts of rubber plantations, the aim of the initiative is to define a set of sustainability standards for rubber production which will be implemented by all industry stakeholders along the supply chain. Additionally, some tyre companies such as Michelin have also recognised the need to minimise the risks associated with sourcing natural resources, including natural rubber, and have independently developed company sourcing policies which are applied throughout their supply chain.[88]

Small-scale agriculture provides a stable livelihood for many Burmese farmers. © iStock

Sustainable agriculture, sustainable rubber

The commercial rush for land in recent years has pushed forward an often polarised debate around small-scale versus large-scale agriculture, particularly in the wider context of food security.[97] Some have stated that large farms are more efficient and benefit from easy access to markets.[98] Two recent reports by the UN, however, have concluded that a shift to supporting smallholder farmers, as well as a more holistic approach to agriculture, is the only way to tackle food security, sustainable land use and climate change.[99]

In practice, subsidies and tax systems often favour large-scale, export-dependent farms and have locked countries into serving fluctuating international markets.[100] In some cases this has been at the price of small farms and the families supported by them. Smallholders have often been ruined by industrial commodity producers who have banked big profits and left taxpayers to pick up the tab for a degraded environment.[101] However, small-scale farming is an efficient and resilient mode of production. Small farms are often more productive than their larger counterparts: due to the fact they are often directly run by the owners themselves, they are able to self-manage their labour, consequently leading to a higher output per hectare than large farms.[102] Overall, it is estimated that approximately 450 million smallholders feed around 2 billion people worldwide.[103] In contrast, although large commercial agribusiness companies tend to have greater success in market integration, they often do not involve local farmers.[104] In addition, their tendency to focus on specific crops – often large-scale monocultures – and dependency on specific economic conditions means they have difficulty in adapting to changing markets and prices.[105] Studies have also shown that a more equitable distribution of land leads to higher rates of economic growth and helps to ensure that growth is more beneficial to the poor, due to communal labour opportunities provided by small-scale farming in rural areas.[106] What's more, smallholder income can be between two and ten times higher than the income from wage employment.[107]

Large-scale monocrop plantations also impact on biodiversity and result in the loss of environmental services such as carbon storage, forest products, water sources and soil fertility.[108] Furthermore, the lack of biodiversity and associated vulnerability to disease and pests makes necessary the input of large quantities of chemical pesticides within the concession. Pesticide-use can have damaging effects on both human health and can poison both wildlife and water sources used by local communities.[109]

To conclude, there is little evidence to suggest that large-scale plantations are needed to improve or 'modernise' agriculture. There is, however, a wealth of evidence demonstrating the benefits of small-scale agricultural production, including rubber.

Case Study one for sustainable rubber: Thailand

Thailand is the largest producer of natural rubber in the world, producing 3.5 million metric tonnes, nearly a third of total global output during 2012.[89] The country only consumes 10 per cent of its natural rubber domestically, with 90 per cent of production for export.[90] The vast majority of Thailand's rubber is produced by smallholdings, which accounts for almost 90 per cent of rubber production and provides a livelihood for thousands of households.[91] For the last decade, the government of Thailand has promoted Rubber Integrated Livelihood Systems (RILS), a programme through which smallholders have diversified to combine rubber farming with livestock, fruit, fisheries, rice and other crops.[92] RILS provides higher household incomes than that of rubber monocrop systems alone, whilst also ensuring the sustainability and resilience of household livelihoods.[93] Given that in rubber cultivation, the costs of production are not necessarily reduced through investment in bigger plantations, RILS guarantees economic security for farmers, dynamic production for markets, and less industrialized exploitation of the natural environment.

The Thai government also provides subsidies for local farmers who, as a result, are able to produce high quality rubber. Almost 50 per cent of Thailand's natural rubber is of a quality high enough to meet the domestic certification standard.[94] This is predominantly used to make car tires and is therefore able to serve the export market. The remaining half of Thai rubber produced is used for lower quality products. Although ongoing political unrest has recently impacted upon the country's rubber sector over the longer term,[95] Thailand's production of natural rubber is expected to increase.[96]

Case Study two for sustainable rubber: India

India is the fourth largest producer of natural rubber globally.[110] The rubber sector in India is dominated by small holdings which account for 92 per cent of production and 89 per cent of the area of rubber in the country.[111] In the 1960s, the Rubber Board of India helped support the organisation of district-level rubber cooperatives through both organisational and financial support.[112] For example, in Kerala, these cooperatives helped to improve the efficiency and productivity of rubber smallholder systems, enabling them to achieve a lower cost of production and better prices for their products compared to non-members.[113] Furthermore, rubber growers adopting a group approach were able to produce superior grades of rubber due to training from the Board and the provision of facilities for processing good quality rubber.[114] Growers were also more likely to adopt new technologies due to financial support from the Rubber Board as well as the strengthened bargaining power that comes from being part of a co-operative.[115]

Rubber production in India has stayed stable for the last decade, in part reflecting the strength of the country's production model. Although trade data is not commonly available, the general trend is for the majority of rubber produced to be consumed domestically by India's growing car industry, only exporting natural rubber when the price on the international market is higher than the domestic.[116]

The case of India shows that rubber cooperatives can have a significant positive impact on the costs of inputs, processing and marketing when compared to farmers who do not engage with the cooperative model. This highlights the importance of rubber cooperatives receiving institutional support from the government; helping to overcome the challenge of increasing the economic performance of members, whilst maintaining their own financial solvency. Such results can be achieved through efforts to professionalise cooperatives, providing sound legal frameworks around cooperatives and through providing enough autonomy such that cooperatives are able to decide their own organizational structure.[117]

Rubber tapper in Kerala. © iStock

The benefits of smallholder rubber

In the main rubber producing countries, smallholder production dominates the natural rubber industry: smallholder produce 93 per cent of rubber in Malaysia, 90 per cent in Thailand, 92 per cent in India and 85 per cent in Indonesia.[118] An historically successful smallholder cash crop, rubber carries potential for smallholder farmers for a number of important reasons:

1. Economic resilience and food security: Natural rubber can easily be planted with other cash crops providing a more diverse source of income for farmers. Rubber can also play an important role in a wider agro-forestry system – also known as 'jungle rubber'[119] – which has emerged as a resilient system in the traditional rubber-producing countries, both environmentally and economically.[120] Integrating rubber into such wider farming systems can both increase household incomes and provide resilience to market volatility. In one research project in Indonesia, agroforestry was perceived by local farmers as the most important use of land compared to both monoculture and simpler rubber crop systems as it could provide a range of sources of income and food.[121] Further research in Indonesia showed that smallholders in the country combine rice and rubber production with rubber meeting the need for market goods whilst rice meets subsistence needs. This provides smallholders with flexibility: farmers tend to abandon rice cultivation when rubber prices are high but return to it during economic downturns.[122]

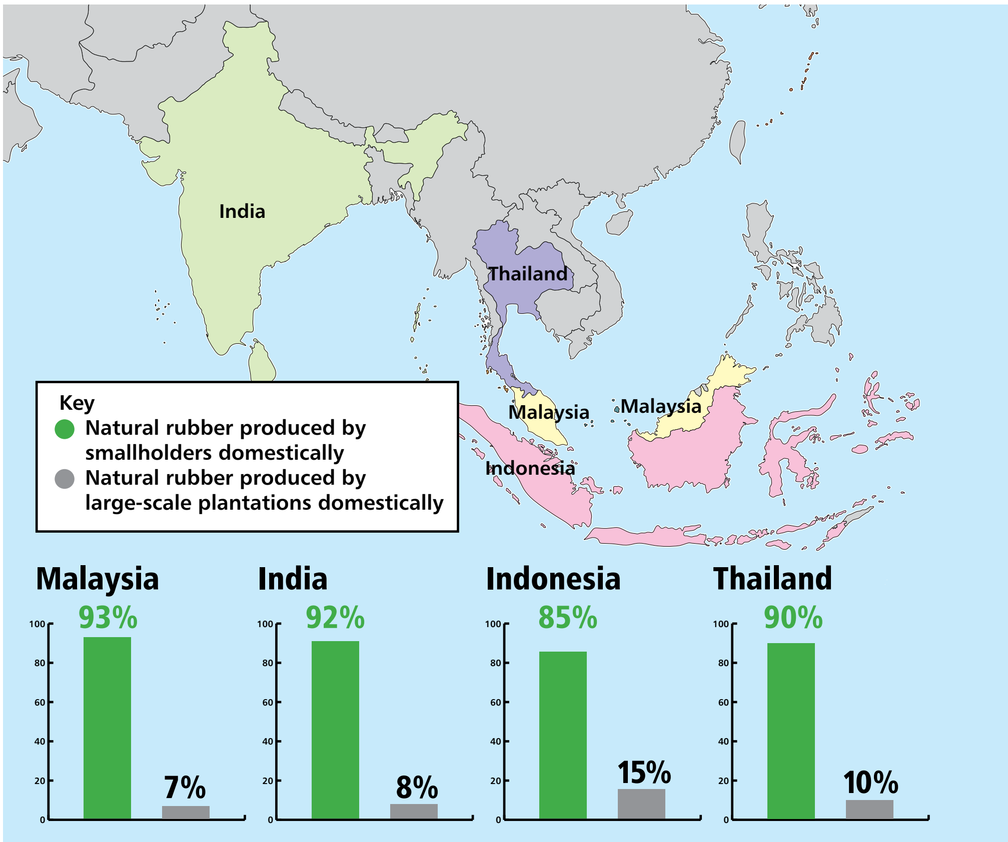
2. Increased growth and productivity: Inter-cropping of certain crops with rubber can improve the performance of rubber trees. This is due to nitrogen inputs to the soil from particular crops which help boost the growth of the trees.[123] One study in China also shows that rubber trees actually yield more when grown with other crops than on its own in a monoculture plantation.[124] This is because fertile topsoil can be lost due to erosion because of mono-cropping, leading to lower yields overall and over time.[125]

3. Poverty alleviation: If given the right technical and financial support, smallholder rubber, and particularly rubber agroforestry, can provide a stable livelihood for local farmers. Smallholder income is greater than the wages earned by farmers working as labourers in a concession model. In addition, planting rubber with other crops can provide food and fuel for domestic consumption, as well as other cash commodities on a shorter term basis.[126]

4. Environmental and biodiversity protection: In South East Asia, large areas of rich biodiversity have been put under great pressure from the establishment of plantations, including rubber.[127] Monoculture plantations have a particularly detrimental effects on species diversity and ecosystems – a shift to small-scale and more diverse rubber systems could reduce these impacts. Species diversity is higher in agroforestry rubber systems than monocultures and studies have concluded that agroforestry systems can play an important role in the conservation of primary forest species.[128]

Rubber plantations have recently been brought into the debate around carbon sequestration and the incorporation of rubber into carbon markets.[129] It should go without saying that rubber, or indeed any other plantation, cannot be deemed as 'carbon positive' – that is a sequester of carbon – if it is replacing intact natural forest. In addition, recent studies in one paper have looked at the relationship between the replacement of *taungya* fields with rubber in terms of carbon sequestration in the context of global REDD (Reducing Emissions from Deforestation and Degradation) policies. This is in part due to the fact that *taungya* fields are often perceived to be degraded and inefficient with regards to carbon sequestration.[130] The authors of the paper found that *taungya* in some cases may be carbon-neutral or even carbon positive, compared with some other types of land-use systems.[131] The study concluded by highlighting the uncertainties surrounding carbon stocks in various forms of land-use and stated that it is 'impossible to predict accurately the extent that REDD policies involving swidden-rubber transitions will ultimately increase carbon sequestration'.[132]

Burmese Shrike *Lanius collurioides*. Habitat protection is crucial for the survival of Myanmar's unique flora and fauna. © iStock



Conclusion and recommendations

The governments of the largest rubber producing countries globally (Thailand, Indonesia, Malaysia and India) have all deliberately introduced policies to support smallholder rubber production.[133] As outlined above, the reasons for this include on-going progressive land reform policies in the different countries, interest from smallholders in establishing rubber, and the interest of governments to better control smallholder farms and their production.[134] Experts from the main rubber producing countries continue to push for investments in smallholders in order to boost both the livelihoods of local farmers and productivity in order to meet global demand. It is therefore well recognised by successful producer countries that the future of global rubber production continues to lie with smallholder farmers. The examples of Cambodia and Laos, however, merely go to show what happens when vested interests are prioritised over genuine national development.

Drawing upon the experiences of Thailand and India, it is clear that smallholder rubber production is a viable and effective model to move households and communities out of poverty. Farmers can better manage their lands productively if their tenure and user rights are legally recognised and they are given the right technical and financial support.[135] On the other hand, externally-imposed, large-scale policies such as the commercial estates being established in Cambodia and Laos negatively affect smallholders and the country overall.[136] Even when laws and policies have been drafted that could assist smallholders to maintain control of their land and invest in commercial crops, lack of capacity and conflicting vested interests from government officials in both countries have prevented these measures from being implemented effectively.[137] Consequently, in many communities farmers are struggling to maintain community land and forests in the face of growing pressure from investors and government institutions to impose concession arrangements.[138]

The international community is poised to invest in Myanmar's rich natural assets. The government currently stands at a crossroads with regards to how it takes advantage of such foreign investor interest. There is growing demand, predominantly from China, for natural rubber, and in Myanmar this will continue to drive a transition from traditional farming systems to a landscape dominated by cash crops, including rubber. The future of smallholders is not yet clear, but the decisions the Myanmar Government makes now will impact significantly on its people and environment for many years to come.

Rubber plantation in Kerala. © Global Witness

Recommended actions for the Government of Myanmar

On rubber production:

1. Promote and protect smallholder rubber production. Support smallholder farmers through technology and knowledge transfer, access to processing points and other extension services. Support and strengthen farmers groups in order to help boost the productivity and quality of Myanmar's rubber sector;
2. Provide institutional support for rubber co-operatives in order to improve the efficiency and productivity of smallholders and, in turn, secure greater commercial and economic benefits for farmers;

On governance of large-scale land concessions and land reform policy:

The following recommendations apply to all land concessions, including rubber concessions. This includes the Opium Crop Substitution Programme (OCSP) and other programmes under which rubber concessions are allocated and managed:

3. Establish an overarching national land policy which serves the needs and rights of smallholder farmers and guides, strengthens and aligns current laws governing land concessions. The land policy should:
   a. Reform and align the Vacant, Fallow and Virgin Lands Management Law, the Farmland Law and the Foreign Investment Law which govern rubber and other agricultural concessions to ensure that smallholder farmers, in particular ethnic minorities, are protected and prioritised over large private investors; and establish legal clarity including definitions of key articles in the law;
   b. Recognise and legally protect legitimate collective and customary land tenure and user rights, including *taungya*, across all laws. Adequate safeguards should be put in place to ensure land conflicts do not increase in the future;
   c. Adopt and implement the Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests and to make these standards legally binding;
   d. Adopt the standard of Free, Prior and Informed Consent as defined in the UN Declaration on the Rights of Indigenous Peoples – to which Myanmar is a signatory – for all communities potentially affected by rubber and other agricultural investments.
4. Undertake a participatory national land-use planning process in line with national land policy in order to develop a formal framework that guides decisions about existing and future land allocation, use, management and protection. This needs to include recognition of collective and customary land and user rights and identification of the areas most agronomically and economically feasible for rubber and other commodity production. Draft land use plans should be made available for review and comment by smallholder farmers, civil society, government representatives, and the private sector. Finalized land use plans should be made freely accessible to the public and government authorities, in all relevant languages;
5. Ensure that Environmental and Social Impact Assessments are undertaken for all land investments prior to contracts being secured in order to prevent deforestation and other environmental impacts, and prevent forced evictions. Ensure such assessments are sufficiently rigorous to prevent projects from going forward if the negative impacts are too great. Harmonise such assessments with existing environmental laws and related regulation and ensure the results of such assessments are made public;
6. Establish legal and judicial recourse for the protection of land and user rights in order that socially unjust decisions around the use of land may be challenged by affected communities;
7. End all land acquisitions that do not offer compensation to affected communities in line with international standards;

Establish and enforce a moratorium on any further large-scale land concessions until the above actions have been taken.

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Myanmar has some of the world's last remaining intact forests, rich in biodiversity. © iStock

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Global Witness
Lloyds Chambers
1 Portsoken Street
London
E1 8BT
United Kingdom
Phone +44 207 492 5820
Fax: +44 207 492 5821

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