WWF

CASE STUDY

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TALKING BUSINESS:

THE IMPORTANCE OF NATURAL CAPITAL VALUATION AND APPLYING A LANDSCAPE APPROACH FOR BUSINESSES INVESTING ALONG THE ROAD TO DAWEI

The new road which will connect Dawei to the Thai border in the Tanitharyi region of Myanmar.

OVERVIEW

COUNTRIES: Thailand and Myanmar

A transport corridor is currently being planned between Bangkok, Thailand and Dawei, Myanmar, which also includes a deep-sea port development at Dawei, and is estimated to be finished by 2020. This brief outlines the benefits and opportunities for businesses to adopt an approach towards transport corridor investment projects that not only incorporates natural capital values into their business planning but also encourages the application of a landscape approach towards assessing and managing risk. Benefits include regulatory, supply chain and brand risk mitigation; cutting costs; and protecting and strengthening business reputation by creating a more responsible image. Opportunities exist for business to achieve more sustainable triple bottom - so social, environmental and financial - lines, including reduced costs, by incorporating natural capital values and landscape risk into business decision-making processes.

INTRODUCTION

In 2013, WWF conducted a Green Economy modelling study - or a socioeconomic and environmental modelling study - on the land use change arising from the *Road to Dawei*, a proposed transport corridor between Bangkok and a planned deep sea port development at Dawei, Myanmar.

This transport corridor, once constructed, is intended to pass through the Dawna Tenasserim Landscape (DTL), a biodiverse mountainous and forested area as well as through diverse agricultural lands, that are the main source of livelihoods for the local communities on the Thailand side of the border. The modelling study demonstrates how using a Green Economy approach, which takes into consideration the value of natural capital, rather than a business-as-usual approach (i.e. an approach that promotes short term economic gains over longer term sustainable growth and in this case, where the road is constructed without additional policies to mitigate possible negative impacts on natural capital), can prove to be not only the most sustainable choice - environmentally and socially - in the long term but also the more economically advantageous choice for businesses and as well as local communities in the in the DTL area. This brief highlights the benefits, and opportunities of valuing and mainstreaming natural capital into business operations and examining business risks at the landscape scale for companies investing in developments on the *Road to Dawei*.

BACKGROUND

Natural capital is the stock of capital derived from natural resources, such as biodiversity and ecosystem goods and services. These goods and services underpin the global economy and provide inputs and/or benefits to business; businesses therefore depend on the ongoing availability and quality of these inputs and benefits. Agri-businesses, for example, rely on healthy soils, water availability and pollinators. By negatively affecting just one of these elements, the risk of both yield losses and price volatility rises. Natural capital is also affected by business activities and outputs. For example, agri-businesses can improve the abundance of pollinators by growing pollinator supporting plants or providing hives. It is in the interests of business to use natural capital sustainably to improve their long-term profit outlook. By depleting natural capital now, business put their supply chains and future productivity – and therefore profitability – at risk.

BUSINESS INVESTMENT ALONG THE ROAD TO DAWEI

A number of opportunities and considerations have been highlighted by the WWF Green Economy Modelling study for businesses looking to invest along the *Road to Dawei* area.

Natural Capital mainstreaming
Firstly, it has produced important information on the **value of natural capital** along the *Road to Dawei* area. Valuing and mainstreaming natural capital into decision-making processes will ensure that businesses can capitalise on a number of benefits. These benefits include:

- **Mitigating regulatory, supply and brand risk:** Increases a business' ability to comply with regulations and standards, both now and into the future. It also reduces threats to business continuity and harm to supply chains, facilities, workers, and communities, particularly in places vulnerable to extreme weather, flooding, drought, fires or resource scarcity. The shutdown of a Coca Cola bottling plant in India, due to a backlash from the community over a perceived over-extraction of water, illustrates the potential impacts when this risk is not managed and mitigated.[1]

- **Cutting costs:** Ensures more efficient resource utilisation, recapturing and reuse of wastes, and reduced energy costs. Usually, investments in resource productivity and efficiency are more than offset by energy and cost savings achieved. Crucially, incorporating natural capital values in business planning can postpone or avoid cost increases arising from resource scarcity.

[1] For further information: http://www.theguardian.com/environment/2014/jun/18/indian-officals-coca-cola-plant-water-mehdiganj

- **Strengthening brand value:** Build loyalty from customers and broaden a consumer base; allow a business to stand out amongst competitors; attract new investors and lenders who favour environmental performance; and also secure and maintain a social license to operate.

Tables 1 and 2 provide a snapshot of some of the findings of WWF modelling study about natural capital changes in different policy scenarios. These scenarios are:

- A **No-road** scenario, under which the construction of the road does not occur. This scenario assumes the continuation of historical and present trends. It was used as a benchmark for projected positive and negative impacts of road construction on the economy, society and environment.
- A Road scenario / **Business as usual** (BAU) case that assumes the construction of the road without additional policies to mitigate possible negative impacts on natural capital. Under this scenario, the full impact of road construction is projected on the economy, society and environment.
- Two **Green Economy** (GE) scenarios, which include the BAU scenario with additional interventions for the protection of natural capital. The GE 1 scenario includes government policies that are introduced to expand improved agricultural practices as well as the reforestation of degraded land. The GE 2 builds on the first scenario by including sustainable urban planning measures that reduced the settlement land per capita.

These tables also highlight what it could mean for businesses, particularly in the extractives, forestry, farming and fishing sectors, which invest along the *Road to Dawei* if the Thai government were to implement the policy frameworks of these scenarios.

Natural capital includes clean, reliable water sources like the Mae Rewa river in the DTL .

The private sector could also use this data to inform the mainstreaming of natural capital into their business operations (such as the design, construction and operation of manufacturing sites) to further enable financial sustainability and longevity of their business (See Box 1).

BOX 1

CASE STUDY - VALUING NATURAL CAPITAL FOR BETTER BUSINESS

Dow Chemicals, a multi-national US based company that manufactures plastics, chemicals, and agricultural products, is using two of its sites – one in the Texas, US and one in Brazil- to validate tools and models that can value natural capital and support Dow's decision-making when it comes to designing, constructing and operating its manufacturing sites. Dow Chemicals, with the support of The Nature Conservancy, analysed which ecosystem services are particularly critical at the sites and what the options are for the preservation of these services. For example, for the Texas site the costs of technical solutions to reduce air pollution are compared with reforestation programs. They have estimated that it would cost between $2400 - $4000 per tonne of NOx to remove via the reforestation project versus $2500 - $5000 per tonne using traditional NOx abatement strategies. In Brazil they are taking into account different options for the coastal protection and the preservation of the fresh water supply. By using natural capital (i.e. the services that trees and coastal processes provide) Dow Chemicals is cutting costs.

This natural capital data generated by the WWF Green Economy modelling also provides a basis for **understanding the supply chain** for businesses that will have suppliers along the *Road to Dawei*. This will optimise procurement strategies to mitigate risk from local resource availability, commodity price rises and environmental costs. Further investigation about how any natural capital changes could impact supply chains will provide essential information for reducing supply chain risk to business.

Overall, the WWF modeling highlights that a Green Economy approach to the development of the *Road to Dawei* will have more positive outcomes for business in the long term; so in essence there would be fewer risks and costs associated with the Green Economy approach. The importance of valuing natural capital is also highlighted; without it the impacts of a BAU policy framework pose significant hidden risks and costs.

It is recommended that the private sector work with Thailand and Myanmar's governments to promote the establishment of Green Economy policy framework to ensure the sustainability of business supply chains, future productivity and profitability along the *Road to Dawei*. The importance of valuing a business' impacts on natural capital at a larger landscape level is also made evident.

TABLE 1: A snapshot of the green economy modeling results of the Road to Dawei and how it could affect a business. These are the results for long-term projections (year 2035) comparing the two scenarios for some of the categories analyzed. The no road models outcomes if the Road to Dawei was not constructed; business as usual (BAU) models outcomes of the construction of the road without additional policies to mitigate possible negative impacts.

	No Road	Business as Usual	How a BAU scenario could affect your business
Total population	Limited employment drives emigration from the area	Increase of 41% relative to 2007 population	- Greater supply of unskilled labour and/or less skilled workers available
Area of agricultural land	Slight decrease due to abandonment from emigration	Increased by 60% compared to No Road	- Increased road traffic could be a safety risk to operations - Lower land purchasing costs - Fewer 'wild' areas for promoting ecotourism initiatives
Chemical fertilizer use	No change.	Increased due to expansion of agricultural land	- More pollutants in water and soils can lead to greater treatment and rehabilitation costs, as well as yield losses - Higher cost of chemicals due to greater demand in the area - An increase in chemcial resisitant pests and loss of pollinators can lower agricultural productivity rates
Area of forest cover	Slight decrease.	Reduced by 16% compared to No Road	- Fewer 'wild' areas for promoting ecotourism initiatives - A degraded watershed can lead to greater water treatment costs and water shortages - More severe and longer lasting impacts from extreme flooding events
Water balance	Slight increase.	Deficit of -0.61km^2	- Potential conflicts with other local water users - Water supply price increases - Decrease in water quality means more water treatment costs - Great irrigation effort and costs needed
Carbon	Slight decrease to 96 million tonnes of CO_2 = 11.88 billion baht	83 million tonnes of CO_2 = 10 billion baht	- Lower potential for generating revenue on a carbon market

TABLE 2: Snapshots of the Green Economy modeling results of The Road to Dawei and how it could affect a business. These are the results for long-term projections (year 2035) comparing three scenarios for some of the categories analyzed. Business as Usual (BAU) models construction of the road without additional policies to mitigate possible negative impacts. Green Economy (GE1 and GE2) expands on the BAU scenario with additional interventions for the protection of natural capital.

	Green Economy 1	Green Economy 2	How these GE scenarios could affect your business
Total population	Equal to BAU	Equal to BAU	- Greater supply of unskilled labour
Area of agricultural land	Decreased by 17% compared to BAU due to efficiencies in ecological agricultural practices	Decreased by 21% compared to BAU due efficiencies in ecological agricultural practices	- Lower land purchasing costs due to increased land productivity - More 'wild' areas for promoting ecotourism initiatives
Chemical fertilizer use	Decreased compared to BAU due to improved agricultural practices	Decreased compared to BAU due to improved agricultural practices	- Fewer pollutants in water and soils mean less treatment and rehabilitation costs, as well as higher productivity from the land. - Cost savings in chemical fertilizer purchasing - An decrease in chemical resisitant pests and more pollinators leads to higher agricultural productivity rates
Area of forest cover	Increased by 21% from BAU	Increased by 30% from BAU	- More 'wild' areas for promoting ecotourism initiatives - A functioning and healthy watershed means reduced water treatment costs and fewer water shortages - Fewer impacts from extreme flooding events
Water balance	Surplus of 0.29 km2	Surplus of 0.54 km2	- Fewer conflicts with other local water users - Water supply price decreases - High water quality means less water treatment costs - Reduced irrigation effort and costs needed
Carbon	101 million tonnes of CO_2 = 12 billion baht	105 million tonnes of CO_2 = 31 billion baht	- Greater potential for generating revenue on a carbon market

Landscape Approach

Undertaking landscape approaches to mitigate business impacts and risk is yet another opportunity for businesses along the *Road to Dawei* to help streamline costs, manage and mitigate community and reputational risk, mitigate resource scarcity and lack of substitutes, and manage competition between sectors for the same resource.

A landscape approach allows risks to be shared and the impacts distributed across a range of stakeholders. It provides the framework to deliberately work beyond the farm scale to support food production, ecosystem conservation, and rural livelihoods across entire landscapes in an integrated manner. Agribusineses and those businesses concerned with the sustainability of their sourcing area along the *Road to Dawei* will particularly benefit from such an approach.

Box 2 provides an example of a brewing company that used the landscape approach to ensuring the sustainability of water, which is critical not only for their production but also for maintaining their profitability.

BOX 2

CASE STUDY - LANDSCAPE APPROACH TO RISK MITIGATIONS AND COST REDUCTION

SABMiller, one of the world's largest brewing companies, have faced operational, reputational and regulatory risks to their business in Bogotá, Colombia due to water quantity and quality concerns. These risks have been brought on by climate change, water scarcity, competition for water resources, unsustainable land use upstream, as well as the social dimensions of water use and their interactions with industry. From a business perspective, the declining water quality created additional costs for the Aqueduct and Sewage Company of Bogotá, who passed on the costs to water users, including SABMiller. The company determined that the most appropriate scale to address shared risk was with local communities, governments, stakeholders and other businesses involved in the water catchment. Together with WWF-Colombia, The Nature Conservancy, Colombia's National Parks administration, and the Aqueduct and Sewage Company of Bogotá they developed a model to predict the cost of water purification and established a collective fund for stewardship activities to reduce excessive sediment delivery into the Chingaza and Tunjuelo Sumapaz rivers. They also mapped the catchment and identified future user demand among stakeholders to better plan future development of the area. Over 2 million tonnes of sediment were prevented from entering waterways, saving roughly US$458,000 per year in treatment costs and US$3.5 million per year across the entire water supply system. Because of these cost reductions, the Aqueduct and Sewage Company of Bogota has passed on these savings to companies utilizing the watershed, including SABMiller.

A water deficit will also affect businesses along the *Road to Dawei* in a BAU scenario, according to the WWF modelling (Table 1), due to a reduction in forest cover and greater consumption from the increased population, two factors that would undermine the competitiveness of the area. If a business along the *Road to Dawei* will require a constant and reliable source of water, it should take measures now to reduce water use, reuse wastewater and work with the community and government to develop an integrated water resource plan at a landscape scale. Additionally, a landscape approach to impact and risk assessment could also help the private sector access capital from some of the world's largest banks that are signatories to the Equator Principles. These principles require that these banks assess and manage environmental and social risk in projects to support responsible risk decision-making.

Sustainable Infrastructure

Making use of natural rather than man-made infrastructure for road construction and industry is also a major cost reduction opportunity for business along the *Road to Dawei*. For example constructing or maintaining a wetland near a manufacturing plant can be a more cost-effective way of meeting regulatory requirements than building a wastewater treatment facility. Similarly building ecological sustainable roads will produce similar cost and risk reduction benefits (See box 3).

BOX 3

CASE STUDY - ECOLOGICALLY SUSTAINABLE ROADS

Insitu stabilisation is a process where waste materials are treated so that can be used for the road construction. The process involves adding a small amount of binder to the existing material. This has multiple economic, environmental and social benefits including the reduced need for the use of non-renewable resources; greater protection of biodiversity in the road corridor and surrounding areas through a reduced need for quarries and reduced trucking; improved air quality through reduced trucking; a reduction in transport noise through communities; and greater protection of cultural heritage due to fewer quarries. In a major metropolitan area of Sydney insitu stabilisation over a 20 km road has resulted in a major cost reduction through a conservation of 110,000 tonnes of high-grade crushed rock and a saving of over 200,000 liters of fuel compared to traditional road construction techniques. Insitu stabilisation has produced cost savings of approximately 20% to 40% in other projects.

RECOMMENDATIONS AND NEXT STEPS

Numerous businesses around the world are now aware of the business value of Earth's natural assets—and the business imperative of safeguarding them.

To ensure long term financial sustainability, businesses seeking to invest along the *Road to Dawei* need to capitalise on the numerous economic, social and environmental benefits that can be brought about by valuing natural capital and mainstreaming its values into business operations. WWF modelling highlights that a Green Economy approach to the development of the *Road to Dawei* will have more positive outcomes for business in the long term as there would be fewer risks and costs. The private sector should therefore work with governments from both Thailand and Myanmar's to promote the establishment of Green Economy policy framework. The study also highlighted importance of valuing a business' impacts on natural capital at a larger landscape level. A landscape approach is a framework that allows risks to be shared and the impacts distributed across a range of stakeholders. Agribusineses and those businesses concerned with the sustainability of their sourcing area along the *Road to Dawei* will particularly benefit from such an approach.

WWF has a strong background in developing effective partnerships with the private sector that help to change practices throughout a business's operations and value chain (e.g. H&M, IKEA, Banco do Brazil). Please contact Susan Roxas, the Greater Mekong Regional Director for Marketing and Corporate Relations, for further information on how WWF can help (see contact details on back).

More Information

WWF (2014). Green Economy Modelling of ecosystem services in the Dawna Tenasserim Landscape (DTL) along the 'Road to Dawei'.

UNEP (2011). Towards a Green Economy: Pathways to Sustainable Development and Poverty Eradication.

ACCA, Fauna & Flora International and KPMG (2012). Is natural capital a material issue?: An evaluation of the relevance of biodiversity and ecosystem services to accountancy professionals and the private sector.

Kissinger, G., A. Brasser, and L. Gross (2013). Scoping study. Reducing Risk: Landscape Approaches to Sustainable Sourcing.

Undisturbed forest in the Dawna-Tenasserim Landscape.

Why invest in natural capital along the Road to Dawei?

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Tenassarim River and surrounding forest.

Investing in natural capital – the capital derived from nature, such as biodiversity and ecosystem goods and services – is good business practice. By incorporating the sustainability of the ecosystems along the Road to Dawei, businesses can:

- **Mitigate regulatory, supply and brand risks**

  Ensures a company's ability to comply with current and future environmental regulations; reduces threats from extreme weather or resource scarcity; and reduces risk of community backlash to perceived resource mismanagement

- **Cut costs**

  Ensures more efficient resource utilisation, recapturing and reuse of wastes, and reduced energy costs.

- **Strengthen brand value**

  Stand out among competitors and build a broader, loyal customer base, and attract new investors interested in environmental stewardship

SUSTAINABLE FINANCE FOR CONSERVATION CASE STUDY SERIES

The WWF-Greater Mekong Sustainable Finance for Conservation case study series brings to light high quality examples of different models in the Mekong countries for economic valuation of natural capital, payments for ecosystem services and benefits sharing mechanisms.

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