Report

Structural economic transformation in Nepal

A diagnostic study submitted to DFID Nepal

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Key messages

- Low levels of productivity undermine meaningful structural economic transformation.
- Effective public administration is vital for managing the transformation process.
- Rural infrastructure is vital for agricultural growth. Poor coordination of policies on fertilisers, irrigation and trade constrain delivery of agricultural inputs and services.
- Energy sector growth hinges on better market information systems and regulatory reforms to the electricity authority.
- Make labour markets work better for migrant workers. Financial intermediation can help translate remittances into productive investment
- Tourism and agriculture would benefit from institutional strengthening of public private partnerships.
- Catalysing economic development at a subnational level is a key opportunity in the current context.

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Abbreviations

ADB	Asian Development Bank
AEPC	Alternative Energy Promotion Centre
CBS	Central Bureau of Statistics
CNI	Confederation of Nepalese Industries
DFID	Department for International Development
DoED	Department of Electricity Development
FNCCI	Federation of Nepalese Chambers of Commerce and Industry
GoN	Government of Nepal
GWh	Gigawatt hour
IPP	Independent Power Producer
JICA	Japan International Cooperation Agency
KWh	Kilowatt hour
MoF	Ministry of Finance
MW	Megawatt
NEA	Nepal Electricity Authority
NEC	Nepal Electricity Commission
NPC	National Planning Commission
NPR	Nepali Rupees
PIP	Priority Investment Plan
SRN	Strategic Road Network

Executive summary

Economic development

Economic growth in Nepal remains low and erratic. Low levels of productivity have inhibited meaningful structural economic transformation – where labour moves from low productivity activities to those with higher productivity and returns. With the manufacturing sector in stagnation, and with limited absorption capacity within the services sector, many Nepalis exit the national labour market to find employment abroad. Moreover, Nepal continues to lag behind comparable countries in foreign investment, industrial growth and investments in productive assets.

The high cost of transport and energy, coupled with an adverse business environment, discourages productive enterprises, saps growth and hinders development potential. While these constraints are not new, they remain unaddressed due to pervasive coordination failures. Lessons from countries that have successfully transformed their economies point to the important role of the government in managing economic transformation, and tackling market failures. Moreover, weak public administration, aid fragmentation, and the shallow productive enterprise base in Nepal hold back the transformation process.

Coordination failure

There is coordination failure at multiple levels and between multiple actors in Nepal. For instance, there is a lack of coordination at the intra-governmental level, between the state and the private sector, among private sector actors, and between the government and development partners.

Foremost among policy coordination failure is the mismanagement of distribution of the benefits of economic reform and growth, particularly pertaining to the exclusion of certain regions, ethnic groups, castes and women. Political uncertainty has further eroded already weak governance effectiveness, and the ability of the government to implement its own policies. In addition, business associations are unable to identify sectors where collective action would have the highest payoff, and 'herd-behaviour' in the private sector undermines industry-wide competitiveness. Inadequate alignment of foreign aid with the national development plan and sectoral strategies, lack of collaboration between different donors, as well as lack of coordination with other stakeholders, have further obstructed the realisation of full potentials of foreign aid.

Evolving politics & implications

The politics of inclusive growth in Nepal are marked by: high political fragmentation; political instability; zero-sum decision-making government practices; tacit consensus on economic management; personality-driven processes and political vacuums; limited domestic pressure for reform; and an unclear form of federal government. Furthermore, the effectiveness of the bureaucracy and public administration are constrained by patronage and corruption, lower capacity, little government coordination or policy coherence, low accountability

and effectiveness outside Kathmandu, and a questionable bureaucratic culture. The growth of the private sector is held back by low trust, cartels, a fragmented business lobby, and risk-averse business behaviour.

The above have implications both for what programmes are needed to promote economic transformation, and for how to implement them. There is a need to support institutional strengthening and change. Addressing market failure will require effective industrial policy as well as its implementation, and the civil service will need to be reformed if it is to effectively drive the economic transformation process. For political federalism to support structural transformation, it will need to be based on sound fiscal foundations. Past policy success, particularly in the area of social development, can provide important insights and progress is likely to require reconciling divergent interests, competing narratives and conflicting goals. There will be distributed capacities where solutions would require action by a number of actors without formal and functional institutional links between them. There is also likely to be high uncertainty, where it is unclear how to achieve a given aim in the Nepali context.

Agriculture

Agriculture has performed poorly in recent years, with erratic growth rates and low gains in yields. Poor quality of produce prevents producers from accessing markets with higher returns, and farmers forego making productive investments, even where credit is not constrained. Despite out-migration, which reduces the pressure on land, weak property rights and poorly functioning land markets hinder landholders from transferring land to other potential uses.

The top-level constraints to growth in agriculture are similar to those that limit economy-wide growth. Political uncertainty prevents risk-taking and investment in agricultural production, and the poor state of Nepal's transport infrastructure constrains growth in all agricultural subsectors keeping transport costs high, and making farmers' involvement in markets expensive. Weak market institutions and regulatory frameworks constrain the use and adherence to contracts, and the adoption of quality standards. In addition, poor coordination of critical policies on fertilisers, irrigation and trade, and the politicisation of development projects create uncertainty and constrain delivery of inputs and services.

Addressing these constraints will require the continued roll-out and upgrading of prioritised rural infrastructure to improve physical access to markets. In line with the recommendations included in the draft Agriculture Development Strategy (ADS), supporting policies to promote private sector activity in key markets through improving regulation, introducing quality standards, and the conditions for contract farming are all likely to improve practices and therefore increase agricultural returns. Supporting efforts to improve certainty on land reform processes will strengthen tenure security for farmers, and improve the functioning of rental markets, therefore enabling greater efficiency of land use.

Transport

Low quality and limited transport infrastructure, and the resulting high cost and low reliability of it, are identified as critical constraints to economic growth and the expansion of productive capacity in Nepal. Moreover, this has undermined the political, administrative and social integration of the country, the delivery of basic services, and the competitiveness of the economy. The cost of exporting and importing a container is approximately 20 percent more than the South Asian average, and almost double the costs in developed countries. In addition, the high cost of freight transport in Nepal is further increased by the unavailability of

alternative transport modes, as well as routes. For example, the railway network is almost non-existent.

The assessment of transport sectors, its challenges and problems, and opportunities for transformation illustrate that the causes of high transport costs are due to inadequate institutional capacity, as well as low quality and insufficient transport infrastructure. This implies that the contributing factors for high transport costs are not geography or topography, but rather, it is the policy and institutional impediments that can be directly attributed to government actions and inactions over previous decades. Efficient and effective intervention - both institutional capacity development as well as infrastructure development - would reduce transport costs, and enable the government to meet its economic growth target, as well as its associated social and redistributive objectives.

Tourism

Tourism is estimated to have contributed 9.4 percent to GDP in 2012, thanks to an established niche with a wide variety of assets and activities, stable source markets, and growth from neighbouring countries. However, despite having represented a stable and growing sector for decades, recent years have seen a worrying shift towards a 'high-volume, low-value' model that would not be sustainable. The value captured per tourist has halved in the past 5 years, cancelling out potential benefits from steadily increasing tourist arrivals, thus threatening the sustainability of the sector.

The central aim for promoting economic transformation through tourism should be increasing the value captured per tourist per day. This equates to a strategy of promoting economic transformation by increasing the value of activities within a sector, and can be achieved by focusing on four areas:

- Destination-level management should be strengthened by promoting small/medium-scale PPP infrastructure services, and through increasing the capacity to manage protected areas.
- Large-scale tourism-related public investment should be supported on a project-by-project basis by crowding in investment, providing capital inputs, and providing technical assistance for credible tourism planning.
- The private sector should be assisted to capitalise on strategic opportunities through a markets development programme, that improves the quality of services offered
- The regulatory environment for quality services should be strengthened, working with a number of government actors to improve the content and enforcement of rules.

Labour migration and remittances

Each year, more than 4 million Nepalese travel abroad for work, the majority to India and the Gulf. Evidence suggests that the remittances sent home could account for as much as 33 percent of GDP, providing crucial household income, and are responsible for more than half the reductions in poverty over the past 20 years. Migrants, however, face high social and economic costs in the form of illegal and extortionate fees and associated debts, exploitation, and risks of injury and death.

The first priority should be to enable a higher proportion of labour migrants to work in higher value destinations, thus transforming the sector from lower to

higher value activities. This should be done by reducing the informational asymmetries faced by migrants, and promoting business incentives to encouraging the better treatment of migrants.

The second objective should be to channel remittances more effectively into productive investment in Nepal. Programme activities should focus on improvements in financial products, intermediation and support for SMEs and entrepreneurs, and the national investment environment.

Energy

On the surface, Nepal's energy issue is a simple discrepancy between electricity supply and demand. Current supply is around 700MW whilst peak demand is twice that amount. The reality is that limited generative capacity (such as insufficient power plants, limited electricity transmission lines, and low levels of rural grid connectivity) is not a cause, but rather a symptom of greater underlying problems.

The country's electricity sector is controlled by the Nepal Electricity Authority (NEA), which acts as a producer, purchaser and distributor of electricity. This essentially creates a conflict of interest in the sector. All Independent Power Producers (IPPs) must sell their electricity to the NEA who, in turn, may prioritise their own projects - especially with regards to the establishment of transmission lines. This creates investment uncertainty and reduces the profitability and incentive for IPPs. Government coordination failures could be addressed by streamlining and connecting decision-making processes between agencies. Independent investments in power could be facilitated by widening the Nepal Investment Board's remit to oversee a greater range of investments, and finally by initiating a gradual restructuring process of the NEA, in order to effectively separate its electricity procurement, generation and distribution roles.

Insufficient market information within the energy sector means that there is no clear understanding on the real cost of electricity, or on how much consumers should be paying, thus creating a large discrepancy between the two. Currently, the cost of electricity does not take into account two main factors, the opportunity cost of lost productivity due to brownouts and blackouts, and the price that consumers pay when they are forced to generate their own electricity (for example through private diesel generators). The sale price of electricity is not based on consumer affordability, but is instead arbitrarily set by the national tariff-setting commission. As the NEA sale price is lower than the NEA purchasing price, this leads to a revenue loss which, in turn, limits future investments in the sector. Information failures can be addressed by thoroughly investigating costs and prices through consumer income and energy expenditure databases. In turn, representative or complete databases can then help set the most efficient energy prices for consumers, and also feed into energy trade negotiations.

Nepal's energy policy is not grounded within a long-term national growth strategy, resulting in ad-hoc developments in the energy sector which are not tailored to sectoral needs. The loss-making electricity pricing strategy has led to insufficient funding for the pipeline of energy investments, which would be required to meet projected demand. Not only this, but insufficient investments could also lead to worsening revenues for the NEA. Actions to address this issue could begin by firstly setting out a long-term national growth strategy, and then subsequently tailoring medium and long-term energy and energy trade strategies to it.

Natural resources

Nepal's economy depends on its natural resources. Water and forests, if well managed and maintained, can become resource bases for economic transformation process. Moreover, Nepal has the potential to decouple growth from rising carbon emissions by leveraging hydropower as a source of energy for the economy. By increasing the amount of low-carbon electricity generated through hydropower, Nepal can remove a major constraint to growth across the economy – the lack of reliable and regular energy supply. In addition, providing electricity in rural areas will contribute to expanding the area of land under irrigation, and further diversify the rural economy, allowing poor households to become more integrated in the economy. In the long term, surplus energy from hydropower can be sold to India to generate foreign currency reserves, thus contributing to reversing Nepal's trade deficit.

Sustainable harvesting of timber and Non Timber Forest Products (NTFPs) offer localised benefits to communities. Forests can potentially be leveraged to access flows of carbon finance aimed at preserving and increasing the stock of carbon locked in trees and soils. However, remaining on a low-carbon high-growth path requires prudent management of Nepal's natural resources – its natural capital. While the stock of natural capital can be converted into other forms of capital, such as human, infrastructure, and financial reserves, these endowments can also be misused and depleted. As depletion is largely irreversible, it also represents an opportunity cost if chances to extract economic benefits are missed.

Programme options

Based on the analysis of constraints in each of the sectors mentioned above, programme options for reform are identified that contribute to improving the business and investment environment to attract foreign direct investment, and incentivise domestic entrepreneurs. Stimulating business growth requires cultivating both a business-enabling culture in government services, and strengthened entrepreneurism in public-private partnerships. To tackle other barriers in the business environment requires expanded investment in infrastructure, and a focus on governance weaknesses that present themselves in incoherent sectoral strategies, and a failure to integrate critical information into policy planning and implementation.

Outcomes of the proposed programme reflect these priorities. However, these outcomes also need to reflect flexibility in programme design, which would allow some course adjustment as new opportunities for effective assistance are identified, or as additional prospects for leveraging other donor funding support are realised. Nevertheless, the intended impact of the programme should be economic transformation and growth. With this impact in mind, it becomes important to demonstrate progress towards structural shifts in the economy, with an increased share of manufacturing and services growth in relation to primary agricultural production, and also in relation to an internal shift in the agriculture sector towards processing and value-addition.

1 Introduction

Economic transformation continues to elude Nepal. Weak productive capacity has resulted in low levels of economic development and per capita income, and a large majority of labour is still involved in low productive agricultural activities. With the manufacturing sector stagnant, and low labour absorption capacity in the service sector, economic alternatives for improving household well-being have not been forthcoming from the national economy. Consequently, a large number of workers choose to migrate to foreign labour markets in search of better jobs.

There have been a few observable improvements in social development in Nepal, namely in health. These observed changes are a combination of improvements on both the supply-side (provision and expansion of better basic services) and demand-side (increased household income from remittance inflows that improve access to basic services). Many improvements in the supply-side have been externally supported, and in the absence of sustained economic growth, it is unclear if the Government will have the resources to maintain current improvements. Second, demand-side improvements (primarily household income) are the outcome of continued absorption of Nepali workers in foreign labour markets in the Middle-East and South- and North-East Asia. Changes in demand for Nepali workers in those labour markets can have devastating impacts on the country.

Switching the focus to more long-term sustainable sources of growth, employment and inclusive development in Nepal will require structurally transforming the economy from lower to higher levels of productivity. Pervasive market and coordination failures undermine the development and growth of productive capacity in Nepal. Addressing these will require an effective and strategic industrial policy. While manufacturing has been allowed to languish, in the assumption that Nepal cannot manufacture, this report will argue that not only is this sector viable, but it also presents a real opportunity for achieving economic transformation. This report finds that factors that constrain manufacturing pervades all productive sectors, and therefore addressing these constraints is likely to trigger the sustained economic growth of productive sectors.

Inadequate energy supply and transport infrastructure are binding constraints to economic growth in Nepal. This report seeks to shed light on why they remain as binding constraints, and what could plausibly be done to alleviate them. Weak public administration questions the likelihood of such problems being solved, and therefore the capacity and functioning of public administration will need to be improved by making it more service-oriented and client-friendly. A reform of this scale will have to be led by the State. External actors can only extend support to the Government's vision on economic transformation.

In the early 1990s, and post-establishment of a multiparty democracy, growth was accelerating. However, within six years, this nascent transformative process was cut short with the advent of civil conflict. This had an adverse impact on sources of production, which were destroyed or curtailed during the civil conflict, as well as on policies, which shifted from economic development to conflict management and resolution. The result is that productivity has regressed to the level of the 1980s. It

should be stated that if it were not for the buoyancy provided by labour migration (primarily remittance), as well as foreign aid, Nepal would be much poorer today. As this report will discuss, the institutional change which the political transition has set in motion, is far from settled. While federalism (declared in 2006) will be institutionalised, details on economic policy issues, such as fiscal, monetary and sectoral development responsibilities, remain critically missing. In addition to weak public administration, this adds to the complexity of designing and implementing a national strategy for economic transformation, and for external actors to effectively extend support.

This report examines the root causes for these constraints by deepening the analysis at the sectoral level. It studies five sectors, given their overwhelming importance to the economy: energy, transport, tourism, labour migration and remittance, and agriculture. Constraints to growth in the energy and transport sectors, plus high costs associated with both, adversely impacts the economy - including growth in agriculture and tourism. Labour migration and remittance has contributed to economic growth, and remittance in particular has helped keep Nepal's economy afloat. Moreover, out-migration has implications on the functioning of the labour market (for example, labour supply, wages, industrial relations) and on the economy (such as labour availability, competitiveness.) at large. The impact on both the national labour market and its links to the rest of the economy remains under analysed.

This report identifies viable entry points for external actors to support national efforts in addressing key constraints, and presents a menu of options at the sectoral level. For instance, options for the development of an umbrella approach to the delivery of support to the Government of Nepal in its efforts for growth are presented.

The remainder of the report is structured as follows. Section 2 discusses the constraints to economic growth and transformation in Nepal. Section 3 analyses the sources of coordination failure, and Section 4 discusses evolving politics and its implication on inclusive growth. Section 5 to 9 analyse the root causes of constraints at the sectoral level (agriculture, energy, transport, tourism, and labour migration and remittance), and provides solutions to address them. Section 10 discusses how Nepal can leverage its natural resource endowments for economic transformation, and Section 11 presents programme options at the macro level.

2 Constraints to economic growth in Nepal

Nepal has set itself economic growth target of 7 percent, and aims to become a middle-income country by 2022 (NPC 2013). Sustaining high levels of economic growth will be important for Nepal, not just in increasing levels of income, but also in maintaining recent improvements in social development. Achieving such levels of growth will require alleviating binding constraints to economic growth, as well as structurally transforming the economy to higher levels of productivity. This section examines the constraints to growth and structural economic transformation in Nepal.

Nepal has not achieved meaningful structural economic transformation – where labour moves from lower to higher productive activities. Historically, the majority of the people in Nepal were embedded in agriculture (more than 75 percent in the early 1990s). However, there was a brief period in the early 1990s when labour moved from agriculture to manufacturing and services, driven by productivity increases in those sectors. Manufacturing witnessed two short episodes of high growth in 1984-1986 (18.7 percent) and in 1991-1994 (17 percent) due to increased investments in infrastructure, industrial zones and policy reform. Since 1995 it has been growing at an average of 2.5 percent (with negative or zero growth four times in this period). Services did not experience the same growth spurts, but the decline in value-added has been less dramatic. In 1994, the value-added by services overtook that of agriculture, and the share of employment in services has also been increasing.

Labour has been moving out of agriculture, largely to find employment in foreign labour markets. About three-fourths of those entering the labour market annually find employment in labour markets in the Middle and South East Asia. Migrants send home money, thus increasing household finance, and helping lift many out of poverty. Most migration is temporary in nature, and contract based, with many migrants returning to Nepal at the end of their contracts. As such, a specific type of structural economic transformation is occurring – one where labour moves to a more productive sector/activity, but not within the national economy.

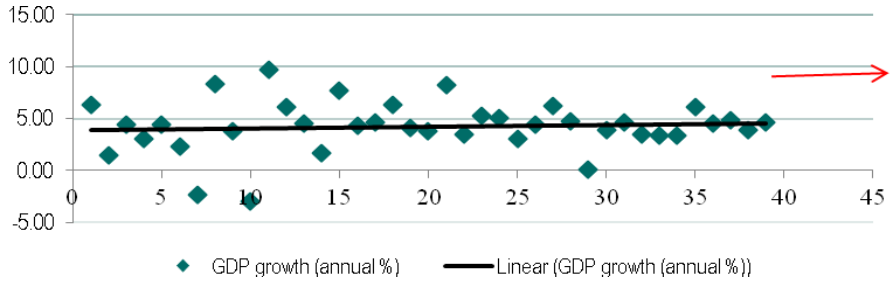
Creating productive employment in Nepal will involve increasing productivity in domestic economic sectors. Two factors are seen as the most critical constraints to growth and productivity: high cost of transport, and energy. For instance, the lack of irrigation has reduced agricultural growth potential, but expanding irrigation requires energy for lift-irrigation given the topography of Nepal, making energy a constraint to agricultural growth. Both constraints sap productivity and growth potentials across economic sectors and industries.

Addressing transport and energy related constraints will create the environment for growth to take-off, but the real drivers of growth will come from entrepreneurs in agriculture, manufacturing and services. The density of entrepreneurs, risk-takers and innovators, in Nepal is low. Many returning migrants have the potential and the resources to become entrepreneurs and drivers of growth, but entrepreneurs face many policy barriers that discourage new ventures and product development. The present incentive structures motivate speculation on land and property (and mini-hydro projects), rather than encouraging engagement in productive enterprises. Moreover, present policy improvements are skewed to large investment, which, while important and much needed, results in other innovators who could alter levels of economic productivity being overlooked.

2.1 Economic growth performance

Average growth in real gross domestic product (GDP) in Nepal was 4.2 percent between 1974 and 2012. Moreover, GDP growth has been positive, except for some periods in the 1980s. In the 1990s, growth increased to 4.8 percent, and then subsequently declined to 4 percent over the 2000s (a period of civil conflict in Nepal). Recently (2010-2012), GDP has been growing at an average of 4.4 percent, slightly above the historical average. While GDP growth in Nepal is less volatile, it remains low in comparison with other low-income countries where the average GDP growth from 2010 to 2012 was 5.9 percent. The present growth trajectory is below the government's growth targets (see red line in Figure 1).

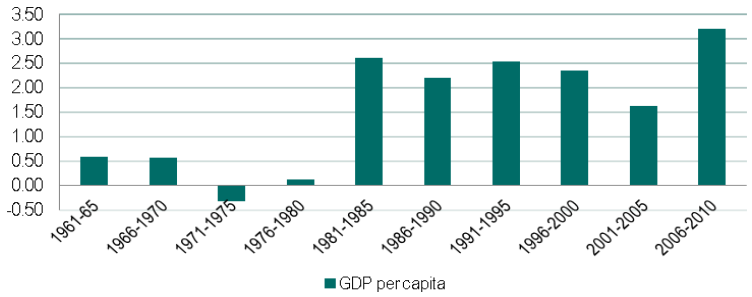
Figure 1: Real GDP annual growth (in percentage) over the past 45 year period (1974 – 2012; constant 2005 US$)



Note: Y-axis – percentage; X-axis – years. Source: Author's calculation using WDI data (accessed September 2013).

Only between 2006 and 2010 did GDP per capita growth return to above the 1981-85 average (see Figure 2). Economic growth is largely due to an increasing population, and increases in GDP per capita are due to labour moving from lower to higher productive economic sectors. Economic growth is not driven by changes to productivity within specific economic sectors (UNCTAD 2013), and hence unlikely to be sustainable.

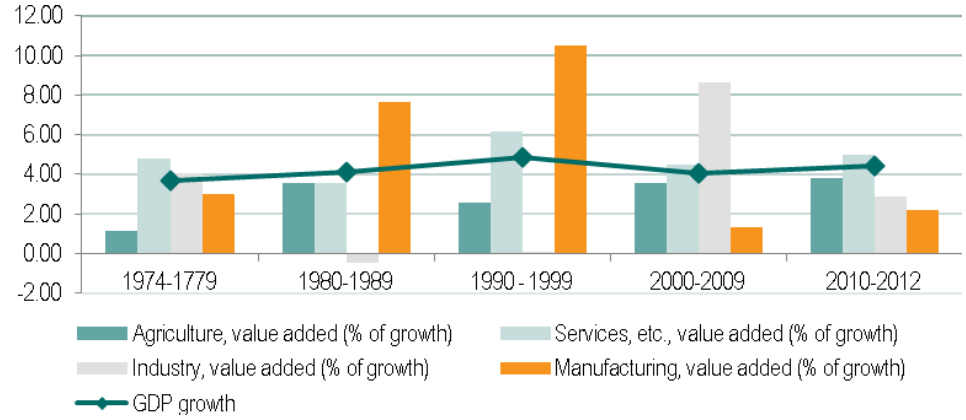
Figure 2: Real GDP per capita (average annual growth; constant local currency unit)



Note: Y-axis – percentage; X-axis – years. Source: Author's calculation[1] using WDI data (accessed October 2013).

Apart from the services sector, value-added by economic sectors has declined or stagnated (see Figure 3). Manufacturing value-added increased to its historical high in the early 1990s (10.48 percent average annual growth), and has since declined to levels below those in the 1970s (see Table 1). Value added growth in the industry sector (manufacturing excluded) increased in the 2000s from close to zero or negative growth in earlier periods. This increase is largely due to growth in hydroelectricity.

Figure 3: Real value added by economic sectors (average annual growth)



Note: Industry value added does not include manufacturing value added.
Source: Author's calculation using WDI data (accessed September 2013).

Value-added growth in services has been relatively more stable. Growth peaked in the 1990s, then reduced to 4.4 percent in the 2000s, but has now begun to increase (indicated by average annual growth between 2010 and 2012 of 5 percent). Value-added growth in agriculture increased substantially in the 1980s (reaching annual average growth of 3.5 percent), but then declined to 2.5 percent in the 1990s. Since the 2000s, value-added growth in agriculture has begun to increase. Economic growth in the 2010 to 2012 period is largely due to increases in the financial and real estate sector, as well as the social sector.

[1] There are likely to be data consistency issues as GDP per capita and total factor productivity have been calculated from different data sources.

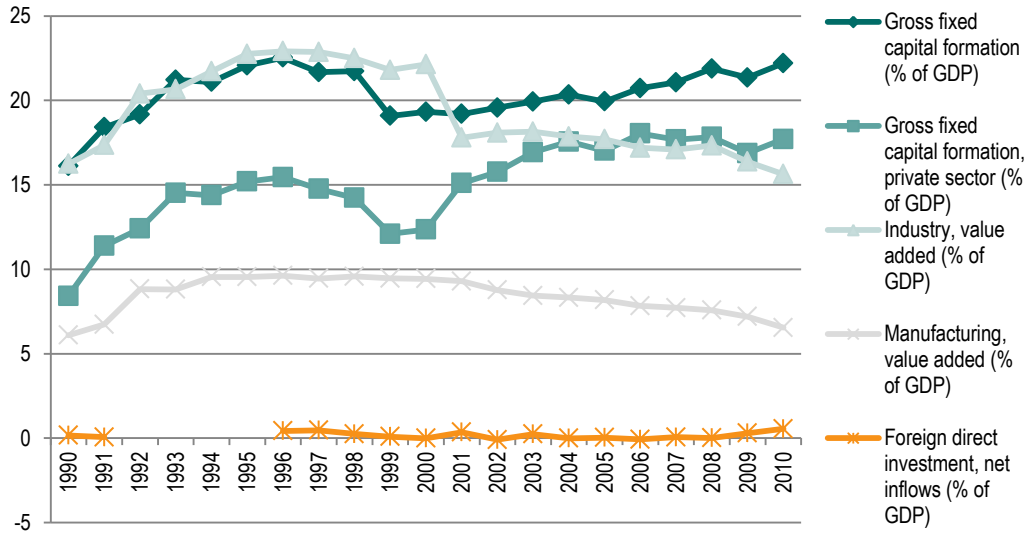
Table 1: Real GDP growth and sectoral value added (constant 2005 US$)

	1974-1779	1980-1989	1990 - 1999	2000-2009	2010-2012
GDP growth (annual percent)	3.66	**4.09**	**4.84**	4.06	4.36
Agriculture, value added (annual percent growth)	1.11	3.59	2.58	3.56	3.54
Services, etc., value added (annual percent growth)	4.77	3.56	6.16	4.49	4.64
Industry, value added (annual percent growth)	7.03	7.81	7.28	2.98	3.78
Manufacturing, value added (annual percent growth)	2.97	**7.65**	**10.48**	1.29	3.54

Note: Industry value added does not include manufacturing value added.
Source: Author's calculation using WDI data (accessed January 2014).

The value added by the industrial and manufacturing sectors remained constant at about 19 percent. On a year-by-year basis, the share of industry to GDP has decreased from 22 percent in the late 1990s to approximately 15 percent in 2010. Similarly, the share of manufacturing in 2010 was about 6 percent; the same as in 1990. This is a key economic sector and poor performance has had an adverse impact on economic growth and per capita growth, as well as on job creation and standards of living.

Figure 4: Trends in industry, manufacturing and gross capital formation (percent of GDP)



Source: Author's calculations based on World Development Indicators (accessed August 2013).

Over the last twenty years there has been no meaningful increase in Foreign Direct Investment (FDI) flows into the country, meaning that (FDI) is almost absent. Failure to attract FDI into productive sectors has contributed to weak economic performance in Nepal. In addition, gross fixed capital formation (GFCF) in Nepal, a measure of investments in productive assets, remains low (see Figure 4 and Table 2).

2.2 Structural economic transformation

Structural economic transformation involves the movement of labour from low to higher productive activities. This could entail movements within the sector (for example from subsistence farming to high value crops) or between sectors (for example from agriculture to manufacturing to services). The importance is in the returns labour accrues, in terms of higher wages and the associated developmental benefits to the household, for example in health and education (McMillan and Rodrik 2011). As such, structural economic transformation must be viewed in terms of productivity changes (within or between sectors)[2].

Spaces for joining the flying geese

In the 1960s Kaname Akamatsu postulated that as economies advanced, production of certain goods would shift to less advanced economies where producing those goods would be relatively more price competitive (Akamatsu, 1962). Widely known as the 'flying geese model', it has been used to explain the experience of industrialisation process in East Asia, from Japan to South Korea to China (Kasahara, 2004). If the 'flying geese model' holds true as a process for economic development, what are the spaces available to late-industrialisers for joining and benefiting from such formations?

Technological capacity will be a key element if LICs are to benefit when production of certain goods moves downstream (Lall, 2004) – unless of course technology also accompanies the shifts in the location of production, in which case factors such as infrastructure and institutions become important. In most LICs and LDCs all three requirements (technology, infrastructure and institutions) for production processes to take root are likely to be underdeveloped.

The case of Nepal, an LDC, provides interesting insights. Bordering the two emerging economic giants, it has been unable to benefit from economic growth in China and India. Pandey *et. al*. (2012) argue that underdeveloped technological capabilities are an important factor in Nepal's inability to increase its productive capacity and integrate into regional value chains, and that market-based mechanism, with the exception of the banking sector, have not provided for technology transfer. In Nepal's case, technologies that have increased productive capacities and transformed people's lives were transferred through what they call 'development pathways'. For example, the transfer of photovoltaic energy and bio-briquetting technologies from Japan, biogas technology from the Netherlands, high-yielding varieties of seeds from the International Rice Research Institute, technology for the conversion of waste agricultural biomass into energy from India, and threshing and rice-milling technology from China. These few examples notwithstanding the field of technological capabilities and transfer in Nepal remain largely barren.

[2] Shifts in labour from one sector to another, or within, cannot be taken as structural economic transformation on its own. The movement must accompany increases in productivity. Therefore, caution must be applied in assuming that shift of labour, for instance, from agriculture to services entails structural economic transformation without examining productivity changes.

Pandey *et. al*. point to a number of areas for creating conducive environment for technology transfer. For instance, effective coordination between the private sector, government and academic institutions in LICs can improve both the transfer and as the absorption of technology. But they also highlight the limitations in the WTO rules as they relate to technology transfer. On the one hand, these call on developed countries to incentivise their enterprises and institutions to transfer technology to LDCs (Article 66.2 of the Agreement on Trade-Related Aspects of Intellectual Property Rights). A study by the International Centre for Trade and Sustainable Development, which examined 79 reports submitted by developed countries between 1999 and 2010, found that 'business remains as usual' (Moon, 2010: 19). On the other hand, WTO rules prohibit LDCs from placing technology transfer as a performance requirement on foreign investors.

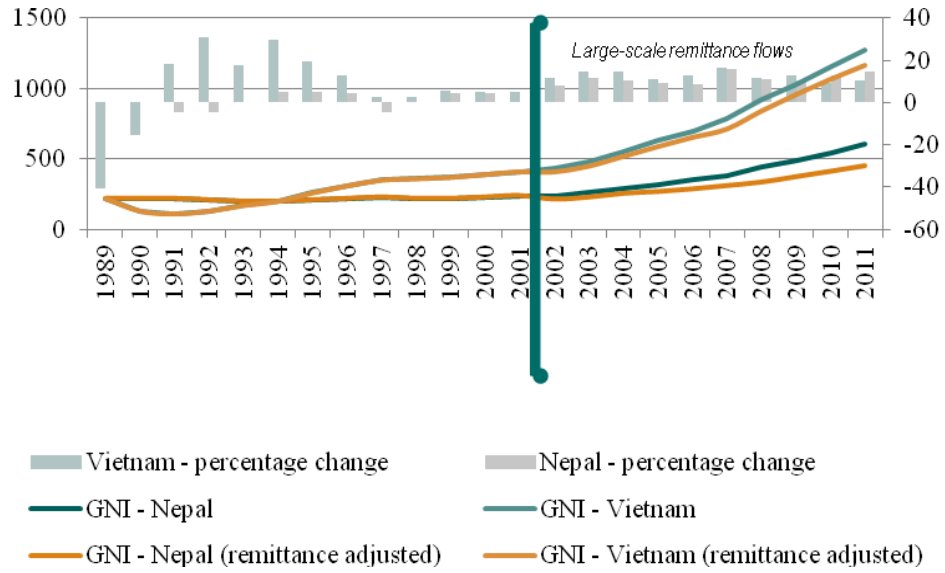
Source: Basnett, Keane et. al. 2013

In light of the above, Nepal is yet to achieve meaningful economic transformation (Tang *et. al.* unpublished). Until 2002 per capita income remained stagnant (see Figure 5). The increase in income since 2002 is largely due to large-scale remittance inflows, rather than improvements in the productivity in the economy. Until 2002, Nepal's Gross National Income (GNI) per capita was approximately US$200, which began increasing at a rate of 8.42 percent from 2000 to 2010. In 2012, GNI per capita was US$700 (based on World Bank's Atlas method), and has been growing at an average rate of 13 percent. Remittances have played an important role in increasing income and lifting households out of poverty. Remittances roughly account for approximately 20 percent of per capita income.

Vietnam presents an interesting comparison, as it has progressed from a low income country to a middle income country. In 1989, the per capita income in both Nepal and Vietnam was US$ 220. However, in 2012, Vietnam's per capita income (US$1,400) was twice that of Nepal (US$700). By 2012, nominal GDP per capita in Vietnam had increased by more than three times, while in contrast Nepal's increased only marginally. By industrialising the economy, Vietnam was able to achieve rapid economic transformation. In comparison, Nepal has failed to industrialise, and contribution of manufacturing to growth has regressed to below 1974-79 average.

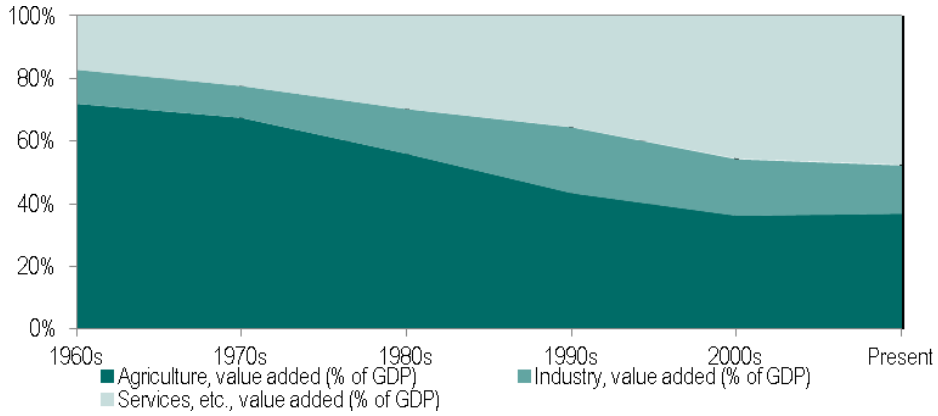
There have been structural shifts in Nepal's economy, but levels of productivity remain low and unchanged. The economy has moved from being dominated by agriculture towards services (see Figure 6). In the 1960s, agriculture accounted for 68 percent of value-added in the GDP. At present, it accounts for 37 percent. The share of industry increased to 20 percent in the 1990s, and has since reduced to 15 percent. Services have increased from 16 percent in the 1960s to 47 percent at present. Based on the changing size of the economic sector, Nepal's economy has been shifting from agriculture to services as seen in Figure 5 below.

Figure 5: Gross national income per capita (atlas method)



Note: Y-axis (left) - US$; Y-axis (right) – percentage; X-axis - years.
Source: Author's calculation using WDI data (accessed October 2013)

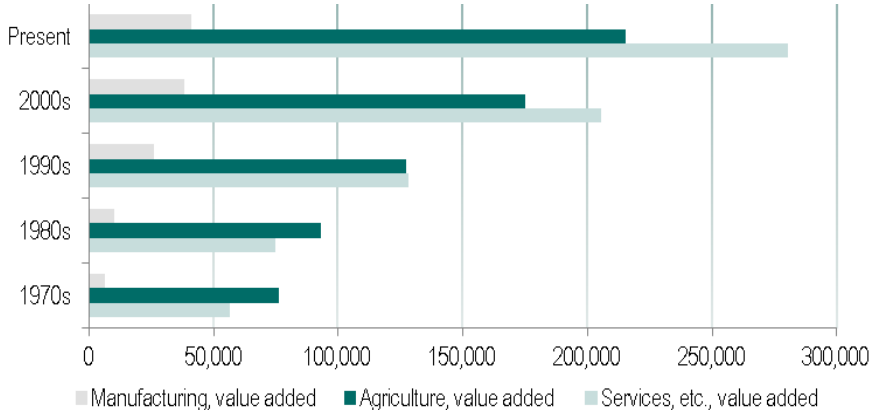
Figure 6: Real value added by economic sector (percent of GDP)



Note: Industry value added includes manufacturing value added.
Source: Author's calculation using WDI data (accessed October 2013).

Figure 7 below shows the value added for each of the economic sectors. Output has been increasing in each of the three sectors (agriculture, manufacturing and services), and since 1990 services output has been greater than agriculture output.

Figure 7: Real value added by economic sectors (constant local currency units; in 000,000s)



Source: Author's calculation using WDI data (accessed September 2013).

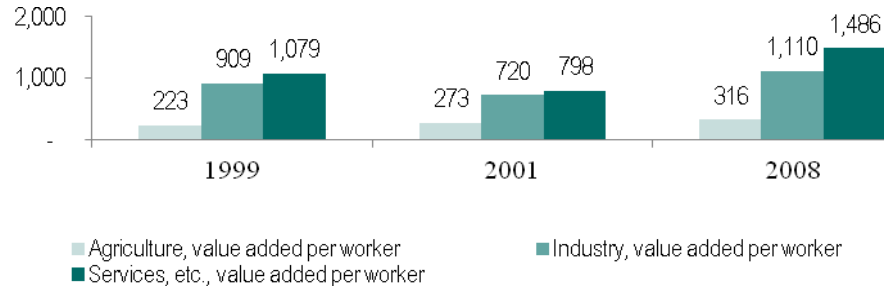
In addition, the share of labour employed in each of the economic sectors has changed over time. Between 1991 and 2001, the share employed in the agriculture had fallen from 81 percent to 66 percent of the total employed, and employment in industry increased from 3 percent to 13 percent. Between 1999 and 2001 employment in services increased from 15 percent to 20 percent. However, not all those that leave agriculture enter manufacturing or services; the majority leaves the country for foreign employment.

Labour productivity in the agriculture sector, measured as value added per worker, remains stagnant (see Figure 8). However, labour productivity in the service sector has been increasing; although labour absorption capacity of the service sector in Nepal is limited. It is estimated that for one percentage point increase in value-added in service sector, employment in the sector increases by only 0.7 percent (Basnett and Sen 2013). As per the 2008 Nepal Labour Force survey, the majority of workers in the service sector are employed in wholesale & retail, education, transport, storage & communication, and hotel and restaurants.

There was a decline in labour productivity[3] in industry (including manufacturing) in 2001, due to a decrease in value-added in the manufacturing sector (see table 1). Low levels of labour productivity in Nepal are mostly due to capital issues – absence of infrastructure, outdated technology, and low investments. Thus, it is not a labour issue per se, as the same labour becomes vastly more productive in foreign labour markets (see Section 9 on labour migration).

[3] In 1991 productivity in industry was very high (over $2000 per worker). Industry employed only a very small portion of the workforce (3%). As industry expanded into less productive areas and absorbed many more workers (up to 13% in 2001), the average level of productivity halved and may have risen slightly up to 2008 (Tang et. al. 2013).

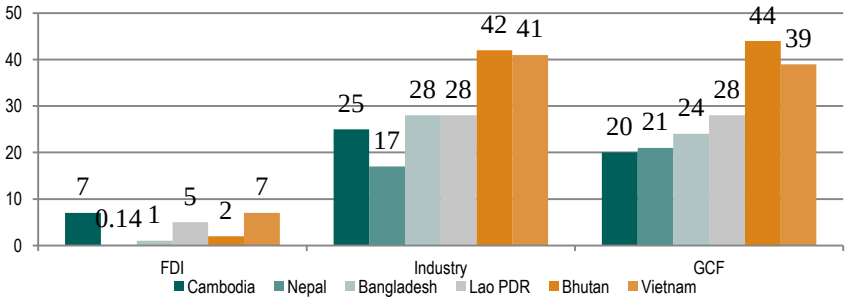
Figure 8: Value added per worker by economic sectors (constant, USD2000)



Note: Y-axis – Value added as a percentage of GDP; X-axis – employment as a percentage of GDP.
Source: Tang et al. unpublished.

Figure 9 below compares Nepal's performance on some key industry related indicators – FDI, GCF and value-added growth in industry – with those of its neighbours in the Asia region. The figure provides average values as a share of GDP (using 2005 – 2010 figures) for each of the indicators. The comparable countries[4] include LDC (Bangladesh, Cambodia), landlocked country (Bhutan), and lower-middle income countries (Bhutan, Vietnam and Lao PDR). The figure highlights that Nepal is lagging behind all of these comparable countries in net flows of FDI, growth in industries as well as investment in productive assets.

Figure 9: Comparison with developing countries in the region (values as percentage of GDP, 2005 - 2010)



Source: Author's calculations based on World Development Indicators (accessed August 2013).

Table 2 presents high level industry related indicators of performance and related indicators of communications and infrastructure for Nepal, and the average of other regional / Asian countries. It emphasises issues of road/rail and air transport (further discussed in Section 7) and broadband and mobile phone communication (important as fast emerging sectors supporting cross cutting sector growth in many other countries). It also shows Nepal experiences a high delay in exporting.

[4] Countries have been selected to ensure that any one particular characteristic or classification does not skew the comparison. So, the comparator countries include LDCs, landlocked and middle income countries.

Table 2: Comparison of Nepal with select countries on some economic development indicators

Indicator	Nepal*	Comparator**
Industry, value added (annual percent of growth)	5.00	10
Industry, value added (percent of GDP)	19.26	24
Net FDI inflows (percent of GDP)	0.16	6
Gross Fixed Capital Formation (percent of GDP)	20.00	45
Exports (percent of GDP)	17.47	60
Infrastructure related		
Quality of port infrastructure (*1= extremely underdeveloped; 7 = developed*)	2.89 (*2007-2010 data*)	3 (*2007-2010 data*)
Burden of customs procedures (*1= extremely underdeveloped; 7 = developed*)	3.37	3.45
Air transport freight (million ton-km)	12.40	66
Railway, goods transported (million ton-km)	Not available	2305
Road density (km of road per 100 square km of land area)	14 (*2008 data*)	24
Communications related		
Fixed broadband subscribers (per 100 people)	0.03 (*2006-2010 data*)	0.33 (*2006-2010 data*)
Mobile cellular phone subscription (per 100 people)	3.89 (*1999-2010 data*)	11
Telephone lines (per 100 people)	1.26	2
Trade facilitation related		
Time to export (days)	41 (*2010 data*)	28 (*2010 data*)
Time to import (days)	35 (*2010 data*)	31 (*2010 data*)
Quality of trade and transport logistics (*1= low and 5 = high)*	1.8 (*2010 data*)	2.19 (*2010 data*)
World Bank logistics performance index	2.2 (*2010 data*)	2.58 (*2010 data*)

*Notes: *Averages for Nepal calculated using 1990 to 2010 periods; except where mentioned. ** Comparator included averages, calculated using 1990 to 2010 data (except where indicated) for a group of comparable countries in Asia (Bhutan - landlocked, Bangladesh - LDC, Cambodia - LDC, Lao PDR – LDC, and Vietnam - MIC).*
Source: Author's calculations based on World Development Indicators (accessed August 2013).

2.3 Overview of constraints to growth

A report by ABD, DFID and ILO (2009) suggests that, at present, Nepal has a low social return on investment (6.2 percent), which is not only lower than its neighbours in the South Asia region (all above 25 percent) but it is also lower than the levels achieved in the earlier periods (25 percent in 1990s). Social returns on investment reflect the return on investment on factors – such as human capital, infrastructure, and public goods – that affect the returns on private investment. Coordination failures inhibit the appropriablity of returns to investment. High costs of transportation and energy have been identified as the binding constraints to growth in Nepal (ADB/DFID/ILO 2009; MCC unpublished).

2.3.1 High cost of transport

The high cost of transportation in Nepal is due to lack of transport infrastructure. Air transport freight in Nepal is more than 5 times less than its comparator countries, road density is about 2 times less, and railways are almost non-existent in Nepal. The inadequate transport infrastructure has reduced Nepal's trade competitiveness (see trade facilitation in table 2).

Increasing transport infrastructure will require investment. It has been estimated that Nepal needs to invest at least 2.5 percent of GDP in expanding and maintaining its road assets in order to achieve and sustain a growth rate of 6percent in GDP ((World Bank 2008, referenced in ADB/DFID/ILO 2009). This would equate to more than 2.5 times the actual expenditure on roads (ADB/DFID/ILO 2009).

Constraints to reducing the cost of transportation and increasing trade connectivity include:

- Lack of adequate investment: Increasing roads density and network alone is estimated to be 2.5 times more than current expenditure. More than 60 percent of road construction is financed by donors. Capital investment required for developing railway as an alternative will be substantially more.

- Lack of an integrated strategy to reduce transport costs and increase competition in transport. At present, the policy focus, the national transport strategy, is skewed towards roads, and does not include the development of alternative transport means such as air freight and railways.

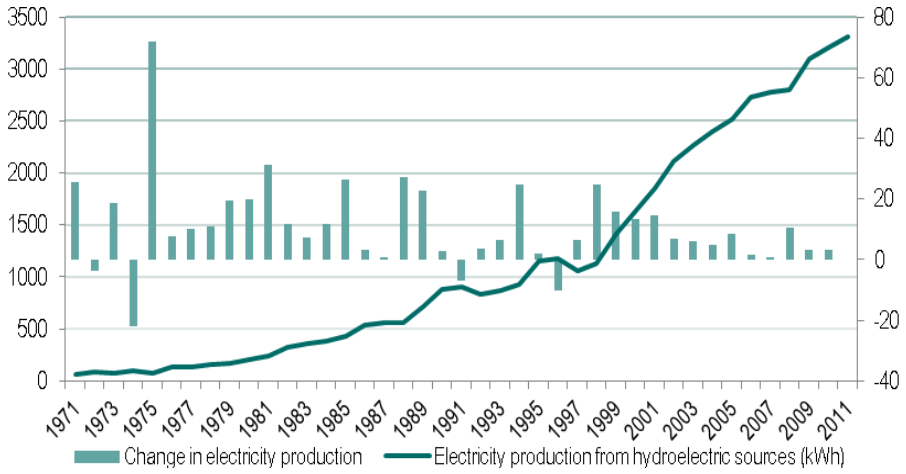
2.3.2 High cost of energy

A 2004 Ministry of Industry, Commerce and Supplies study noted that consumers in Nepal were paying $0.093 per kilowatt-hour, which was about 115 percent higher than tariffs in India and Bangladesh, 43 percent higher than tariffs in Pakistan, and 18 percent higher than those in Sri Lanka (ADB 2013d; ADB, DFID, ILO 2009). In addition to the high cost of energy, Nepal also suffers from inadequate supply – there are up to 84 hours of power shortage a week.

Discussions with manufacturers (September 2013) revealed that in the last ten years the cost of energy has increased from NPR 6/unit to NPR 24/unit due to electricity shortage. As per World Bank's Enterprise Survey data, average power outages in firms in 2011 were 51 times; compared to 4 times in Sri Lanka. Each time there is a power-outage; production is halted to shift from national grid electricity to generators. Irregular supply of oil for running generators has led many to hold reserves further increasing cost of production, in addition to making production processes inefficient.

Estimates suggest that Nepal has approximately 42,000 megawatts hydroelectricity potential of which 639.7 megawatts has been developed and is being supplied into the national grid. Figure 10 below provides trend in electricity production, available supply, in Nepal.

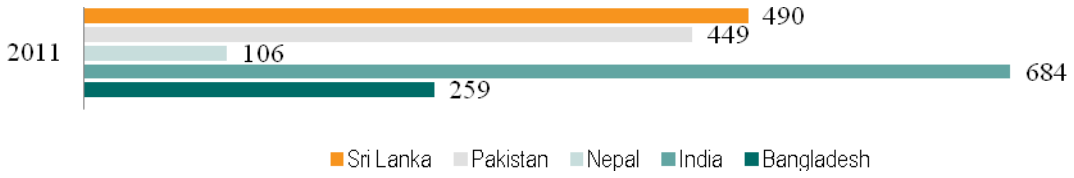
Figure 10: Electricity production from hydroelectric sources (in kilowatt hours (000,000s), left axis) and percentage change in production (right axis)



Left-axis– kilowatt hours; right-axis – percentage.
Source: Author's calculation using WDI data (accessed October 2013).

The demand at present far outstrips supply of electricity, and will continue to increase. Nepal at present has the lowest electricity consumption rates in South Asia (see Figure 11).

Figure 11: Electricity power consumption (kWh per capita)



Source: Author's calculation using WDI data (accessed October 2013).

The ADB/DFID/ILO (2009) estimates that, in order to increase Nepal's electrification rate to the same level as India's (currently electricity rate in Nepal is 60 percent of India), Nepal will require investment of $1.5billion (at 2006 prices). To increase both the electrification rate and consumption level in Nepal to that in India, investment of $5.1billion at 2007 prices will be required. Further investment will also be required for upgrading transmission infrastructure. In 2008/09, Government allocated US$163million, which falls far short of what is required. Investment at this scale will require attracting large FDI. However, between 2000 and 2011 average foreign direct investment inflows were approximately US$20million.

Constraints to addressing high cost of energy include:

- Investment shortfalls. There is a massive shortfall between the required levels of investment and the current rate of investment in hydropower.

- Inefficient infrastructure. There are substantial losses of electricity due to leakage, and lack of adequate transmission infrastructure.

- Pervasive incentives have made the institutions and policies ineffective.

2.3.3 Entrepreneurs and barrier to entry

In addition to costs of transportation and energy, there are also a number of other (non-binding) constraints to growth with important implications on productivity. For instance, entrepreneurs face a number of barriers to entry and function. There is a growing knowledge economy in Nepal led by young entrepreneurs, many who are returning migrants from the United States and the United Kingdom relying on technology as the centre of their business model, which they are actively transferring into Nepal. However, while the possibilities remain boundless, they face a number of challenges – lack of regular electricity supply, poor infrastructure, weak broadband connectivity, and the lack of awareness of the knowledge industry among policy-makers and bureaucracy.

The issue is not limited to the knowledge economy, but to the economy at large. Table 3 below provides information on starting business in Nepal, and compares it with Sri Lanka. It takes four times the time, and twice the cost, to start a business in Nepal in comparison to Sri Lanka.

Improvements in doing business

The 2014 'Doing Business Survey in Nepal' shows that notable improvements have been achieved in the formal process for starting a business. For instance, Nepal improved its ranking from 103 to 97. The number of procedures for starting a business in Nepal is the same as South Asia average.

Nonetheless, discussions with a private business mentoring services, which extend support to small entrepreneurs/start-ups, revealed a different story. While procedures have improved at face value, practice remains unchanged. Issues highlighted in the discussion include:

- "The Company Registrar's Office is a very corrupt place. To get the registration work done, some form of bribe needs to be paid to quite a number of people along the chain for receiving approval."
- "The registration process depends upon the bribe paid. If the bribe is more, process gets done quicker."
- "The procedural rules regarding company registration are unclear. Only a lawyer can properly understand. Individuals who do not have access to legal expertise find it difficult to register his/her business."
- "Though the government introduced online method of registering a company, this is not properly functional. After completing the online form, the same process needs to be repeated in person. Thus, the significance of this online process is questionable."

Furthermore, in registering a company factors such as the size of capital investment, existing businesses, and access to network and power determine the treatment received in registering the company. Small entrepreneurs who lack resources and access to networks are yet to benefit from the improvements.

Source: Author's discussion with private business mentoring services, Kathmandu, October 2013.

Table 3: Cost of starting business in Sri Lanka and Nepal

	Sri Lanka	**Nepal**	
	2013	*2013*	*Progress*
Cost of business start-up procedures (percent of GNI per capita)	20.5	34.6	Improvement (78percent in 2002)
Start-up procedures to register a business (number)	6	7	No improvement (7 in 2002)
Time required to start a business (days)	8	17	Nominal improvement (31 in 2002)
Credit depth of information index (0=low to 6=high)	5	3	Nominal improvement (2 in 2002)
New business density (new registration per 1,000 people ages 15-64)	0.57 (2011)	--	Data not available
New business registered	8056 (2011)	--	Data not available

Source: Doing Business 2014 and author's calculation based on WDI data (accessed October 2013)

3 Coordination failure

In an economic sense, coordination is understood as "an effort or measure designed to make players within a market system act in a common or complementary way or towards a common goal" (Poulton, Gibbon, *et. al.* 2004). The literature on coordination failure argues that the productivity of any economic unit depends not only on its own efforts and abilities and general economic conditions (for example, the macroeconomic environment and the legal system), but also on the actions of other firms, infrastructure, regulation, and other public goods[5]. It suggests profitable new industries fail to develop unless upstream and downstream investments are coaxed (Rodrik 2004). Moreover, it requires strategic intervention through industrial, trade and financial policies along with the creation of appropriate institutions and provisioning of public goods.

Therefore, coordination failure is a lack of coordination of individual economic agents' investment in complementary activities that are necessary for these investments to yield satisfactory returns (Kydd and Doward 2004). Such a situation undermines the process of exchange and specialization through the market mechanisms necessary for economic growth, and there exists the possibility of multiple equilibriums. When multiple equilibriums – with the theoretical possibility of low level equilibrium trap – exist, the role of government policy is to move the economy out of the bad equilibrium into the good one, to what Wade (1990) calls "governing the markets". Coordination failure may arise due to a lack of complementary actions by economic agents, and includes: lack of managerial and entrepreneurial abilities (Hirschman 1958); existence of externalities; the requirement of non-tradable inputs, including public goods; and the requirement of geographical proximity (Rodrik 2004, Bowles, Durlauf and Hoff 2006).

Failure to coordinate among complementary activities leads the market to an outcome (equilibrium) inferior to a potential situation where resources would be correctly allocated and where all agents would be better off (Glavan 2007; Hoff 2000). For an individual investor, it is the failure to make an investment due to possible absence of complementary investment by other players at different stages in the supply chain (Kydd and Dorward 2004). In these situations, there can be multiple equilibriums, and it has been argued that if left to the impersonal forces of market, underdeveloped economies could be trapped in low level equilibrium[6].

In Nepal, coordination failure has arisen not only due to the lack of coordination between the state machinery and incoherent policies, but also due to the lack of coordination between the state and the private sector, and between the government and development partners. This section discusses these in some detail below.

[5] See: Rodrik 1996; Rodrik 2004; Hoff 2000; Hoff and Stiglitz 2001; Kydd and Dorward 2004; Bowles, Durlauf and Hoff 2006.
[6] See: Nurkse 1953; Rosenstein-Rodan 1943; Hoff 2000; Hoff and Stiglitz 2001.

3.1 Brief history of economic policy in Nepal

With the introduction of a planned development strategy in 1956, Nepal pursued an inward-looking state-led development strategy with the state actively intervening in, and taking over, strategic activities with a view to embarking on the growth path that would generate employment and improve living standards. The state established numerous public sector enterprises in almost all sectors from manufacturing to food marketing, controlled trade and industry with license and quota system, protected domestic industries behind high tariff walls, adopted stringent foreign exchange control, subsidized agriculture inputs, controlled prices and distribution system, and directed lending of commercial banks. Contrary to expectations, output growth remained very low (about 3 percent per annum against an annual population growth of 2.7 percent during mid-1970s to mid-1980s), exports stagnated (at about 5 percent of GDP in 1985/86), imports surged (from about 11 percent of GDP in 1975 to 17 percent in 1985) and the country experienced a severe macroeconomic and foreign exchange crisis (Sharma 2006).

To address the external crisis, and to reverse deteriorating macroeconomic performance, the government launched a broad range of reforms through the adoption of economic stabilization and structural adjustment programmes of the International Monetary Fund (IMF) and the World Bank, respectively, in the mid-1980s. Accordingly, the NPR was devalued, import regimes were liberalized, the system of industrial licensing was eased and export procedures were simplified.

The reform agenda was further intensified with the re-establishment of the democratic system in the country in the early 1990s. The Eighth Plan (1992-1997) articulated the shift in the development paradigm. It stated that "the state directed and state controlled economic system pursued for the last thirty years will be gradually phased out and policy will be adopted to carry out development through free market oriented economic system" (NPC 1992). As a result, the role of the state was rolled back and limited to that of a regulator and promoter of private investment through the creation of physical infrastructure and efficient regulation.

As part of the reform programme, tariff rates were reduced, the number of tariff slabs was brought down and import restriction was abolished. Export procedures were simplified with facilities for duty-drawback, bonded warehouse and simpler documentation requirements. Export duties and the dual exchange rate were abolished. The banking sector was deregulated and commercial banks were allowed to hold foreign exchange abroad. A new Industrial Policy was codified and the Industrial Enterprise Act was introduced in 1992. Investment was opened in all industries except those related to defence and those causing health and environmental hazards. The national air policy allowed private airlines to operate in both domestic and international sectors. With the enactment of the Foreign Investment and Technology Transfer Act 1992, foreign investment of up to 100 percent equity was allowed in all major sectors, including hydropower, banking, airlines, and other services sectors. Reforms were also introduced in tax structure and tax administration. The system of value added tax (VAT) was introduced and the personal income tax slabs were reduced to just two: 15 percent and 25 percent. Similarly, the corporate tax was fixed at 25 percent, except 30 percent for banks and other financial institutions (Mahat 2005, Khanal et. al 2005).

In later years, the government focused on bringing about reforms in the institutional, regulatory and legal frameworks, which included sectoral policies, administrative reforms, and anti-corruption efforts. Nepal joined the World Trade Organization (WTO) and signed the Agreement on South Asian Free Trade Area (SAFTA). In addition, particular attention was given to education, health, rural

drinking water and sanitation to reduce human poverty and improve the quality of life (Mahat 2005).

Overall, the approach was to pursue development through a market-oriented, open and liberalized economy. The essence of the reform agenda could be summarized as follows:

1. the rate of growth is determined by fundamental forces (reflecting resources, preferences, and technology) and these forces lead to Pareto-efficient outcomes;
2. government impediments to markets prevent the economy from working smoothly and the government should be rolled back, wherever possible;
3. the market is a better alternative to State intervention in economic sphere;
4. resource allocation and resource utilization must be based on market prices; and
5. domestic socio-economic concerns should not come in the way of "getting the price right".

All these reforms and efforts, however, did not trigger economic growth as expected, and the fundamental problems of poverty, hunger, unemployment, and inequality persist to this day.

As will be discussed in more detail later, agriculture productivity – largely determined by rain-fed farm output rather than policy-induced inputs and investment – has practically stagnated due to low investment both by the government and the farmers themselves (NPC 2011). Similarly, industrial development is lagging behind due to lack of adequate infrastructure like transport, communications, skilled human resource, power supply, raw materials and capital, and also due to the lack of entrepreneurship and management.

Economic growth is not only low but also erratic, and the sectoral linkages in the economy -in particular linkages between agriculture and non-agriculture sectors – are tenuous and are not making any dent on the dualistic structure of the economy (Panday 2009). However, the country has made significant progress in achieving the Millennium Development Goals (MDGs). The health-related MDGs have already been achieved and the target related to poverty and hunger, universal primary education, gender equality, and women's empowerment are likely to be achieved by 2015 (GoN and UNDP 2013). But regional, and caste- and gender-based, inequalities still exist.

Similarly, there is significant progress in poverty reduction. The annual rate of decline in head count poverty index increased from 1.5 percent between 1996 and 2004 to 2.5 percent between 2004 and 2011 (UNDP 2013).[7] But the incidence of poverty in rural areas, where over 80 percent of the population resides, is higher compared to urban areas. In addition, the rate of poverty incidence for some social groups such as *Dalit* and *Janajati* is much higher than the national average (CBS 2011a), and consequently, Human Development Index (HDI) of these social groups is lower than the national HDI (UNDP 2009). In addition, there is huge disparity in income distribution: the poorest 10 percent of the total population accounts for less than 2 percent of total income whereas the richest 10 percent accounts for 40 percent of the total income (CBS 2011b). In fact, it is argued that the asymmetric

[7] Head Count Poverty Index was 41.6 percent in 1995/96, 30.8 percent in 2004/04 and 25.2 percent in 2010/11.

distribution of benefits of reform contributed to further widening of these gaps (Khanal et. al 2005).

Why does Nepal still face development constraints such as low agriculture productivity, environmental degradation, inadequate and deteriorating infrastructure, weak administrative and institutional structures, insufficient human resources and inadequate domestic resource mobilization? Why could the development efforts not produce outcomes at the desired level? Why is there a general perception of stagnation/regression and deprivation all around? Why has Nepal turned into, what Dr Panday calls "a special type of atrophy", where total is less – much less – than the sum of the parts, in such a way that higher the scale of the parts, lesser seems to be their aggregate? (Panday 2009).

The main reason is that the reform process in Nepal did not pay adequate attention to institutions, wealth distribution, history and ecology[8]. The market could not function properly, and therefore, over-reliance on it produced distributional conflicts that eventually shaped political conflict. Despite the fact that there is near consensus among economists and development thinkers that market-oriented reforms should be complemented by additional policies to address market failures (For example, Stiglitz 1998, Williamson 2003), Nepal failed to adopt adequate complementary policies that support the functioning of market mechanism. Three such policies are: macroeconomic policies to reduce vulnerability to crises; institutional and microeconomic reforms to improve the business climate and provide better foundations for the market economy to generate growth; and microeconomic or competitiveness policies that include a broad range of government interventions to allow markets, sectors, and companies to take advantage of the opportunities created by market-oriented reforms (Rodriguez-Clare 2005). It means that it is important to adopt corrective policies against market failure as well as government failure. Failing to adopt appropriate measures results in coordination failure, which seriously hampers the creation of externalities in the entrepreneurial process of discovering new, profitable investment opportunities (Haussmann and Rodrik 2002) and increasing economy-wide productivity (Hoff and Stiglitz 2001; Hoff 2000).

3.2 Sources of coordination failure in Nepal

3.2.1 Political actors

Different political parties obviously have different political ideologies. Irrespective of the different ideological leanings, in Nepal there is a general agreement among most of the political parties on the need for accelerated growth, employment generation, poverty reduction and improvement in living standards. However, there are diverse views on the approaches to achieve these objectives. On the one hand, there are political parties, which believe in open, liberal and market-oriented development policy, while others believe in the need for active state intervention to direct the economy in achieving both productive and welfare objectives. In addition, there exist differences even among the political parties that believe in market systems, for example, on the role of private sector compared to cooperatives in economic growth; subsidies for public enterprises, including petroleum products and electricity; hydropower development for domestic use versus export; promotion of foreign direct investment; etc. As a result, the private sector is very suspicious of policy reversal, and is hesitant to make new investment. Their fear is further compounded by the fact that state intervention could be used as a tool for extending personal, party and state power and patronage to their political constituencies.

[8] Behaviour of agents in the economy who have spill over effects on production and consumption.

3.2.2 Governance system

Policy

Choosing the right policies to promote economic growth and development is of course a necessary, but not a sufficient, condition. To establish growth potentials of the private sector and strengthen its competitiveness, as well as achieve the country's development objectives, it is necessary to have coordinated public policies that do not overlap or contradict, and at the same time ensure a proper implementation mechanism. It requires macroeconomic stability with coherent exchange rate, fiscal, monetary and trade policies. Similarly, providing financial and support services for small and medium enterprises; improving trade-related regulation and ensuring their implementation; developing infrastructure; and creating institutions that ensure property rights, manage conflict, maintain law and order, and align economic incentives with social costs and benefits; are crucial for increasing private appropriability (Rodrik 2007). However, the economic reform programme in Nepal did not produce complementary policies and implementing institutions that would have helped lay the foundations for long-term growth. As a result, basic governmental functions in fuelling economic activities are either not provided or are provided inadequately.

The reform agenda focused in getting "prices right" and substantial progress was made in reducing tariffs and deregulating prices. However, labour market deregulation and adjustment in exchange rate, in particular the exchange rate with India, remained unfinished business. The effective rate of protection across various economic activities varies significantly. Bankruptcy proceedings are still complex and flawed with rigidities. Industrial policies lack adequate instruments to promote self-discovery in new and non-traditional industries and address informational externalities. Similarly, fiscal policies do not support trade policy.[9]

Foremost among policy coordination failure is the management of distribution of the benefits of economic reform and growth, and exclusion of certain regions, ethnic groups and castes and women. Distribution of income is skewed.[10] Western and far-Western Hills accounting for 22 percent of the population, and some specific ethnic caste groups – *Dalits* and *Janajatis* – were left behind.[11] Similarly, there exist gaps in the capabilities between men and women.[12]

Provisioning of public goods

In order to address some of the causes of market failure[13], the government needs to take the responsibility of adequately providing public goods, including infrastructure. However, despite the policy intent, the expenditure pattern shows that the government has given low priority in providing public goods. The government expenditure on infrastructure is low and declining, in particular on energy and communication. Though declining until 2005, government expenditure in the transport sector has increased in recent years (Table 4). Inadequate priority accorded to infrastructure development is reflected in the ranking of the Global

[9] The government budget announced cash subsidies for exports in convertible currency, meaning exports to countries other than India. But most of the agriculture products identified by Trade Policy 2009 and Nepal Trade Integration Strategy 2010 for export promotion are exported to India and are excluded from any cash incentives.

[10] Consumption based Gini-coefficient was 0.328 in 2010/11. It is argued that income based Gini-coefficient would be far higher.

[11] NLSS 2010/11 reports that incidences of poverty in rural far and mid-western hill is 36.8 percent, among hill Dalit is 43.6 and among hill Indigenous people are 36.8 percent, 43.6 percent, 28.25 percent, respectively, compared to national average of 25.2 percent.

[12] The value of Gender Inequality Index (GII), which captures the loss of achievement due to gender inequality in three dimensions: reproductive health, empowerment and labour market participation is 0.458. The higher the GII value, the greater the discrimination (UNDP 2013).

[13] A situation when the goods and services deemed necessary by society cannot be easily or adequately provided only through free economic activities of the private sector

Competitiveness Report 2013/14, which ranks Nepal 144 out of 148 countries on the stock and quality of infrastructure.

Table 4: Government expenditure in infrastructure (share in percent)

Sector	2001/02	2005/06	2009/10	2011/12
Transport	6.41	4.42	8.83	9.52
Energy	5.92	5.95	1.78	0.64
Communication	0.40	1.37	1.05	0.75

Source: Ministry of Finance, *Economic Survey* (various issues).

3.2.3 Coordination with stakeholders

In addition to incoherent policies, there is a lack of coordination in policy formulation as well as implementation processes. The policy formulation process lacks effective multi-stakeholder mechanism, and participation of relevant stakeholders is limited. Inter-sectoral and inter-agency coordination is weak. In addition, the implementation mechanism is top-down and the monitoring mechanism is poor (NPC 2011).

Governance

Low governance effectiveness – the ability for the government to implement its own policies – combined with political instability, is another coordination failure. Nepal ranks 116 out of 177 countries in the Corruption Perception Index produced by Transparency International. Political instability, lawlessness, nepotism and lack of accountability, coupled with apathy of the politicians and society towards creating a robust mechanism to check anti-corruption, has contributed to increased corruption in Nepal (TI 2013). The level of institutional development, as measured by voice and accountability, political stability, governance effectiveness, regulatory quality and rule of law, is weak (Table 5). "Mindless political interference and willing suspension of a sense of professionalism and personal dignity by the bureaucrats" (Panday 2010), coupled with the lack of skill as well as clarity about the responsibilities, have created the implementation gap. This is further exacerbated by frequent transfer of staffs.

Table 5: Governance indicators

Indicators	Governance Score	Percentile Rank
Voice and accountability	-0.70	27.96
Political stability and absence of violence	-1.38	8.53
Government effectiveness	-0.99	16.75
Regulatory quality	0.81	22.97
Rule of law	-0.79	26.54

Source: World Bank. http://info.worldbank.org/governance.

3.2.4 Private sector

Despite the intent of the incumbent government towards open and liberal economic policies, political instability, including insurgency has created a real or perceived threat of policy reversals to the private sector. In addition, weak institutions and infrastructures supporting market and private sector development, along with a lack of appropriate human resource, have led to low levels of investments.

The role of the government should have been to move the economy out of low equilibrium to high equilibrium path by taking forward the reform process and lowering the risks facing the private sector. This could have been through coordinating access to finance, access to technology, human resources and infrastructure development, and if necessary, by taking on systemic risks that the private sector could not venture into. In sum, the state should have acted as a catalytic agent to create an enabling environment for new investment, enhance productive capacity and coordinate private sector investment decisions by promoting productive activities.

After the initial spurt of reform in the early 1990s, the government took forward the reform agenda by liberalizing the agriculture sector, introducing a neutral VAT system and improving tax administration, reforming the financial sector, strengthening the budgetary system by introducing a medium term expenditure framework (MTEF), and strengthening local governments. However, the government failed to adequately embark on the so-called second generation reforms that were more institutional in nature, and targeted problems of "good governance" that lead to institutional transformation such as corporate governance, anti-corruption, flexible labour markets, social safety nets, etc. Nepal's low performance in ease of doing business is partly explained by the partial reform process that the country undertook.[14]

As a result of various financial sector reforms, there was a significant rise in the number and diversity of financial institutions – commercial banks, development banks, finance companies, microfinance development banks (MFDBs), savings and credit cooperatives (SCCs), and financial intermediary non-government organizations (FINGOs) – reflecting a deepening of Nepal's financial system. In spite of the growth in the number and diversity of financial institutions, it is estimated that only 28 percent of the households have a bank account or have taken a loan from a bank. Around 28 percent rely solely on informal sources, and 20 percent are financially excluded. The situation is worse in the hills and mountainous areas, where an estimated 80 percent of the households have no access to a formal financial institution (Ferrari, Jaffrin et. al 2006). With regard to business enterprises, 74 percent of the firms have a bank account, and 39 percent have a line of credit or a loan from a financial institution. Most firms rely on internal funds to finance the bulk of their investments and their working capital needs. Very few firms use banks to finance investments (12 percent) and expenses (16 percent) (Afram and Del Pero 2012). Business development and self-discovery requires long-term and riskier funds which have to be provided by the state or through development of financial intermediaries, such as corporate debt market or private venture capital. This represents a critical coordination failure and economic constraint, especially given the relatively higher interest rates charged in the informal sector (ADB *et.al.* 2009).

Lack of infrastructure, (transport, telecommunication and energy), acts as a disincentive to the private sector to initiate or engage in economic activities.

[14] Nepal ranks 105 out of 189 countries in the World Bank and IFC's ease of doing business ranking (World Bank and IFC 2013).

Nepal's infrastructure is underdeveloped and poorly maintained, especially with regard to power generation and transportation (discussed in chapter 6 and 7). Electricity supply is insufficient, unreliable and expensive. 99 percent of the firms experience frequent power outages, which cost them 22 percent of annual sales. More than three-fourth of the non-micro formal enterprises perceive electricity to be a major or very severe obstacle to their business. Transport infrastructure is also insufficient and unreliable; more so in the case of road transport where 2 percent of the consignment value is lost on average due to breakage and spoilage during transport. About one third of the non-micro formal enterprises perceive transport to be a major or severe constraint.

Rodrik (1996) has shown that coordination failures can arise whenever new industries exhibit scale economies and some of the inputs are non-tradable (or require geographic proximity). A cluster approach may address some of these coordination problems. It has been argued that cluster development not only coordinates the investment and production decisions of different entrepreneurs; but if developed in the form of special economic zone (SEZ), which ensures access to services it may also address the policy and infrastructure constraints for investment. Though the government has announced the establishment of SEZs in various parts of the country, it has not yet been operationalized due to conflicting positions of political parties in the passage of the law regulating SEZs. It is also the reflection of lack of coordination between the state machinery and the private sector.

Labour markets have not been liberalized to the extent that encourages private investment. Nepal's labour regulation is rigid in terms of hiring workers, working hours and layoffs. Labour legislation requires that government approval is necessary for both hiring and laying off workers. It also mandates enterprises employing more than 10 persons to pay a fixed minimum wage – delinking it with labour productivity. Despite limited applicability, such labour market rigidity has impacts on the entire labour market, discouraging investment and growth and undermining efficiency and competitiveness (Afram and Del Pero 2012). It has also increased industrial tensions and encouraged firms to substitute labour with capital, or relocate.

There are also coordination failures between private sector actors. Due to numerous market failures, productivity can be increased through coordination and collective action among the economic actors within a specific activity (Rodriguez-Clare 2005). For this, business associations with specific information, rather than the government, should play an active role in identifying areas where collective actions would be useful and complementarity could be created. But business associations in Nepal fail to identify externalities and spillover effects and sectors where collective action would have the highest payoff. Individual actors have shown "herd behaviour" and in undermining industry-wide competitiveness, for instance in garment, pashmina, and real estate businesses.

3.2.5 Development partners

The role of foreign aid in the socioeconomic development of the country is well recognized in official documents of the government. It helps the country bridge resource gaps and provides the knowledge and technology needed to achieve inclusive and sustainable development (GoN 2002, GoN 2013a). However, inadequate alignment of such aid with the development plan, national development strategy, master plans and sectoral strategic plans, lack of collaboration between different donors as well as lack of coordination with other stakeholders, have obstructed the realisation of full potentials of foreign aid.

Inadequate alignment

With the establishment of the National Development Forum (NDF) in 2000 and adoption of the Foreign Aid Policy (FAP) in 2002, government leadership in mobilizing and coordinating foreign aid has been strengthening and there has been moderate progress towards improved aid effectiveness over the last decade (GoN 2008). However, it has been a herculean task to align development support with government priorities as development partners have their own policy priorities and interests. Despite the strategic priority of the Three Year Plan on higher growth, employment and infrastructure development, aid shifted more to the social sector (about 40 percent), and somewhat away from infrastructure development (29.8 percent). There still exists weaknesses in the coordination of technical assistance, and much of this assistance is channelled outside the government system by a significant group of development partners.

In addition, sector-level coordination is feeble as there is preponderance of projects that are not always well coordinated, including in financing decisions. For most of these projects, the relationship between development partners and the government is defined in an ad hoc manner (GoN 2008). In 2011/12, there were 454 foreign aid projects, out of which only 114 projects were on-budget and 340 projects were off-budget. In terms of disbursement of aid, about 77 percent of the foreign aid was disbursed through on-budget projects. Of the 77 percent of aid disbursed through on-budget projects, 58 percent was actually channelled through the national treasury and 19 percent of the disbursement did not pass through government treasury even though it was reflected in the Red Book. The remaining 23 percent of total disbursements are off budget and are not recorded in the government budget system (GoN 2013b).

Development partners' argument for direct implementation is that the absorptive capacity of the government system is low and the actual practices of project implementation are still not up to the required standards. However, the government claims that the legal and institutional arrangements for a national system, in most cases, have been put in place through appropriate reforms.

Lack of donor harmonisation and aid fragmentation

Most bilateral development partners have their own system of procurement, mobilization of technical assistance, project implementation structure, and perception of fiduciary risk. As a result, there is a high degree of fragmentation of aid with many stand-alone projects, vertical funding, and direct implementation.

An analysis of the aid modality shows that though declining over the period, in 2011/12, about 55 percent of the aid was delivered through stand-alone project support; and only about 40 percent (22 percent through sector-wide approach and 18 percent through programme support) of the aid was delivered with harmonized and coherent efforts of development partners.[15] The Herfindahl Index[16] shows that donor's aid portfolio is highly fragmented in the case of some of the development partners (Table 6). Each donor, on average, is found to have been engaged in 11 different counterpart ministries/agencies in the fiscal year 2011/12. Such fragmentation indicates the lack of government capacity to steer donors to national development plans. In the fiscal year 2011/12, out of a total 543 projects

[15] However, there have been recent initiatives to collaborate. The UN Resident Coordinator has initiated steps in strengthening coordination. Similarly, the World Bank and the ADB have also contributed to coordination through advocating more harmonized approaches, including joint analysis and consultation for their recent country strategies, shared with DFID.

[16] The Herfindahl Index is the sum of square of the "market share" (i.e., sum of square of disbursement of individual project of a donor or a sector by total disbursement of same donor or sector) of the various projects in the portfolio. If the result is close to 1, the portfolio is very concentrated where as if it is close to 0, the portfolio is very fragmented.

implemented with foreign aid, 8.7 percent of the projects with 25 percent of total disbursements are disbursed with loan; 41.8 percent of the projects with 60 percent of total disbursements are disbursed with grant; and 49.5 percent of the projects with 15 percent of total disbursements are disbursed with technical assistance. This indicates that projects with technical assistance have been the most fragmented.

Table 6: Aid fragmentation in Nepal

Donor Group	Herfindahl Index	No of Projects	No. of Counterpart Ministry
Canada	1	8	4
Korea	1	8	5
Netherland	1	19	8
India	0.61	13	6
China	0.41	7	6
European Union	0.38	72	16
Denmark	0.31	22	10
Japan	0.28	34	13
USAID	0.24	19	8
Norway	0.23	40	16
Finland	0.22	14	6
Germany	0.22	23	10
Global Fund to Fight AIDS, Tuberculosis and Malaria (GFATM)	0.21	12	1
World Bank Group	0.18	42	17
Australia	0.15	15	10
Switzerland	0.11	38	13
Asian Development Bank	0.10	87	15
United Kingdom	0.10	42	16
United nations Country Team	0.10	220	25

Source: GoN 2013b.

Lack of harmonization and aid fragmentation has been further compounded by the fact that projects are driven by individual interests in both the donors and the government. There could be diverse, but unexplained, interests of donors in engaging with the national government that promote stand-alone projects and direct implementation. On the government side, departments or individual officials within

the government system are interested to have control over the resources generated through the project and the relationship developed with individual donors.

Coordination with relevant stakeholders

Despite the fact that all development actors – government, development partners, civil society, and private sector – are supposedly working for the good of the citizen, it seems that development efforts amongst them are "disjointed". There are institutional as well as ad hoc mechanisms within the government system in engaging the private sector and civil society in policy formulation process; however, civil society and the private sector are less involved in aid management decision making. Non-government stakeholders are infrequently engaged in the analytical work, appraisals, programme design, implementation, monitoring and evaluation of foreign aid programmes.

4 Evolving politics & implications for inclusive growth in Nepal

Nepal aims to graduate out of the LDC category and achieve a growth target of 7 percent. With regards to the former, large outflows of labour and inflows of remittance have increased income, and helped improve human development indicators. The cumulative effect of labour migration alone should help Nepal achieve its objective of graduating out of the LDC category.

As discussed earlier, achieving 7 percent growth will require Nepal to structurally transform its economy. Section 2 outlined the main macro level constraints, namely low levels of productivity and competitiveness. The key constraint has been nicely summed by DFID/ADB/ILO (2009) as *low social returns to investment*, which arise from absence of adequate infrastructure and policy uncertainty. If Nepal is to achieve its economic development targets it needs to rapidly industrialise its economy.

In the early stages of development there is a prevalence of market failures (Rodrik 2004). Absence of public goods, information asymmetry and the lack of effective competition in many sectors give rise to market failures. In Nepal market failures are pervasive. For instance, manufacturers are interested in increasing production but they do not have sufficient, reliable access to energy and they lack the ability to influence energy decisions. Competing interests result in a failure to make decisions benefiting the status quo. Monopolies, arising from cartel formation, set transport prices, and who can transport goods on which routes.

Lessons from countries that have successfully transformed their economies point to the important role of the government in managing economic transformation and tackling market failures (Wade 2003). The experience of economic development, the road to prosperity and stability, is one of countries successfully managing the process of economic transformation - from dual, traditional to modern economy. Industrialisation of the economy, and in particular increase in the share of manufacturing given the scale of its impact, will be important in achieving this transformation. How can policies help?

- Better diagnostics to identify what is blocking economic transformation.
- Addressing coordination failure and missing markets to increase productive capabilities.
- Improve learning by doing. In the absence of transferable blueprints a lot will rest on learning from trial and error.
- Making markets work by removing governance failure.
- Policies will produce both successes and failures, but they can also help increase the average over medium to long term and mitigate the impact of failures in the short-term.

- Policies and interventions for economic transformation will seem obvious ex post if successful, but they will look riskier ex ante and, therefore, will need to be accompanied by appropriate policies to insure against risks.

This section will discuss issues of managing the process of economic transformation, using political economy analysis. We examine the role of government and the state, highlighting key problems and dynamics in how coordination and market failure are managed. One could of course bypass the state and rely on the 'market', but then there is market failure that private actors are not well-placed to address due to 'collective action' problems and others. We thus also examine the issues preventing the private sector from acting to address market failures. The section then moves to highlight the implications of this analysis, focusing on priorities for reform, and principles for programming.

Political economy analysis

Political economy analysis is concerned with the interaction of political and economic processes in a society: the focus is on the distribution of power, wealth and control over decision making between different groups and individuals. It tries to determine the processes that create, sustain and transform relationships over time. Political economic analysis attempts to determine why the current situation exists: who are beneficiaries and who the losers are[17]. It frequently uses traditional political, economic and social tools to answer these questions. But political economy focuses on issues often ignored in traditional analysis[18].

Mainstream economic analysis may look at the implications of poor roads and use cost benefit analysis to determine which roads ought to be repaired. Political economy analysis will ask why some roads are in a poor condition and endeavour to determine who makes the decisions on which roads to repair (or build) and who benefits. It supplements and refines traditional economic analysis.
Political economy analysis looks at who benefits and who loses by the proposed road, with an emphasis on the political, economic or social power of the beneficiaries. This analysis asks why specific roads are constructed or maintained. Political economy analysis does not replace traditional economic analysis, such as cost benefit analysis, but supplements and augments that analysis. Political economy analysis does not say that roads to the poor or disadvantaged ought to receive priority, but that the impact on the poor ought to be factored into the analysis.

Not to analyze power relationships may increase the risk of an ineffective use of scarce resources leading to programmatic failure. Political economy analysis provides a way of looking at the interaction of political and economic processes in a society: the distribution of power and wealth between different groups and individuals, and the processes that create, sustain and transform these relationships over time. While the idea of political economy is not new, the application to development projects is relatively new. Different groups are approaching it differently in the search for ways that most effectively lead to the achievement of mutually agreed program objectives.

4.1 Key features

There are a number of features of the political economy of Nepal that are particularly salient for promoting inclusive growth and sound economic decision-

[17] www.oecd.org/dac/governance/politicaleconomy. *Political Economy Analysis*. OECD, Development Co-operation Directorate (DCD-DAC).
The Political Economy of Pro-Poor Growth (http://www.oecd.org/development/povertyreduction/47466469.pdf) OECD DAC PovNet July 2010.
James Copestake and Richard Williams: *The Evolving Art of Political Economy Analysis – Unlocking its Practical Potential Through a More Interactive Approach*, Oxford Policy Management, February 2012. This last article focuses more on converting analysis into action.
Daniel Harris: *Applied Political Economy Analysis – A Problem Driven Framework*, ODI,March 2013
[18] Read, for example the IMF's Article 4 consultation, or ADB's *Macroeconomic Update*.

making. Many of these are common themes that stand out as important political drivers and constraints across sectors. These features (outlined below) degrade the capacity of the state to manage economic transformation, but also have a number of impacts: in particular, they tend to have a regressive impact, affecting worse those who are already disadvantaged both directly in their economic activities and dealings with the state, but also through constraints to the provision of much-needed public goods.

4.1.1 The politics of inclusive growth

High fragmentation: Nepal has a great diversity in terms of both geography and demography, and in particular there are a large number of different ethnic, cultural and social groups. The relevance of these distinctions has increased with a rise in identity-based politics and increased polarisation. Through the politicisation of social, political, business and bureaucratic realms in Nepal, the political parties (not just those working on identity lines) have embedded fragmentation into a great many aspects of Nepal. Fragmentation creates hurdles and challenges for collective action, for the provision of public goods, and for the management of the economy for common benefit.

Political instability: Nepal has emerged from violent conflict, but still finds itself in a fragile and unstable situation, with an interim constitution and legal 'grey areas' relating to expiring deadlines etc.[19] Added to this, the lack of one group with a significant majority means that governing coalitions are continually shifting; the politicisation of the bureaucracy extends this effect to turnover in key positions in government. There are some incentives against tackling this instability, as it creates short-term opportunities for rent capture. This directly hinders growth because of the uncertainties for investors and the costly disruptions such as strikes. Notably, in the (subnational) examples where there has been some level of local stability, this corresponds with improved local economies (although the direction of causation is unclear).

Zero-sum decision-making in government: There is a lack of vision and strategy for promoting the development of Nepal. Many government decisions are relatively short-term in outlook – there is little political payback from anything else given the very low average tenure of ministers, prime ministers, and secretaries. Moreover, the uncertainty combined with fragmentation causes the predominant focus for political actors to immediate distributional issues – focusing on securing maximum benefit for one's own constituency and supporters rather than on broader programmatic concerns. This decision logic is reinforced by politicisation, which colours the perceptions of others' actions meaning that even well-intentioned efforts are often written off; these perceptions are self-fulfilling as the behaviour they lead to results in others to react as previously expected.

Tacit consensus on economic management: There are only limited policy differences between the main three political parties (Nepali Congress, Unified Marxist-Leninist, Unified Communist Party of Nepal – Maoist) on the importance of, or management of the economy. Despite the names of the parties, there is not a great divergence in their approach to managing the economy: all are rhetorically committed to a market economy and roughly similar macro-economic policies, and this has largely been borne out in practice (e.g. the Maoist government's investment agreement with India in 2012). It is harder to say the extent to which the parties are committed to helping poor people. Having said this, the above factor dominates –

[19] Discussion with Keith Lester of the World Bank on 26 September 2013. Unrest in political parties precludes long term decision making. It is difficult to achieve a consensus.

i.e. issues relating to the long-term management of the economy tend to come second to those with short-term political and direct distributional consequences, such as federalism.

Personality-driven processes and political vacuums: Many of the most high-profile decisions are made by an extremely small group of individuals, based on discussions and negotiations behind closed doors. Even mid- to high-ranking members of ruling parties tend to know very little about on-going decision processes, and although there are some differences between the level of transparency and consultation (e.g. in the past some had remarked there was a higher degree of internal debate in the Maoist party – Wild, 2010), the past few years have seen the dominance of top personalities across all parties. On issues less central to short-term political calculations, economic and policy advice thus tends to come to Ministers and party leaders through personal networks, with a small set of highly respected economists and other academics consistently drawn on for assistance (and a small few even commanding credibility with the more than one party). Those issues without direct political or distributional consequences have a 'vacuum' for decision-making, into which bureaucrats or the donor community step.

Limited domestic pressure for reform: As the Nepali economy stagnates or fails to provide opportunities for its citizens, the population increasingly sees their livelihoods to be secured by employment abroad. This in turn leads to a lower tendency to hold one's own government to account for good policy (as well as a higher absentee population unable to vote); the government, with no pressing short-term political consequences, feels little pressure to take difficult, long-term programmes of domestic reform. This becomes a vicious cycle, as limited pressure to improve leads to poor performance of the economy and job creation, and hence more migration. A significant proportion of those who might constitute an educated middle class (thought to be essential for democratic development) reside outside the country.[20]

What form of federal government? There is cross-party consensus that the outcome of transition arrangements will see Nepal become some form of federal republic (on the surface at least – see International Crisis Group, 2011) but the demarcation of the federal units, their authority over their jurisdiction, representation at the federal level and the relationship to the centre remains undecided; there are differences as to the size of each state and whether states ought to be organized by ethnic groups, sub-groups or geographic area. Reflecting the tendencies mentioned above, the discussion on federalism is overwhelmed with political issues, and insufficient attention has been paid to fiscal issues. It is unclear how taxation and fiscal distribution will be organised, and whether the new structure will allow for pro-poor redistribution of resources to occur. Much of the present debate has been on political rights, defined around ethnicity, and less on resources – collection and allocation for inclusive growth. There is also a real danger that some of the proposed federal models will have serious negative economic consequences, such as states heavily dependent on transfers for their survival, double-landlocked states (at the national level and further at the federal level) or extreme inequality between states exacerbating Nepal's national inequality. The outcome of political bargaining on these issues (if an outcome is in fact reached) will determine the viability and functioning of federalism in Nepal and the developmental outcomes it produces.

[20] Harry Jones and Yurendra Basnett: *Foreign Employment and Inclusive Growth in Nepal: What can be done to improve impacts for the people and the economy;* Centre for Inclusive Growth, June2013

4.1.2 Bureaucracy and public administration

Patronage and corruption: patronage is a system whereby positions of power are distributed according to loyalty and group membership, and are then used to serve the interests of client groups (Jones, 2010). This system which was already well-embedded, is finding more footholds due to the political uncertainties and weak rule of law. This weakens formal governance systems and restricts the ability for the government to regulate and manage the economy, and causes serious problems with providing important public goods and common resources – for example, major road investments tend to be systematically under-funded due to spreading resources around for political gain, and see a high level of leakage through corruption to contractors (Jones and Demenge, 2014 forthcoming).

Relatively strong economic bodies but lower capacity elsewhere: It has been noted by many (e.g. Shepard, Mitchell, *et. al.* 2013) that the level of professionalism in financial management by the civil service is greater than one might expect for a country at this stage in its development. More specifically, it is noted that there is a relatively high level of capacity in macro-economic management (Moore, 2009), especially in core central units such as the Rastra Bank, the Ministry of Finance and the Investment Board, and to a lesser extent the National Planning Commission. These bodies are often able to escape the same level of political interference where macroeconomic decisions do not have direct immediate distributional consequences, and where topics are technically complex and hence naturally limit participation. There is low capacity in many other parts of the bureaucracy, with 'islands of efficiency' that provide notable counter-examples. The Ministries receiving external support have well thought through policy documents as well as implementation plans. In those Ministries, officials, mostly at secretary level, who had clearly benefitted from 'capacity building', could eloquently talk about the root problems at the sectoral level and how their policies seek to address them. But officials at the lower level within those ministries, who are most likely to implement policies but had not yet benefited from years of capacity building, were unable to logically link problems to identified solutions.

Little government coordination or policy coherence: Ministerial positions are theoretically secured through competitive examinations, but many positions are secured through influence and fought over by individuals and political parties, for the benefits that can be accessed by those in charge. This makes each ministry (and departments within a ministry) into a 'domain' of power, serving the interests of the minister in order to capitalise on the opportunity presented by the position. In this context, ministries will tend to engage in 'turf wars' and fight to hold onto maximum resources, rather than engaging in constructive coordination and collaboration. Bodies set up to tackle coordination tend to exist only on paper, and as discussed in the energy sector, lack of economic development vision means there is no means to accurately estimate energy production needs or where transmission lines should be established.

Low accountability and effectiveness outside Kathmandu: Despite frequent talk of 'decentralisation', the notion that Nepal is a centralised country is a narrow reading of its history. Historical strategies of neglect, aimed at consolidating the power of ruling elites, means that there is relatively low government capacity outside Kathmandu. There have been three major epochs in Nepal's history with regards to the relationship between the centre and the rest of the country – devolution governed by a single family (the Ranas), centralisation of power in the

Palace (and, by virtue of its location, Kathmandu) and technical decentralisation.[21] More recently, there have been no local elections for over 15 years, with the Ministry of Local Development centrally appointing the heads of all local government bodies. The lack of formal accountability mechanisms, or effective central monitoring of performance, limits the incentives for local governments to respond to the needs and preferences of their constituents (Jones, 2010). This problem is compounded by high turnover. For the areas outside Kathmandu and especially more remote or politically tumultuous areas, this reduces the government's ability to provide infrastructure or services, to enforce contracts, and creates opportunities for patronage and corruption.[22] Combined with patronage and corruption, and low capacity, these factors result in severe issues with policy implementation and enforcement.

Questionable bureaucratic culture: The role played by the bureaucracy is in many instances actively part of governance failures in Nepal. Subsidiary markets for basic public services have emerged, with service providers outside Government ministries who for a fee get the registration done on land registration, citizenship, and passports. Professionals can arrange for Ministry approvals on issues of high monetary value, and such service providers operate from established offices. Repeated transactions allow the civil servants to build trust with the external service provider, and importantly maintain an arms distance from negotiating bribes. Even where subcontracting is formalised, competition in procurement processes is (formally or informally) based upon those who provide the largest commissions to government, often precluding adequate service delivery.[23] There is also less drive to deliver policies and reform, with the regular supply of foreign-funded technical advisers and lucrative capacity building opportunities. The burden of designing and drafting policies has thus been, in practice, sub-contracted. Together, these suggest that government in many instances seem to sit on a comfortable mantel of rent extraction. This culture benefits senior officials, restricts the potential for reform and restricts access to decision makers to people who have been in the positions for a long time.

Donor fragmentation and negative impacts: It must also be mentioned that the unstable environment in Nepal has not helped the coordination and harmonisation of external assistance. Donors have played an important role in the country for decades, but many have argued that shifting policy preferences and a lack of coherence between different donors have further contributed to both fragmentation at the policy level (with multiple and overlapping reforms that are non-coordinated), and implementation (with a proliferation of non-coordinated or complemented projects). This is made worse by poor communication between donors and government. It contributes to policy uncertainty and increases the difficulty in providing public goods, as well as reducing the pressure on the government for economic policy reform. This fragmentation is especially strong

[21] Since the late 18th century, when modern Nepal was formed, to late 1950s, when the process of modernisation began (as well as bouts of experimentation with democracy that was unsuccessful until 1990s), Nepal was governed by a devolved, federal model maintained and governed by the authority of hereditary rule at the centre. In the 1950s Nepal began to be centralised, partly because there was a small window democratic change that was ushering modernisation, but also power was shifting from the Rana oligarch (who had used extended family to govern by a federal model) to first democratically elected parliament and then subsequently to the Palace (who until then was mere figurehead). In the 1990s when multiparty democracy was established the process of decentralisation began, which was largely technical in content rather than political decentralisation.

[22] Sarah Dix: Corruption and Anti-Corruption in Nepal: Lessons Learned and Possible Future Initiatives, Norad Report 18/2011, June 2011.

[23] For example in waste management, competitions are done on which company 1) charges the lowest fee to end users, and 2) provides the highest amount of commission to the local government body. This competition squeezes what are already tight margins in the sector, and are commonly accepted to preclude honest businesses from entering the sector.

when donors are working in different geographic areas, such as in road construction or development of energy generation systems. The prevalence of donor funding has also distorted public administration markets. Different donor priorities, different procedures to get grants, lengthy processes from identifying problems to mobilising resources, different sets of evaluations, different conferences to present findings and so forth add to the transaction costs and distractions within the public administration. The aid market in Nepal is not only one of the largest economic sectors in its own rights, but it is also intensely competitive. However, the result of competition distorts the market and undermines long term development outcomes for the recipient, rather than supporting efficiency. For instance, the aid agency competes for skilled human resources in the same labour market as the rest of the economy, and given its financial resource it is able to influence wages.

4.1.3 Private sector and industry

Low trust: Low trust between various stakeholders (influenced by fragmentation, zero-sum decision-making, and patronage) increases the challenges for securing economic growth. As Beinhocker (2006) has argued, trust is a major determinant of economic growth, reducing transaction costs. Moreover, the low trust in the formal state apparatus and poor relationships between the public and private sector itself further weakens the strength of government and its ability to effectively regulate. For example, a recent study on the tourism sector shows a low level of trust and understanding between government and the private sector, with government only infrequently consulting industry in any meaningful way, and with a common perception on the part of business that any government action (or inaction) is the result of corruption. This lack of trust in the primary regulating body reduces the ability for government to effectively carry out this role, as few business people believe rules are ever even-handedly enforced. This also leads to high transaction costs associated with any interactions between the two (Jones, 2013).

Cartels and unions: Various cartels can be seen around the country such as the highly powerful trucking cartels that effectively reduce competition and function as barriers to the development of any new services. Politicised labour unions pose a serious hindrance to larger and more successful businesses (although some interviewees felt they were on the wane). Supported by the political parties they are a part of, they have significant power to disrupt business operations. There can be more than one union in an enterprise with the unions competing to show their influence. At a minimum, this imposes additional costs, but in many instances there can be longer-term damage in terms of reputation to more established businesses, and unions have sometimes caused the closure of previously functioning enterprises. This is particularly damaging: because of the centralised but competing nature of political patronage networks, unions tend to work for the interests of their parent parties rather than members and have proven on many occasions that they are happy to risk the closure of a company (and loss of their members' livelihoods) in order to extract rents (UN RCHCO, 2011).

Fragmented business lobbies: The fragmentation in politics and the polity is seen in business as well in many sectors, and this hinders the ability for business and private sector interests to be represented in policy. In tourism, for example, the industry does not form an effective lobby due to fragmentation (Jones 2013) with two major cross sector business groups, sectoral groups[24] and lobbies representing small and cottage industries. Tourism is influenced by a variety of actors at a number of levels, in industry, government and elsewhere, and its development is

[24] For example, Hotel Association, Tourism Association, Central Carpets Industries, Marble Trade, Dairy Association, different export associations, transport syndicates.

thus likely to be the result of a multitude of decisions and actions made by a distributed set of actors, with diverse values and interests. As such, there are major collective action barriers to overcome even where there might be real economic gain at stake through the development of the sector. The challenge is even greater because of the crowded market, and also the proliferation and politicisation of tourism-related associations. Competing business associations reduce the influence of business in influencing policy, and increasing the overall power of politicians.

Risk-averse business behaviour[25]**:** Uncertainty and politicisation incentivise business behaviours that are not conducive for private sector development.[26] Many businesses operate with a high discount factor, placing relatively high value on short-term profit ahead of longer-term, larger (but more uncertain) gains; many businesses undercut the competition, sacrificing service quality and safety. Risk-spreading is a major trend, with many businesses set up as a way to add variety to livelihood strategies; this also includes preferring to replicate products and services of other businesses, rather than innovating and trying something that is not proven to provide returns. Government corruption, lack of consistent and enforced policies plus politicised unions adds further reasons for businesses to stay small and low-profile. This reduces investments and innovation, thereby reducing jobs and income growth.

Crony capitalism: Given the prevailing political and economic conditions, many see the surest way to personal success as patronage rather than innovation and hard work. This leads in many instances to an un-meritocratic private sector (and elsewhere, prevailing perceptions of a lack of meritocracy that become self-fulfilling). Moore (2009) has called this 'crony capitalism'; any large business investment requires strong political connections (and payments), which incentivises anti-competitive practices. This trend also encourages the 'dark economy' of smuggling, local mafias, etc (Dix, 2011). Crony capitalism creates problems for micro/small, new and women-owned enterprises all of whom lack power and contacts.

4.2 Priorities and programming principles

The above has implications both on the type of programmes that are needed to promote economic transformation, and how to implement them.

4.2.1 Supporting institutional change

Promoting policy change: Promoting good governance must also be about designing and implementing policies that alleviate the consequences of market failures, with a particular focus on creating coherence. Market failures are addressed by industrial policy[27]. However a policy of this nature remains absent in Nepal, largely because it has abandoned industrial policy and those interested in such a policy development lack the ability to analyse the needs or push for change. It seems to subscribe to the view that it does not have the capacity to manage industrial policy, but sees itself capable of, for instance, managing pegged exchange rate[28], and that Nepal cannot industrialise. This, however, does not mean

[25] World Bank: Nepal—*Doing Business 2013: Smarter Regulations for Small and Medium-Size Enterprises*, 2013

[26] For example, the discussion with Mr Thapa, labor analyst at National Planning emphasized that the plethora of labor disputes, and the frequent changing of positions on issues by labor and management, makes it difficult to come to compromises. Each side to a dispute wants all the organizations on its side to agree to the solution. This is often impossible.

[27] Here the term denotes to policies that promote economic activities, increase productive capacity and productivity and achieve structural economic transformation – the latter involving producing new goods with new technologies.

[28] See Rodrik 2009 for a discussion on questioning the scepticism over industrial policy as well as why industrial policy is needed, which are all relevant to Nepal.

that it does not engage in industrial policy measures; on the contrary it provides export credits, subsidies, tax incentives - all elements of industrial policy, but these are provided in a haphazard and uncoordinated way. Absence of an overarching industrial policy that clearly outlines the pathway and strategy to structurally transform the economy means that many of these measures are fragmented and merely result in creating unproductive rents. Addressing this will require institutional and organisational change as well as building their capacity.

There is a need for civil service reform: In a largely agrarian society, a civil service job was held in high esteem, coming with stability, influence and opportunities for social mobility, attracting the brightest and the best, supported by favourable calculation by the society on the returns from civil service jobs. This is less the case now with opportunities such as labour migration offering considerably better prospects for mobility. An effective bureaucracy will be central not just in managing the institutional changes unfolding, but also in managing the process of structural economic transformation. The role of the state in economic development, particularly in low income countries like Nepal has been well established, but it is the bureaucracy that delivers results, a finer point that tends to get overlooked in policy reform. The bureaucracy needs to be more accountable for economic performance in order to facilitate the management of a meaningful transformation in Nepal. Capacity building, training and mentoring are major priorities. In addition there needs to be a particular focus on strengthening systems for implementation, including finding ways to ensure that gains are spread beyond Kathmandu.

Reforms that will be required for economic transformation will have to be implemented by the bureaucracy. But without a wholesale reform of the public administration and management it is difficult to see how Nepal will be able to achieve economic transformation. The risks of selective, project-based interventions will only create windows of improvements, but when external investments are exhausted it will go back to long-run equilibrium determined by average level of performance of the public administration. Here too, given the present inertia, it is difficult to identify endogenous agents of change. So, there are two options:

- First best option: Complete modernisation of the public administration in order to improve service delivery, ability to effectively solve problems (market failures), and more importantly one that is more responsive and accountable to users of the services. Something of this scale would be best achieved by joint donor effort. And donors, also consumers of policy improvements, would benefit from increased efficiency and reduced transaction cost for efforts that they have to currently undertake on case-by-case basis (i.e. the value for money argument).

- Second best option: Public administration reforms continue on a selective basis, but it is complemented with greater coherence between different donor efforts. There is a need to build greater synergies between different donor inputs. Under this option, it will be important to think how best-practices can be scaled – both laterally and vertically in Nepal's public administration.

Economic considerations in federalism: The institutional changes under consideration by the constituent assembly has thrown up in the air a number of issues from an inclusive economic growth and structural economic transformation perspective. In particular, research and dialogue on the fiscal aspects of federalism would greatly help inform the second round of the constituent assembly in reaching

sound conclusions. For political federalism to support structural transformation it will need to be based on sound fiscal foundations. There are a number of key issues to consider such as access to the global economy by federal states, their roles and responsibilities for resource mobilisation and policy development, and the respective role of the national level in resource distribution and macroeconomic policy. These issues must be taken into account alongside issues of social and ethnic interest. Equally important will be the reform of the bureaucracy so that it is suited to new federal structure, but details on what reforms will be required and how the re-structuring will take place remains critically missing.

4.2.2 Principles for designing and implementing programmes

The features and dynamics outlined above present a great many problems and challenges, but there have been instances of extremely successful initiatives where donor action played a part in certain areas of social development, for example reducing of maternal mortality. Lessons learnt include: "consistent policy focus and sustained financial commitment by the government and donors (who cover approximately 40percent of the health budget) throughout the past two decades. Policy-making in maternal (and child) health has been formulated by a highly capable cadre of top-level officials in the Ministry of Health, backed by evidence and data, and supported by a vocal advocacy community with the former prime minister's wife at its helm. The centrality of maternal health in the MDG agenda has led to a further targeting of resources to this issue: one policymaker interviewed for the case study told us that his colleagues had been instructed to achieve the target 'at all costs'" (Engel 2013; Engel, Glennie *et. al.* 2013).

The following suggestions are provided to guide programming approaches and how to engage with domestic actors. The evidence behind these inferences comes from understanding the key challenges of complexity faced and how they can be tackled (Jones, Jones *et. al.* 2012), and the resultant model for programming is similar to recent recommendations around Problem-Driven Iterative Adaptation.

On a number of issues, progress is likely to require reconciling divergent interests, competing narratives or conflicting goals. In these cases interventions must facilitate joint interpretation of key problems by key actors, and must enable negotiation on and commitment to common goals.

- Many of the sectoral constraints and other issues mentioned above are collective action problems – i.e. there are sufficient resources, but there needs to be a reorganisation of key players. This means there could be potentially large impacts to be gained from donors taking a convening role, facilitating a renegotiation and reorganisation of a sector or industry. Programmes must as much as possible enable local analysis of problems and development of systems, providing multifaceted support and incentives to reach common goals.

- There are some indications that economic progress can itself drive improvements in these political economy constraints, by reducing zero-sum decision-making. The new programme should look at opportunities to set up such a 'virtuous circle'; achieving it at a nationwide scale may not be possible, but starting a program and showing results at an industry/sector level, or at a subnational scale might offer some hope.

In some other cases, programmes may not have to face divergent goals and thus will face slightly easier tasks:

- There are often sub-issues that present win-win scenarios for the different actors involved, where incremental changes may satisfy the incentive and interests of all those with influence while also leading to positive progress towards inclusive economic transformation. These should be sought out for the direct benefits they offer as well as to foster greater collaboration.

- The low level of political attention and relative competence of technocrats on some macro-level issues leads to potential space for influence. These spaces are suitable for filling with technical solutions and the deployment and brokering of expertise such as training and developing analytical tools.

The majority of problems faced are likely to involve dealing with distributed capacities, where problems are sustained by, and/or solutions would require, action by a number of actors without formal and functional institutional links between them. This is likely to take the following forms:

- Working with and through the formal systems of government should be seen as a necessary but insufficient condition – while initiatives will fail for crossing formal rules, it is often the informal balance of power that determines decision outcomes. Programming and implementation approaches must, therefore, function according to viable theories on how they will influence and work within the formal rules of the game.

- Working at subnational level is crucial to increase the potential for successful facilitation of genuine coordination. It will lower the level of fragmentation faced, and increase the ability for actors to have frequent direct contact thus reducing mistrust. Moreover, working at a subnational level may have more chance of inculcating the 'virtuous circle' mentioned above.

- Strengthening links between the national and local levels is one way of helping areas outside Kathmandu improve their lot. Personal connections and direct experience of working in or with Singha Durbar will improve the ability of local stakeholders to access benefits, while for Ministries it gives opportunities to increase their influence and effectiveness at local levels.

Finally, the vast majority of programmes are likely to face high uncertainty, where it is unclear how to achieve a given aim in the Nepali context, or change processes involve significant, unpredictable forces. In particular:

- Policy changes are difficult to plan for and securing them is inherently uncertain due to potential vested interests, although windows of opportunity may emerge after the election. Programmes must be flexible enough to adapt to emerging opportunities and constraints. There is also a limited understanding of how change happens meaning that interventions need to innovate and foster learning.

- Uncertainty and corruption means that it is extremely hard to maintain a high and consistent level of spending as well as ensuring value for money of that spending. Development with government officials of a monitoring system with regular public reporting can improve accountability through transparency. Without sufficient ownership interventions can be co-opted or captured by vested interests, and implementation can often stall entirely.

5 Agriculture

5.1 Overview

This chapter looks at constraints within Nepal's agriculture sector. It starts with a description of the state of Nepal's agriculture, and a review of the main production systems and key indicators of productivity and wider performance. It then discusses the main reasons behind the sector's low performance, looking at constraints that prevent the majority of Nepal's farmers achieving higher levels of productivity and profitability.

The analysis is targeted at the sector level because many constraints are common across subsectors. However, issues for specific crops are noted. These common constraints include poor physical access owing to low development of the road network which raises costs and reduces quality of produce (for example, fruits and vegetables, milk), lack of other infrastructure (irrigation, electricity), and poor access to inputs. As in other sectors, poor expenditure coordination in agriculture negatively affects development spending targeted at improving agricultural productivity. Poor coordination also limits the introduction of quality standards into food marketing, which affects the competitiveness of products in regional markets. On the basis of these constraints, the third section identifies and discusses programme options, noting where existing work addressing these constraints is on-going.

5.2 Context of Nepal's agriculture sector

Employing over 75 percent of Nepal's population and contributing 35 percent to GDP, agriculture remains integral to the Nepal's economy. Broad-based growth in the agricultural sector is likely to provide important benefits for overall economic growth and poverty reduction. But growth in agriculture has proved elusive, with the main performance indicators – yields, production volumes and labour productivity – remaining below neighbouring countries. Several characteristics of Nepal's agriculture are important as background to the constraints.

Crops and production systems are very different between Nepal's regions.. Table 7 presents generalised cropping patterns in different areas. Rice and vegetables are the main production systems in the *Terai*. The flatter land makes this zone easier to irrigate and build roads. As a result, farmers are better connected to markets by roads networks, populations are denser and most agricultural output is produced here. The hilly zone presents more challenging conditions for rice but offers good prospects for maize, vegetables and fruits. Only 2 percent of land in the high mountain area is suitable for cultivation, and production of food is low in these districts.

Table 7: Cropping patterns in Nepal

Agro-ecological belt	Land type	Cropping patterns
Terai	Irrigated Lowland	Paddy – Wheat/Potato/Legumes/Oilseeds – Maize/Vegetables/Paddy
	Unirrigated Lowland	Paddy – Wheat/Mustard/Legumes - Fallow
	Upland	Maize – Mustard
Hill	Irrigated Lowland	Paddy – Wheat/Potato/Legumes – Maize/Vegetables/Paddy
	Upland	Maize + Millet/Upland paddy/Legumes - Black gram/Vegetables/Legumes/Potato - Fallow
Mountain		Maize – Vegetable/Wheat/Potato - Fallow

Source: MOAC (2011) agricultural atlas.

Stagnant economic development coupled with population growth has meant most farmers are poor, and farm small areas of land. Most are subsistence farmers, producing crops to meet some of their food needs and market none or very little of their produce. Farm sizes have declined over time as a result of growing rural populations (see Table 8). Raising productivity for small farms remains a central challenge to address rural poverty and food insecurity, but poverty and small and scattered plots make it difficult to make land improvements or fully irrigate land.

Table 8: Land holdings in Nepal

Household category	percentage of total	Size of land ownership (ha)
Landless farmers	10.1	0-0.1
Marginal farmers	23.6	0.1-0.3
Small farmers	22.9	0.3-0.5
Medium farmers	40.0	0.5-3.0
Large farmers	3.3	3.0-10.0
Extra-large farmers	0.1	>10.

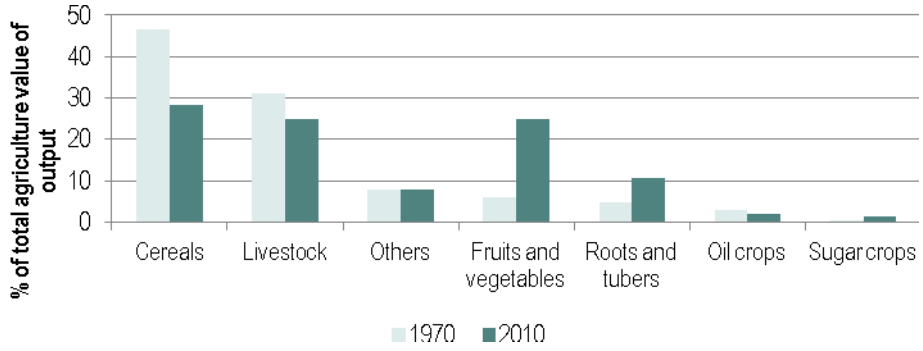
Source: High Level Commission on Scientific Land Reform 2010.

The structure of agriculture is changing, albeit slowly. Long term trends include farmers shifting away from only growing one main rice crop towards diverse farming of more vegetables and high value crops, which Nepal produces competitively (see Figure 12). That said, rice is still the most widely grown crop by Nepali farmers, and is the largest contributor to agricultural GDP and output volume (Figures 12 and 13).

Recent outmigration is changing labour availability and may reduce land subdivision. Outmigration has also led to shortages of hired agricultural labour and increasing feminisation of agriculture. 71 percent of the female workforce works in agriculture, compared to 56 percent of men (ADB 2013a). While this may have positive implications for inclusivity if rural wages rise and decent work opportunities are available, in practice women face challenges in becoming fully economically active in traditionally male dominated societies, especially in accessing land and inputs.[29]

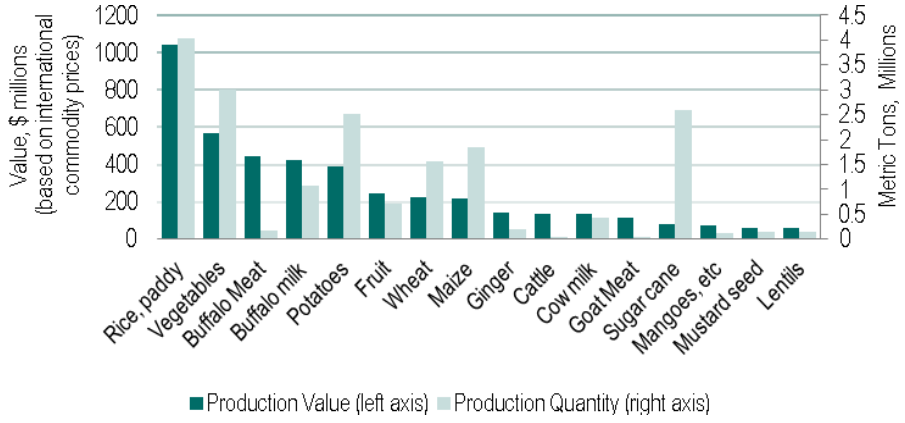
[29] A 2010 UN survey found 3% of women had access to mechanical farming equipment, compared to 8% for men (cited in USAID 2012).

Figure 12: Value of agricultural sub-sector output 1970 and 2010.



Note: Output is measured in constant 2000 US$.
Source: ADB (2013b) based on FAO data.

Figure 13: Agricultural production in Nepal (2010)



Source: MCC (2013) using FAO stat data and international commodity price references.

5.3 Performance of the agricultural sector

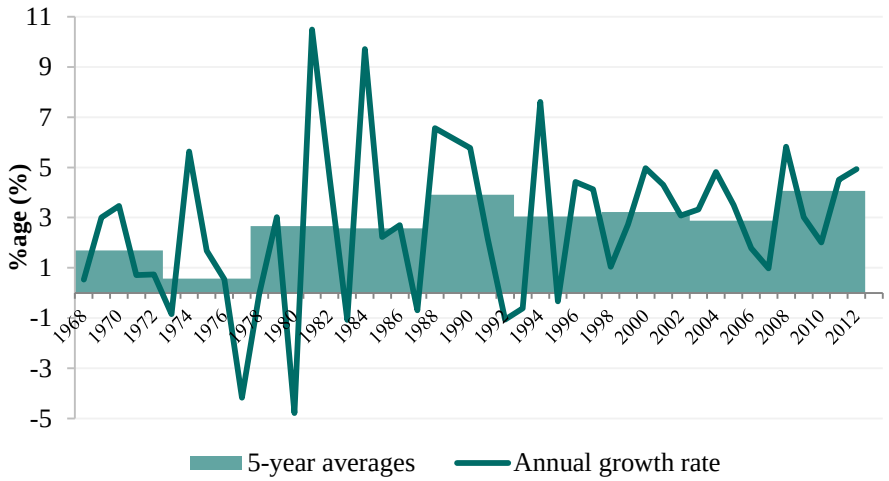
The persistence of a large semi-subsistence farming sector in much of rural Nepal is indicative of the poor record of both industrialisation and efforts to connect farmers to markets through expanding infrastructure and successful policies. Indicators of agriculture performance – agricultural GDP growth, yields for major crops and labour productivity – reveal little change in the structure and productivity of Nepal's agriculture in recent decades. The composition of trade also indicates little progress in improving competitiveness and moving up the value chain.

5.3.1 Agriculture GDP

Figure 14 shows annual agricultural growth rates since 1968. The lines in the figure below show the annual growth rate. The bars are five year average growth rates. Agricultural GDP (AGDP) has grown slowly and erratically. Since a high percentage of cereal crops are rain-fed, growth is dependent on weather conditions (ADB 2013b). Although the shift towards other crops and an expansion of irrigation infrastructure in recent years has reduced volatility, weather is still a

major factor and agricultural growth rates continue to vary considerably between years.[30]

Figure 14: Agricultural growth rates, 1968-2012



Source: Author's analysis of WDI (2012) data of annual agriculture growth rates (agricultural value added).

Comparisons of Nepal's historic agricultural growth rate with neighbouring countries give mixed messages of its overall performance. The average growth rate of 2.58 percent from 1970 – 2010 places Nepal near or above neighbours Bangladesh and India but below the average for Asia (ADB 2013c).

5.3.2 Yields

Because cereals account for a high share of AGDP, the performance of cereals is closely related to the overall agricultural sector performance. Yields in all cereal crops are poor by regional standards, although not significantly lower than those in the Indian states that border Nepal and share its agro-climatic conditions. Table 9 presents yields of major cereal crops in Nepal compared to other South Asian countries.

Table 9: Crop yields in Nepal, 2008

Crop	Yield (kg/ha) in Nepal	Yield (kg/ha) in comparator countries
Paddy	2700	2800 (bordering Indian states); 4000 (Bangladesh)
Wheat	2150	2562 (Pakistan); 2710 (India)
Maize	2100	2190 (India); 5770 (Bangladesh)

Source: IFPRI (2010) using on FAO data.

The table suggests there is scope for improving yields in all major crops. For instance, rice yields have potential to rise by fivefold (DFRS 1999 cited in GoN 2013d). Similarly yields in other major products including buffalo milk, fish and vegetables have potential for significant improvement (GoN 2013d and FAO

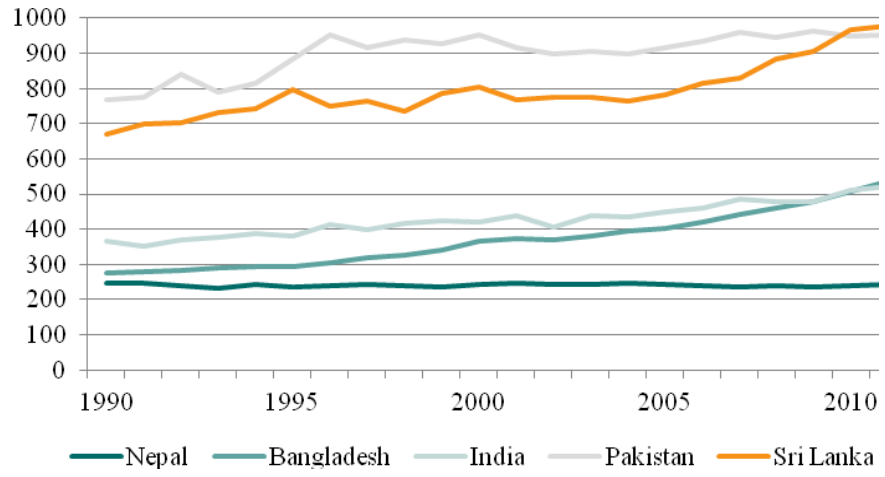
[30] Growth rates in recent years have been higher than the long-term average. From 2008-2012, the growth rate did not fall below 2% in any one year, and 4.1% five-year average is the highest since the 1960s. However, the low growth rate of 1.3% in FY2012 demonstrates continued vulnerability to poor rains. Political factors have also had an impact on agriculture growth rates.

2011). Although production of higher value vegetables has expanded, growth has come from expanding the cultivated area rather than improved yields.[31]

5.3.3 Labour productivity

Despite positive growth rates, labour productivity has been stagnant[32] (see Figure 15). This is partly because of high population growth, but also highlights the continued subsistence-oriented nature of many farming households, where food is largely produced for own consumption. Labour productivity in agriculture is around one quarter of the productivity in the rest of the economy (GoN 2013d).

Figure 15: Productivity per agricultural worker, 1990-2010



Source: MCC (2013) analysis of FAO data.

5.3.4 High value goods and exports

Finally, poor performance is reflected in trade composition. Nepal currently exports low volumes of high value-added agricultural goods. Major exports to India, its major trading partner, include lentils, ginger, other spices and soft drinks. For example, although ginger has potential as a lucrative export crop and Nepal is the 3rd largest exporter of ginger, the price received for Nepali ginger on world markets is much lower than for ginger from other countries[33]. While much of Nepal's agriculture output is organic, high costs and weak systems of organic certification has meant that it has been unable to benefit from price premiums in local or international markets. More importantly, absence of storing and processing facilities means that Nepal exports raw ginger and imports processed ginger at a much higher cost[34], an example of Nepal's weak productive capacity to add value to primary agricultural products destined for export markets.

5.4 Identifying constraints

This section discusses constraints to adding value to agricultural production. They are analysed separately as constraints to raising yields (Section 5.4.1) and

[31] Products that have seen strong yield increases (e.g. cow milk) are exceptions.
[32] MCC (2013) and others caution that estimates may over-count of the rural population's involvement in agriculture (i.e. the number of agricultural workers), resulting in such a low value.
[33] See: http://www.usaid.gov/nepal/videos/usaid-neat-contract-farming
[34] See: http://www.karobardaily.com/news/2014/01/import-price-of-ginger-double-of-export-price

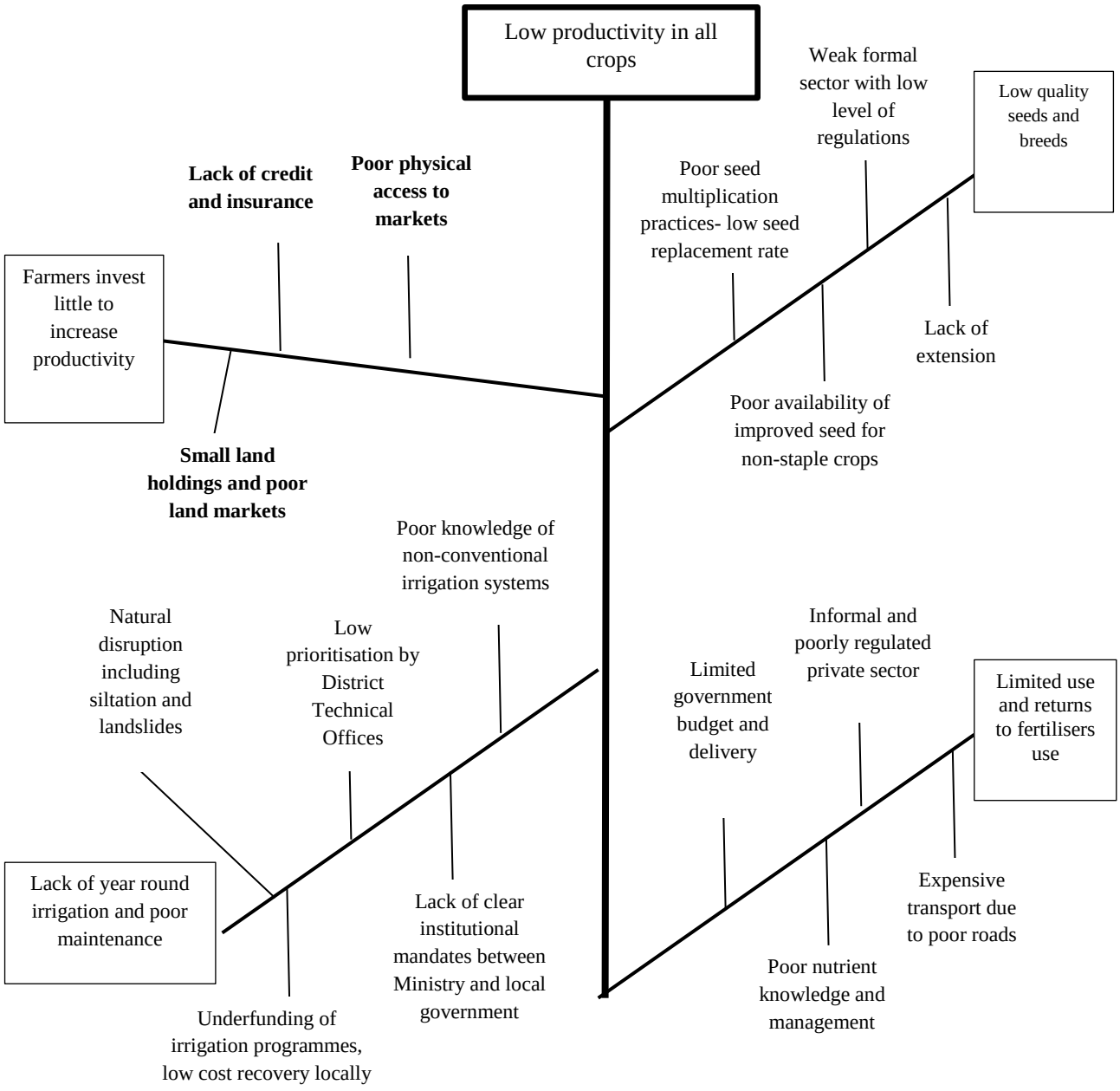
constraints to entering into higher value markets (Section 5.4.).[35] Underlying problems in policy coordination are discussed in section 5.4.3.

Some of the constraints faced by Nepal's agricultural sector are highlighted by top level analysis as common to other sectors (for example, investment climate, access to electricity). Addressing these constraints will have positive spill overs in agriculture. Others, such as extending irrigation infrastructure are specific to agriculture. The limited development of rural roads is an important common constraint underpinning many of the difficulties in achieving higher yields and raising the value of agriculture produce. This is addressed at the end of the section on constraints to raising yields.[36]

[35] Although not perfect because of overlaps, this framework covers the major constraints identified in the literature.

[36] Although not all constraints affect subsectors in equal measure, they have broad application to the majority of agricultural enterprises and households. Relevance of each constraint to subsectors differs, depending on production system requirements, production model and sector organisation. For instance, limited irrigation is more relevant to productivity gains (yields) in rice than in wheat production, and is unlikely to be a strong constraint to the dairy sector.

Figure 16: Problem tree for low yields



5.4.1 Constraints to raising yields

A confined irrigated area, leading to a continued high dependence on rain-fed agriculture

Despite Nepal's abundant water availability, infrastructure to transport and regulate water supply remains under-developed. Although 42 percent of Nepal's irrigable land has some irrigation, only 17percent of this has access to year-round irrigation (Raut and Situala 2012). Only 300,000 hectares of 1.28 million are irrigated in the winter and 150,000 hectares in the spring, which is when the main benefits of irrigation are felt (GoN 2013d). Lack of access to irrigation is perceived by farmers to be a major constraint; a 2001 study found 51 percent of farmers stated their lack of irrigation was the most important issue, above access to all other inputs (ADB 2009).

The cost of expanding irrigation infrastructure is partly responsible for the slow development; the estimated cost to irrigate large schemes is between US$2900-3700/ha, and $850-4300/ha for small schemes in hill areas (Pannikar in ADB 2009). But beyond this, disagreement on how projects are designed and funded has prevented timely project completion. Although most irrigation schemes in Nepal are "farmer-managed", few of these function well and many require rehabilitation. Responsibilities of user associations are often inadequately stipulated from the outset, and are unable to collect fees from users. While many schemes are meant to be jointly designed by user associations and irrigation agencies, in fact this only occasionally occurs[37].

Decentralisation has blurred lines of responsibilities for repairing and building new infrastructure between government agencies. Previous policies sought to place irrigation responsibilities in the hands of the Ministry of Irrigation and water user groups; however, the Local Self Government Act places responsibility with District Development Committees and Village Development Committees. Many of the challenges that affect the government provision of irrigation are political and institutional, and common to all development projects (Clement, Banset *et. al.* 2012). Another commonly cited problem is the "dependency syndrome" where local authorities do not fund irrigation improvements because of a history of Ministry of Irrigation intervention. At the same time, the Ministry of Irrigation projects and services are unable to charge service fees to recover costs (personal communication, Ministry of Irrigation). Free provision of some services but not others (e.g. digging shallow tube wells) means beneficiaries prefer to construct a new well rather than rehabilitate existing ones. Attempts to pass over responsibility of irrigation schemes to local water groups, and thus increase incentives for water users to pay, are hampered by low capacity and political interference, as politicians vie to promote NGOs affiliated with political parties to custodian roles.

Finally centralised decision-making in the Ministry of Irrigation led to a bias for building large, expensive surface irrigation schemes that mainly benefited the *Terai* at the expense of cheaper non-conventional irrigation schemes more appropriate to irrigation in hill regions.[38]

[37] See: Interview with Kenichi Yokoyama, Country Director of the Nepal Resident Mission of the Asian Development Bank, December 2012. Available at: http://www.new businessage.com /Interview/770

[38] Irrigating *Terai* and hill zones of Nepal requires different technology. Surface irrigation and tube well systems are appropriate in the *Terai*. Non-conventional irrigation (NCI) – gravity piped, water harvesting and small scale pump systems using drip or sprinkler systems—is more appropriate in the hills. Each system requires complementary inputs (electricity, fuel) and institutions.

Poor access to, and use of, fertilisers

Despite implementing a fertiliser subsidy scheme since 2009, farmers face difficulties procuring and using optimal levels of fertiliser. Although the subsidy policy is mainly targeted at poorer households, it in effect positions the government as the main fertiliser supplier and crowds out private traders, who do not supply sufficient quantities to non-poor households. While fertiliser subsidies increased availability and use in some areas, the low budget for fertiliser expenditure by government means the subsidy programme can only provide a small portion of national requirements (Raut and Situala 2012). Moreover postponed procurement caused by delays in approving the budget means fertilisers do not reach farmers in time for planting (ibid 2012). Consequently fertilisers smuggled from India fulfil upto 80percent of demand (USAID 2012). As farmers cannot assess the quality of these fertilisers, and there is no effective system in place to regulate fertiliser quality, trade in outdated and adulterated fertilisers is common (IRIN 2012). In addition to inadequate state supply, coordination problems affect distribution of subsidised fertilisers to poor farmers targeted by the programme (Shreshta 2010).

The need for farmers to produce proof of land ownership to benefit from subsidies potentially disadvantages tenant farmers (Raut and Situala 2012). As distribution outlets are not well represented across the country, farmers have to travel long distances to reach these. The weak agricultural extension system means farmers do not have access to guidance on applying fertiliser in line with soil fertility needs leading to poor fertiliser practice (USAID 2012; Raut and Situala 2012).

Gaps in research and public extension systems for supplying seeds and breeds

Low investment in R&D and poor responsiveness of agricultural research institutions to farmers' needs are partly responsible for the low availability of high quality seeds, the low seed replacement rate, and low uptake of other technology. Investment in agricultural research in Nepal is less than 0.4 percent of agricultural GDP, which is lower than the internationally recommended 1 percent. Moreover, budgets for research have also declined in recent years (IFPRI 2012). The main research institution, the National Agricultural Research Council, prioritised research on seed for staple crops suited to irrigated conditions, at the expense of developing varieties for non-irrigated conditions, and crops more commonly grown in hills and mountainous areas. The concentration of agricultural research centres in the *Terai* and a lack of focus on different agro-ecological environments have led to poor transfer of technologies to many non-*Terai* farmers (IFPRI 2012). A process to decentralise agricultural research has not been completed, leaving extension mandates and management split between the Ministry of Agriculture and Ministry of Local Development (GoN 2013d).

Reviews have identified a need for more research in several areas. Plant nutrient assessments indicate that support for and farmer knowledge of, nutrient requirements for crops are poor (USAID 2012). For example lime application levels are much lower than the optimum, resulting in losses of productivity of up to 50percent in some soils. Improving soil testing and providing appropriate nutrients blends is likely to improve productivity but current services for soil analysis and response perform poorly. Recent research reveals that the NARC and District Agriculture Development Offices are unable to provide timely soil testing services (Raut and Situala 2012). Agricultural machinery is not standardised, and poor quality of design prevents households purchasing machines (IFPRI 2012).

Sources of information on agricultural techniques and products are thin in many districts and farmers have limited contact with extension workers. This is particularly the case for hill areas, as 90percent of private input suppliers who also provide agronomic advice (agrovets) operate in the *Terai* (IFPRI 2012).

Agricultural Service Centres and Sub-Service Centres within the District Agricultural Development Offices house government technicians who are meant to provide service on demand. However, there is weak service provision at these centres due to a lack of accountability and poor monitoring of technician's work (GoN 2013d). Also, devolution has not extended past the district level due to reluctance within the Departments of Agriculture and Livestock Services to transfer functions to district level bodies (GoN 2013d).

Other barriers to investment

The following constraint farmers' willingness or ability to invest: poor roads, lack of credit and insurance markets and small and dispersed landholdings and poor land markets.

***Poor roads**:* Nepal's limited road network effectively excludes many farmers from markets, limiting their incentives to invest and raise production. Road density in rural areas is low at 0.8 km per 1,000 people, which is one of the lowest in the world (World Bank 2013a).[39] As 90percent of these roads are concentrated in the Terai, two-thirds of rural residents' lives at least two hours walk from the nearest all-season road.

Constraints to building roads in rural areas include; incentives that favour opening new roads instead of completing well-engineered roads, poor road classifications and monitoring systems, overlap institutional mandates between central and local road building agencies and political interference (GoN 2013d). These constraints are analysed in several studies including the 2012 Road Sector Assessment Study (World Bank 2012a) and are not explored further here. Overcoming these issues, to improve year round access to input and output markets is likely to improve linkages between rural and urban areas and therefore connectivity to markets.

Lack of credit and insurance markets: It is unclear how important access to finance is for encouraging firms and households to make productive investments; neither the 2009 constraints to growth analysis (ADB 2009) nor the 2012 Nepal Investment Climate Assessment (World Bank 2012c) found it to be major constraints to businesses and households. This is partly because firms did not prioritise expansion in the unstable political climate (World Bank 2012b). For rural households, the many microfinance institutions and cooperatives that provide savings and loans on a short term basis may meet most demand for consumption and small, short-term investments. However, as the rest of the investment climate improves with greater political stability, it is likely that demand for loans will grow and unless costs of borrowing reduce and banks expand their rural branches, this may become a more important constraint.

The lack of an insurance market is another potential constraint to expanding investments. Although most widespread in the livestock sector, insurance coverage is still low at 0.1percent of the national herd in 2009 (World Bank 2009). Crop insurance is provided mainly through cooperatives and microfinance institutes, either through credit guarantee or mutual insurance schemes. These have had some success, but offer limited products and operate outside the legal framework of Insurance Law[40]. Commercial re-insurers are therefore reluctant to cover these policies (Mahul 2009). This lack of re-insurance means agricultural insurers are vulnerable to high losses if hit by multiple shocks.

[39] Figures from World Bank Enterprise Survey 2011.

[40] "named-peril" insurance being the main form of insurance for crops, and accident & mortality and livestock credit guarantee insurance the products available for livestock (FAO 2011). These include the Small Farmer Cooperative Limited Scheme (SFCL) and the Community Livestock Development Programme

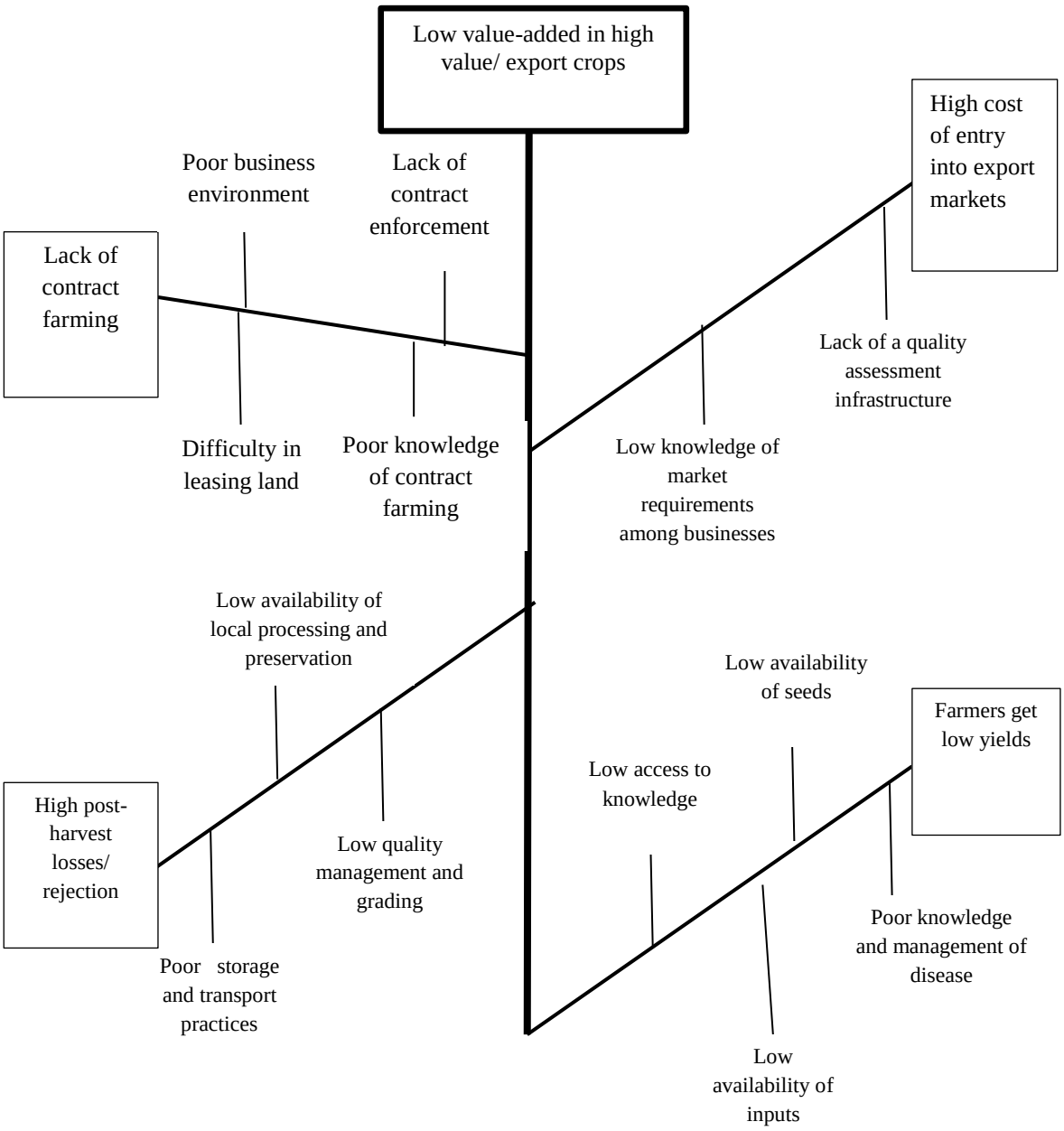
The lack of re-insurance is also likely to be a major barrier for expansion of mutual insurance schemes to cover more farmers (World Bank 2009; FAO 2011). The GoN introduced crop insurance law in 2009, and since 2013 has mandated all non-life insurance companies to offer crop and livestock insurance for rice, vegetables, potatoes, fruits, livestock and poultry with premiums set at 5percent of the amount insured (GoN 2010b). Despite government directives instructing insurers to provide coverage of smallholder farmers, it is unclear if this will be successful. High transaction costs involved in insuring small plots means extending coverage to smallholder farmers is unattractive, and lack of data on production and loss, disaggregated to district levels for crops and livestock means private insurers cannot calculate risks easily.

***Small and dispersed landholdings and poor land markets**:* Land is both a critical asset to poor rural households, and can theoretically be used as a channel to increase income and reduce poverty by increasing returns to agriculture through land improvements (irrigation, preventing soil erosion), or diversifying livelihoods by leasing, mortgaging or selling land. However, small and scattered plots prevent land users from either investing in agricultural improvements or being able to secure mortgages from banks. There is also some anecdotal evidence that households leave land fallow or build houses rather than lease it out. This is because of the political instability and poor legal protection for landlords in recent history: land issues came to a fore during the conflict when coercive land redistribution through informal channels was common (CSRC 2012).

5.4.2 Constraints to entering higher value markets

Several additional constraints limit Nepali farmers' ability to enter higher value agricultural markets. While the issues constraining high yields discussed above are relevant to higher value crops, several other constraints are pervasive, including an absence or poor enforcement of quality standards, high post-harvest losses owing to poor storage and long transportation, and a poor framework for contract farming, which can reduce the higher risks farmers take in producing higher value products.

Figure 17: Problem tree for low value added in high value/export crop



High post-harvest losses. Lack of quality management systems that incentivise and monitor quality improvements at the farm gate result in high rates of product rejection and low prices for high value products (see Box 1 for the ginger subsector). The lack of storage facilities means farmers need to sell goods immediately and have limited bargaining power. Similarly, lack of local processing facilities limit the potential to realise value from product processing. The lack of roads and poor transport is felt here through high losses of goods during transportation: losses in value during transport are higher for Nepali exporters than counterparts both in South Asia and the developing world (World Bank 2013a).

High entry cost into export markets. Nepali firms struggle to meet import quality requirements of foreign markets and the high costs associated with certification. Gaps exist in domestic legislation on food standards and quality and Nepal lacks agreements on the application of Non-Tariff Barriers for agricultural products with key trading partners (GoN 2013d). Although some important national standards have been introduced on phytosanitary measures and food testing laboratories that meet international certification requirements, there are still significant gaps where standards do not exist (Chemonics 2013). Goods destined for European and Japanese markets have to rely on certification provided by accredited private foreign certification bodies. A World Bank project has supported the Department of Food Technology and Quality Control to finalise laboratory accreditation procedures in 2013 but there are significant challenges to building capacity for service delivery (World Bank PACT). While there is broad recognition of the need to promote trade in key agricultural products, there are policy inconsistencies. For instance, some products promoted on the 2009 National Trade Policy were not included in the 2010 National Trade Integration Strategy. Also, while the 2004 National Agricultural Policy promoted import-substitution, this was not reflected in subsequent trade policies.

Poor market institutions and weak business skills of firms. Market infrastructure for both input and output markets is often perceived to be weak, especially for non-staple crops (NMDP 2013). The state of physical services (for example, storage, market places) and market institutions limit the expansion of commercial activity. For example, lack of enforceability of contracts and lengthy resolution of disputes present barriers to the development of contract farming (USAID 2012). Similarly, although competition laws exist up until 2012 missing enforcement guidelines constrained the application of laws. There are no minimum requirements for contracts, potentially leading to exploitative arrangements for sellers, and unacceptable risks for buyers.

Business knowledge among agribusinesses is low. A 2004 study found many businesses did not grow past a micro stage as they lack the means and knowledge to expand into new markets (Helvetas 2004 cited in World Bank 2013b). A study of 110 small businesses found gaps in capacity, inability to access market information, adjust business plans, and poor financial management skills. These were the main reasons firms failed in the first few years of establishment. These services are generally not provided by the market, due to limited availability of expertise and low understanding of the need for these services (World Bank 2013b).

Constraints to the ginger subsector

Nepal is the fourth largest ginger producer globally. Production is suited to Nepal's agro-climatic conditions, especially in the Eastern part of the country that borders its biggest market, India. It also has potential for growth through multiple pathways including better yields, fewer losses to disease, expanded penetration of existing and new overseas markets and achieving higher value within these markets by improving quality.

This potential has been recognised by the GoN through its inclusion in the list of priority products in the National Trade Integration Strategy (GoN 2010a). Opportunities exist both to increase value in conventional markets and in organic markets which Nepali ginger should in theory face low thresholds in accessing due to low use of agrochemicals. At present 99 percent of ginger is exported to India, and prices in India determine prices paid to Nepali suppliers.

However the ginger supply chain faces several constraints in production and marketing:

Production: Problems exist in the supply of good quality seed and plant protection measures, which limit potential yield gains. Diseases including rhizome rot disease are common, yet pesticide dealers do not stock and are unaware of measures to deal with this. Lack of knowledge of, and access to, improved seeds means farmers use diseased materials from previous years reproducing the disease. Cultivation methods tend to rely on conventional systems and incur high unit production costs for fairly average yields.

Post production: Complaints of the lack of uniformity in the cleanliness and size and weight of Nepali ginger are common among traders (USAID 2012). Cleaning, sorting, grading and packaging are not common are not common among farmers or middlemen, limiting opportunities for quality premium. Only one facility for washing ginger, an important means to add value, operates in the country, resulting in Nepali ginger selling below Indian and Chinese products.

Transport: Costs associated with exporting ginger are high due to high transport costs and transit taxes. Transit costs are charged as goods pass through districts, and at the border for custom clearance. Poor roads in production areas raise the costs of transporting ginger to processing facilities.

Markets and trade: Most ginger is traded on spot markets. Buyers rarely offer contracts or advance payments to suppliers, and transactions go through agents who typically charge 6-7percent on prices as commission. Trust between actors is considered low, as suppliers complain of low prices and traders retort with complaints on quality. Several programmes run by the government with donor support have tackled issues in ginger supply chains in different parts of Nepal with some success. USAID NEAT's programme worked with value chains in eight central and Western districts to support value addition This facilitated contracting arrangements between a major buyer, Annapurna Organic Agriculture Industries, and 3000 ginger farmers.

Export barriers. Officially ginger exporters supplying to India (99 percent of total exports) need to get food safety analytical reports for export. As these are located in Indian cities, exporters incur high costs and time delays in receiving these. Other potential international markets (Japan, Malaysia, and Europe) have import requirements that most Nepali producers currently cannot meet, due to the lack of quality assurance mechanisms. Private organic certifiers operate but represent a small portion of the market.

Sources:

ANSAB. 2011. Value Chain/ Market Analysis of the Ginger sub-sector in Nepal. *Report prepared for USAID NEAT project.*
Chemonics. 2013. Nepal Economic, Agriculture and Trade (NEAT) Activity Final Report. *Report prepared for USAID*
Nepal Markets Development Programme (SAMARTH) website.

5.4.3 Ineffective coordination and policy implementation

The above issues are neither new nor unfamiliar to policy makers and development partners, but attempts to tackle them have met limited success within the context of political deadlock and weak governance characteristic of Nepal in recent decades. Consecutive government policies have recognised the need to shift away from subsistence agriculture to commercial agriculture and raise productivity. In 1995 the Agricultural Perspectives Plan created a plan of how to transform the nature of agriculture from a subsistence to a commercial within 20 years, and subsequent policies – the 2004 National Agricultural Policy, the periodic 5 year plans and interim 3 year plans – have echoed this message, emphasising spending to improve access to inputs including irrigation, fertilisers, technology, credit, roads and power (NAP 2004, GoN 2013d). These policies have also recognised the need to shift production to higher value products (livestock, high value crops, and forest products) and emphasise the role of the private sector and cooperatives in achieving this. Trade policies, including the 2009 Trade Policy and 2010 NTIS identify some common primary and processed products for export development, including tea, spices, ginger, essential oils and paper and wood products.[41]

However, implementation of these policies has been weak to date due to insufficient budgets and coordination (GoN 2013d). The impact of the civil war was severe in restricting the movement of goods and preventing spending of the development budget, but also weakening institutions in rural areas that oversee market functions. However other persistent factors including weak coordination between line ministries, between local and central government have also prevented policy implementation. These include institutional competition for mandates, and reluctance to devolve control of budget decisions and processes to local government institutions. Other issues identified include the weak use of evidence in policy-making, weak planning capacity at district levels and frequent staff changes (GoN 2013d).

5.5 Opportunities for transformation

This section briefly describes what opportunities the agriculture section holds for transforming the economy, and where efforts are likely to provide the highest returns. It also discusses on-going and planned measures to address these constraints, and suggests where additional support may lead to positive results.

5.5.1 How to transform the agriculture sector: international experience

Evidence from developing countries suggests that successful strategies for agricultural development require investments that target the broader rural economy, rather than agriculture *per se* (World Bank 2008, IFAD 2011, Wiggins and Keats 2013). Maintaining a rural investment climate that enables farmers to invest, access markets and keeps the cost of doing business low has been critical to agricultural growth of successful developing countries (see box on constraints to the ginger subsector above).

[41] Goods that Nepal can produce competitively have been identified by the 2009 Trade Policy and the NTIS 2010, and include tea, vegetable seeds, cardamom, ginger, coffee, lentils, honey, fresh vegetables, oranges, leather, flowers, herbs and oils, Nepali paper, wooden crafts and gems and stones.

This requires reducing risks of macro-economic shocks, minimising the tax burdens and protecting property rights. Secondly public provision of rural roads, electrification, and irrigation and research is necessary as the private sector does not provide these in sufficient quantities. Also providing and enforcing market regulations and institutions, and maintaining competition is necessary to reduce risks of investment for businesses. As described above, these are all areas where Nepal faces considerable challenges, and where social returns from investment are likely considerable.

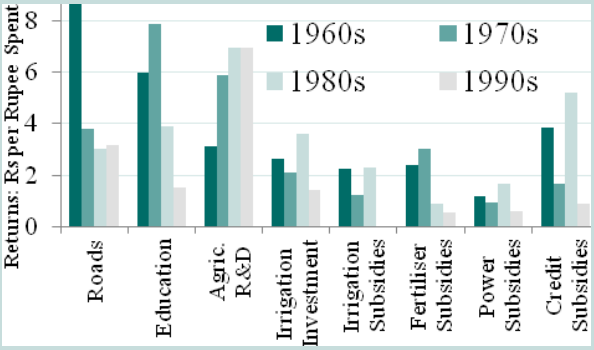
Conditions necessary for agricultural development

Cross country studies of agricultural development have identified common conditions that are needed to drive growth (Rodrik 2003, World Bank 2008). These include:

An investment climate that allows farmers and entrepreneurs to take manageable risks. This does not need to be perfect, but needs peace and security, macro-economic stability, stable exchange rates, protection of property rights and relatively predictable policy. Improving market institutions and legal norms to protect contractual arrangements, preventing adverse possession of property that been leased out, and establishing policy clarity for land reform are important changes needed to improve the rural investment climate.

Investments in rural public goods that improve connectivity and reduce transport and information costs also substantially reduce business costs. International experience indicates that of investments in public goods, investments in roads, education and research and development provide high social returns are early stages of development. Figure 18 shows this in India where investments in roads and education were highest in early stages of development, while agricultural R&D became more important in later years.

Figure 18: Returns to investments in agriculture in India 1960s-1990s



Source: Wiggins *et. al*. (2013) based on data in Fan *et. al*. (2004)

5.5.2 The Agricultural Development Strategy (ADS)

The Agriculture Development Strategy which has been drafted in the last year addresses in detail many of the challenges presented here. It recognises both the need for a fundamental change in how the government intervenes in the agriculture sector, and for greater investments in public goods. It is expected to be adopted in 2014. The strategy proposes major changes to the responsibilities of delivering services in agriculture, and the organisation of research. It explicitly recognises the need for improvement across four strategic components –governance, productivity, commercialisation and competitiveness – and, identifies 33 recommendations to achieve these.

The ADS also emphasises the need for decentralisation of decision-making and higher levels of funding to local government through community-managed

extension and district agriculture development committees. These recommendations at the general and activity level are well-founded and appropriate for meeting the challenges to increasing productivity and commercialisation.[42]

While the main changes in the ADS depend on political commitment by the government and political parties, DFID and other donors can provide support through funding infrastructure projects, discrete activities including restructuring existing institutions and strengthening the role of private sector activity in agriculture input and service provision.

The following areas are likely to improve the rural investment climate in the Nepal's context:

Rural roads: The need to expand and maintain Nepal's rural road network is well recognised in both government policy and donor programmes.[43] Road building projects in recent years have tripled the length of the road network (OPM 2012). The impact of road building on stimulating rural markets is well supported by evidence. Recent evidence from Dillion *et. al.* (2011) found strong support for the benefits of extending roads in Nepal: "Robust across different methodologies are the results that rural investments in roads have welfare-improving effects on households as measured by land values, consumption growth, poverty reduction, or agricultural income growth" (Dillion *et. al.* 2011: 30). Similarly, a recent study found that household agricultural output value increased by 0.25 percent for every 1percent reduction in travel time to the nearest road (Shreshta 2012). This confirms earlier research by Jacoby (2000) who found rural road construction lead to large welfare gains for rural households, partly through increasing returns to agriculture. Recommendations for making road building more effective are discussed in the World Bank's Road Sector Assessment Study and in the forthcoming MCC constraints analysis on the roads sector.

Irrigation: The draft ADS proposes some important changes to the organisation and focus of irrigation in Nepal to improve delivery and maintenance of irrigation. It discourages investments in new large surface irrigation schemes in the *Terai*, focusing instead on shallow and deep tube well systems that irrigate more, smaller areas. In hill areas, it encourages the uptake of non-conventional irrigation methods, emphasising the role of the private sector and NGOs in establishing these. It also recommends support for improving the capacity of water user groups to plan water use needs, and improve efficiency of water usage. Piloting company models, with water user group members represented on the board is suggested as a means to improve the financial sustainability of irrigation schemes, while retaining some user control. These proposals are likely to improve irrigation performance, but will require support both for the restructuring of government service delivery and to build capacity in the private sector so it can provide a wider range of services including construction and maintenance contracts.

Improving performance of market institutions: Improving the market environment to increase the use of and ability to rely on contracts is important for raising quality (trust and certainty) and value addition in production. Efforts to improve the market environment in recent years have resulted in the drafting of the Contract Farming Act (2012) which is currently awaiting passage by parliament. This includes provisions for simplified and faster dispute resolution mechanisms. Supporting the introduction of these institutional changes and their implementation

[42] A full review of the suitability of the proposed Agriculture Development Strategy is outside the scope of this report, but existing evidence and interviews with stakeholders supported the main recommendations of the report.
[43] The need to improve roads is recognised in the ADS, but not discussed in details as this is outside the remit of the Ministry of Agriculture. Large projects include DFID's Rural Access Programme and World Bank's Rural Access Improvement and Decentralisation Project.

through working closely with emerging companies is likely to improve competitiveness especially in the higher value chains such as ginger and vegetables. As well as working with government institutions, programmes that build capacity of market intermediaries to promote the development of market standards is necessary.

Improving access to fertilisers: Withdrawing fertiliser subsidies may hurt some farmers who are unable to pay market prices, but for most farmers, demand for fertiliser is price inelastic with them willing to pay more to receive good quality fertiliser (USAID 2012). As fertiliser subsidies are politically sensitive, their complete removal in the short term is highly unlikely, and adopting a longer term phasing out approach as suggested in the ADS is more likely to bring success (GoN 2013d). Given the size of the informal market, improving formal regulation of the market is likely to create a more balanced playing field for registered private suppliers to operate. Improving soil fertility testing to provide better advice on fertiliser application may also provide results, although the success of this approach will depend on how effective extension services are. Programmes that can strengthening regulation of fertiliser trade, distribution and bring use in line with recommendations based on soil analysis are likely to provide important benefits.

Improving land administration: Land governance and land reform have been long-stated government priorities. Amendments to the key piece of legislation – the 1964 Land Act – before and after the conflict have attempted to redistribute large landholdings and at the same time discourage subdivision of small plots, but have met with mixed success.[44] Recent and forthcoming changes in legislation, including the 2012 Land Use Policy and a Contract Farming Act aim to make it easier for farmers to rent land to commercial users, increasing the amount of land planted to crops. Supporting efforts to improve the functioning of land administration, with adequate safeguards, may alleviate fears related to adverse possession of land. The ADS suggests other changes to the organisation of land administration, including a new Land Management Office, Land Tribunals and new incentives and sanctions to limit subdivision and absenteeism. This will require significant political change and increased financing to achieve.

Improving access to financial services and insurance: Support to existing efforts to strengthen the presence of banks in rural areas, and to improve bank regulation will continue to be an important to ensure a balance between sustainable lending and maximising access to credit. As banks are less likely to lend to borrowers that do not have credit guarantees or crop and livestock insurance (GoN 2013d), broadening the availability and uptake of these products is likely to increase lending. Recommendations to improve insurance are listed in the 2009 World Bank Agricultural Insurance Feasibility Report (World Bank 2009). Some recommendations, like the subsidisation of premiums for poor farmers have been taken up by the government but others have yet to be implemented (The Himalayan 2013). These include increasing government regulation of insurance products offered by MFIs, extending government catastrophe re-insurance to these products. Also, because mutual insurance schemes hold out most promise for expanding insurance schemes, ensuring that these are recognised by legislation and can attract re-insurance, is necessary for reducing the risk of default. Funding commercial insurers to pilot new insurance products for specified crops, locations and risks may be successful, especially if this implemented in conjunction with agribusiness development.

[44] The Fourth Amendment (1997) that apportioned 50% of tenant cultivated land and gave this to the registered tenant had the adverse effect of dispossessing unregistered tenants of their land.

Research, development and extension services: The (GoN 2013d) promotes a change in the role of the public sector away from direct provision of knowledge extension towards greater facilitation of private and NGO extension, coupled with a more decentralised extension system at the Village Development Committee level, where 4,000 Community Agricultural Extension Service Centres are to be established (GoN 2013d). This is an ambitious programme that involves a step change and significant increase in budget from the current situation, and a redirection of resources to local government, NGOs and CSOs. A proposed voucher system for the procurement of extension services, if implemented, will require significant testing and evaluation. Continued support to NGOs and private sector is needed in the absence of effective government extension.

Export promotion infrastructure: Recent programmes have started to develop Nepal's laboratory infrastructure to raise quality standards and improve access to overseas markets. Supporting both legislative changes and training of quality inspection services is necessary that these services can meet demands of exporters, and meet quality standards in destination markets.

5.6 Programme options for agriculture

DFID is already funding several activities that support agricultural development. These address identified constraints, including lack of access to roads (Rural Access Project), access to finance (A2F), and access to market development in key value chains (NMDP). These projects appear to be highly relevant in addressing some of the main constraints: the NMDP programme's focus on market functions and fostering successful businesses is likely to tackle market problems faced in these already competitive sectors. Several points emerge from the analysis and review of the existing programmes, which provides guidance on where DFID could consider further interventions:

1. The recommended changes proposed by the ADS are well-supported by evidence, and, if implemented, are likely to improve productivity in the agriculture sector. Providing support to the government to implement the key recommendations including devolution to local government of key functions and supporting greater private sector involvement is likely to lead to better performance in the agriculture sector. However, given current proposed changes in the federal structure, it will be important to understand how the implementation of reforms proposed under the ADS are affected by this.

2. As there is good evidence both from Nepal and internationally of the transformative effects of building roads, there is a strong logic for continuing to support road delivery. The constraints to the delivery of rural roads are well documented, as are recommendations on how road building programmes can improve efficiency (World Bank 2012, PEI 2011) which may need to be incorporated into new and on-going programmes. Also, there is evidence of the need to supplement road building with investments and services to improve market institutions and business literacy of rural populations in road building areas. This approach, which is embedded in the current DFID RAP Phase III and some other donor-funded programmes, should be continued.

3. Fertiliser subsidies are a substantial disincentive for the private sector supplying inputs, but reforming subsidies is likely to be a long term endeavour that needs to be accompanied with measures to monitor and enforce quality standards in fertilisers. Supporting approaches to improve soil fertility management based on better soil information may be more successful than encouraging higher fertiliser applications alone. A programme that improves regulation of the fertiliser supply chain, including

better quality inspection at distribution points has the potential to improve the current situation.

4. On land, the Contract Farming Act, which is waiting enactment by parliament, includes provisions for strengthening guarantees for lessors of land. The Agricultural Development Strategy also identifies the need for a Land Lease Act. A programme that supports the implementation of these provisions will contribute to stimulating the land rental market. Besides this, funding more research to generate impartial evidence on contemporary land use, and providing policy advice and dissemination, may be an effective way of strengthening competing narratives on the need and benefits of further land reform.

5. Access to irrigation remains an important constraint and requires on-going attention. The role of the private sector in the provision of irrigation is increasingly recognised, in part because there are few remaining opportunities to expand large surface irrigation schemes. Supporting businesses and NGOs to supply construct and repair small-scale irrigation systems (for example, micro-irrigation technologies and water storage schemes) is likely to expand access to irrigation to more people at a lower cost, especially in hill areas. A programme that provides financing to enterprises and cooperatives through a challenge fund may be an effective way of improving irrigation in areas where it is commercially viable to do so. Supporting local government agencies and cooperatives to regulate private sector provision of services may also be important part of such a programme, if capacity to do so is weak.

6. There is evidence that both remittances and microcredit are available in many areas, but both are largely used for consumption rather than investment. However, there is some evidence that lack of finance is a constraint for commercial agricultural enterprises seeking to expand. DFID already has a rural finance programme assisting Rastra Bank to regulate microfinance institutions. Setting up a fund to provide finance for small to medium enterprises may help to overcome the funding constraints that firms face. Coordination with other donor funded activities such as the World Bank PACT project and ADB CADP project is recommended, as these are already providing these services. A gap analysis of the need and current supply of credit in different geographic region, and the sizes of loans that businesses need is recommended to ensure loans are tailored to the current needs of businesses.

7. Weaknesses exist in business skills among small and medium sized agribusinesses. Product development services for both nascent and developing agricultural businesses can help foster growth and overcome information gaps, especially for standardisation and access to foreign markets. Several donor-funded programmes, including the Nepal Market Development Programme have activities that provide mentoring and business development services to businesses. Most work on sector basis, and target micro-enterprises. A new Agribusiness Innovation Centre (AIC) is also under consideration targeting larger agribusiness,[45] which may provide useful support to this portion of the market. Carrying out an independent needs analysis of the type of support that Nepali agribusinesses need, and funding the AIC in line with identified needs is recommended.

8. Finally, there is a need for better data in the agriculture and rural sector, especially firm-level data on perceived constraints to growth. The recent competitiveness study (World Bank 2012) did not consider rural firms, and agribusinesses are not included in Enterprise Surveys of the IBRD. There is a lack of recent, comprehensive information on rural businesses across Nepal. An in-depth study on the state of the

[45] http://www.pact.gov.np/docs/publication/Agri-Business%20Innovation%20Center%20(AIC)%20Nepal%20Report.pdf

rural investment climate (for example, carried out by the World Bank ARD programme) is recommended.

The timing of activities will depend on on-going government and donor led efforts in the sector. The Agriculture Development Strategy, which will be formally launched in 2014, is expected to guide government efforts and coordinate implementation. A Trust Fund will be established, to finance flagship programmes (cross ministerial) and core programmes (individual ministries), which will also manage and monitor funds. Projects delivered through government should coordinate with ADS Implementation Commission, and DFID should consider waiting for further clarity on sequencing of ADS programmes before committing to programme establishment.

5.7 Programme options matrix for agriculture

Constraint	Programme idea and type of support	Target & impact	Working with and/or through	Niche / other donor work	Approach / theory of change	Comments and key questions
Poor connectivity in hill areas	Continued support to the Rural Access Project, and funding other road building	Reduced time for villages to access markets, reduced transport costs.	DoLIDAR, Department of Roads, District Development Committees District Technical Office VDCs.	Existing roads programmes under DoLIDAR		
Poor irrigation infrastructure upkeep and management	Challenge/ Innovation Fund: Irrigation component	Pilot business models to provide micro-irrigation/ FMIS technologies at scale to sell to water user groups/ individual farmers on a commercial basis.	Existing companies/ entrepreneurs, NGOs	Existing programmes among NGOs (IDE) and donors (USAID) for supporting micro-irrigation components	Provide seed funding for existing companies to invest in appropriate technologies to reduce cost of micro-irrigation systems, driving private sector irrigation provision	
	Piloting of farmer-owned companies to manage irrigation infrastructure on behalf of water user associations(under ADS)	Improve the management of irrigation schemes by water user associations. –raise the amount of service fees collected in line with delivery of improved irrigation service.	Ministry of Irrigation Management Division, select water users associations.		Piloting of forming water user-owned companies will provide options for creating professional and financially sustainable locally managed entities for managing irrigation.	

Lack of access to land	Providing analytical support to a future land commission to develop land policy; analytical support.	Improve evidence base for supporting legislative reforms in land sector.	Ministry of Lands			
Lack of access to finance/ lack of product development knowledge	Challenge/innovation fund: inputs component	Greater commercialisation of agriculture, establishing more agribusiness	FNCCI/ NIB	Existing commercial agriculture fund available through PACT, but on a smaller scale.	Uncertain policy environment for subsidised inputs disincentives risk-taking by PS. Variation in conditions makes single programme design complex. Challenge funds structure allows private sector players spotting market opportunities to access seed funds to explore these. Conditions on inclusion can be built in.	This could support innovations across inputs with some pre-established criteria. Marketing opportunities to returnee migrants may capitalise on potential entrepreneurs.
Challenges to agribusiness development	Delivery of business development services to micro-enterprises	Greater development of small businesses through small loans and business support (Market information systems)	Support to the next phase of the Commercial Agricultural Alliance?	Existing fund of the Commercial Agricultural Alliance, CADP	Micro-enterprises fund mini-projects to target weakest areas of production. Processing and distribution in value chains.	This is a fairly crowded sector, with recent and ongoing experience from the World Bank PACT project

	Deliver business development services to larger agribusinesses. Providing support to the Agribusiness Innovation Centre to support agri-entrepreneurs: Provide information and access to certification services Mentoring support and advice Helping businesses become finance-ready Brokering access to business support services (e.g. packing, retailing)	Higher number of agribusinesses growing beyond a micro-enterprise stage; placing higher orders from suppliers and employing more workers.	Existing micro-enterprise support programmes (PACT, MEDEP), industry associations and local organisations.	Ongoing programmes aimed at micro-enterprise development funded by the World Bank, ADB and DFID through NMDP. Previous attempted government-run incubator by Lotus partners (now defunct)	Support to agribusinesses leads to development past a micro stage. This leads to growth of number and size of companies. Greater demand for high quality produce has spill over learning effects on other operators.	This appears to be fit well within DFID's current project portfolio, complementing existing support to value chain entrepreneurs. A potential risk is the high dependence of AIC on good quality management and advice, esp. for advising on access to new markets (China) which would require close monitoring. Potential lower benefits to upstream producers.
Lack of good evidence on rural businesses perceptions of needs	Commission a Rural Investment Climate Survey among rural businesses.	Provide better information on what the main constraints rural businesses face in Nepal.	e.g. World Bank RICS programme (Agriculture and Rural Development Programme)	None		

6 Energy

Nepal is currently suffering from severe energy (especially electricity) supply constraints with negative knock-on effects on growth and on the wider economy. Investments in electricity generation and distribution are not keeping pace with growth and with household and commercial needs. Many enterprises and households need to rely on their own electricity generation (i.e. usually through private diesel generators) or, if they cannot afford it, must forgo its use.

The sections below run through the current energy situation in Nepal and then look at the constraints that are currently blocking growth in the energy sector. The results are based on stakeholder consultations carried out in the country and are focussed on what the underlying constraints are rather than the symptoms. The symptoms have been discussed in great detail elsewhere (for example, the ADB growth diagnostic of 2009) relating to not enough electricity power plants, not enough transmission lines, and the fact that many (rural) households are not connected to the electricity grid. What this section does, however, is try to look at the underlying issues that influence these constraints. These have been found to be:

- A lack of market information which distorts prices and incentives to invest in energy production.
- No government strategy for energy and its role in national growth over the medium and long term.
- Regulatory issues that undermine performance in the sector and do not clearly guide investments along the most efficient pathways.

The circular nature of these problems (that is, the fact that they are both interlinked and to some extent interdependent on one another) means that any solution needs to address all three major issues. This result in a package of programmes that try to improve information flows, provide a clear pathway to growth and redress regulatory barriers.

6.1 Evaluating performance

The energy situation in Nepal is dominated by severe shortages in the supply of electricity, affecting both households and the productive sector. In the latest World Bank Ease of Doing Business Study, Nepal is ranked 96th in terms of ease of access to electricity for companies operating in the country. The country is ranked 144th (out of 148) in terms of the quality of electricity supply in the 2013/14 WEF Global Competitiveness Index (WEF 2013). Both rankings highlight the fact that the country's energy sector is, in global terms, highly inefficient in its capacity to serve the country and is a major setback to Nepal's competitiveness at both the regional and global level.

Figure 19: Electricity production for Nepal GWh (2012)

Total	IPPs PPA	NEA Hydro	NEA Thermal	Imported (India)
4223	1175	2237	19	792

Source: NEA (2013).

Current maximum electricity production is about 4223 GWh (see Figure 19); whilst the maximum productive capacity is about 760 MW[46]. The majority of electricity is generated through hydro projects with a smaller percentage generated through thermal and/or fossil fuel power generators (see Figure 20).

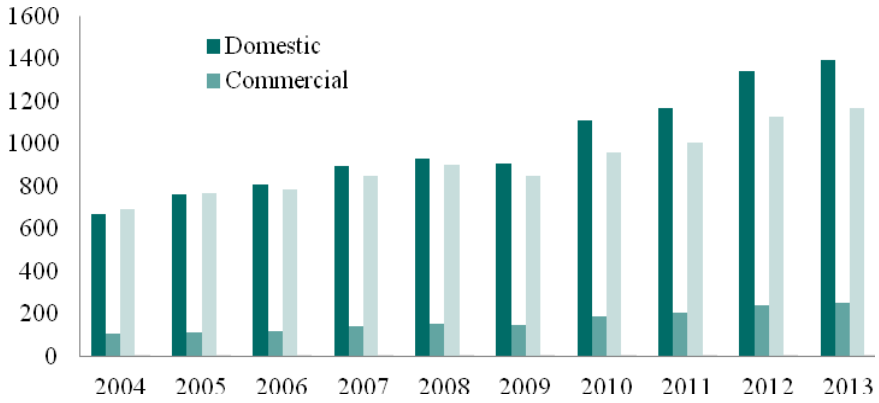
Figure 20: Electricity total availability MW (2012)

Total	Solar NEA	Hydro NEA	Small Hydro NEA	Hydro IPP	Thermal NEA
762.5	0.1	477.9	.5	230	54

Source: NEA (2013).

The dominant source of energy for households is fuel-wood (from forests), used by 64 percent of households for cooking, followed by kerosene which 18 percent of households use for of lighting (CBS, 2011a). In terms of grid supplied electricity, only around one third of households are connected to the national grid. The country's reliance on hydroelectricity means that Nepal has one of the lowest carbon emission energy systems in the world, hence one of the lowest carbon footprints. This means that if the country continues to follow its hydroelectricity power generation pathway, it may be able to completely decouple energy from fossil fuels and ensure long-term energy security and balance of payment stability – assuming the sector's constraints are resolved.

Figure 21: Electricity consumption by sector (GWh)



Source: NEA (2013).

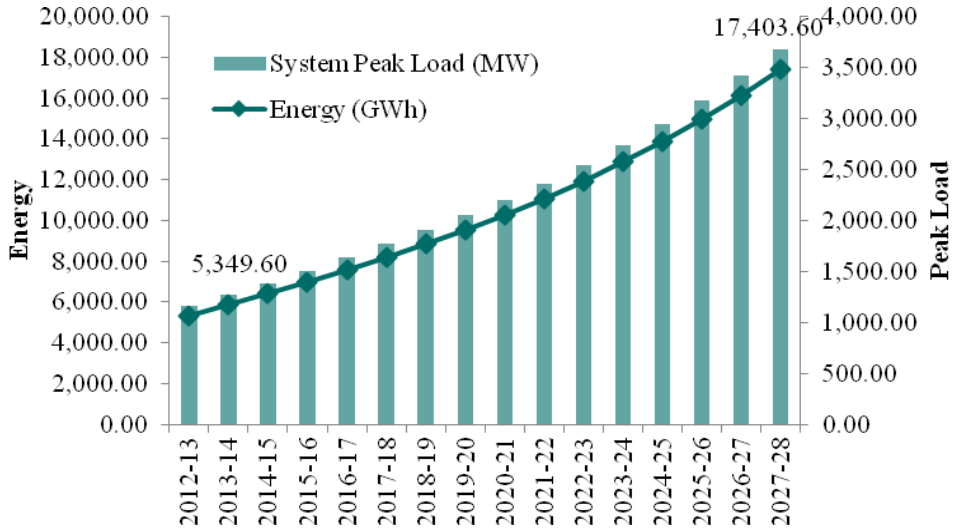
These constraints are currently causing negative economic impacts on enterprises (and thus on the competitiveness) in the country, which in turn negatively impact

[46] The first refers to annual electrical output whilst the second is a measure of productive capacity i.e. how much energy do electricity generators in the country produce.

growth in the long-term. This essentially means that Nepali companies are suffering competitiveness losses since they either have to replace 'lost' electricity from the grid with their own self-produced electricity or they have to cease (or cut back) production whilst under the influence of load shedding. According to research conducted by the CIG (2013) manufacturing companies are forced to rely on generators and invertors[47] in order to ensure a constant electricity supply and the lack of electricity has had a negative impact across industries of all size scales (Margon 2013).

According to the NEA, the peak load forecast for the next fifteen years shows an upwards trend, with load demand expected to triple between 2012 and 2028 (see Figure 22). The current NEA pipeline up to 2020 estimates that between 2,500 MW and 2,700 MW would be available by then, with peak load forecast at about 2,000 MW. This means that whilst there would be excess energy in the wet season (when the potential maximum could be reached) – during the dry season peak production would fall to about an estimated[48] 30 percent to 50 percent which means that even by 2020 the country's electricity demands would still not be met throughout the year. Looking at the current situation, there is currently a severe mismatch between the demand and supply of electricity in the country.

Figure 22: Electricity load forecast for Nepal



Source: NEA (2012).

6.1.1 The current policy process

The government sees the high in-country demands for energy, the increased attraction for the private sector to invest in hydropower and the potential to export surplus energy as a major opportunity for growth. The government's official energy strategy relies heavily on hydroelectricity stating that there is a high potential for its use. The hydroelectricity strategy should, in theory, be bolstered by the implementation of a new Electricity Act and National Electricity Regulation Commission Act, as well as by the introduction of a National Water Plan and the Water Resources Policy. However, political deadlock has so far stalled the implementation of these policies. The country's Nepal Trade Integration Strategy

[47] Such as electricity storage batteries.
[48] According to NEA discussions.

(NTIS) of 2010 recognises that there is potential for growth through hydroelectricity and acknowledges that the current legal framework to invest in hydroelectric power plants is not working and would require a total overhaul. The NTIS states that negotiations between public and private investors need to be simplified through a single-window system.

The country's NAPA acknowledges changes in the hydrological cycle of the country, as well as the potential impacts of climate change, and how these may negatively affect hydroelectric production. Nepal implemented its Water Resources Strategy (WRS) in 2002 and the National Water Plan (NWP) in 2005 which provide guidance on water management in the country, including hydroelectricity. On the other hand, the IAP states that hydroelectric power plants need to be constructed as soon as possible, but does not mandate any research into changing hydrological patterns. The TYP does however include mandates to make the construction of hydroelectric power plants as environmentally friendly as possible and that the recommendations of the WRS and the NWP are followed.

Micro and small hydroelectricity generation are also being considered, the IAP sees a potential generation of 4.5MW through these systems, but does not provide any concrete plan for their implementation. Similarly, for both solar power and biogas, the TYAP and the IAP see them as sources of energy at the domestic level and state that 65,000 households will receive solar power and 21,000 will receive biogas energy. But details on how this would happen are unavailable. Finally, the government also considers biofuels as a petrol substitute in both the TYP and the IAP but does not specify how investments should be carried out. These other sources of energy are not mentioned in the country's NAPA.

In theory, the country is set to continue its move towards increasing its hydroelectricity capacity, which would help lock the country into a green energy trajectory. However, the dire need for energy in the present may mean that in the short term fossil fuel solutions could be sought, to be superseded by hydroelectricity in the medium term. Low electricity price issues (due to government limits on electricity tariffs) are also limiting private investments into hydroelectricity; hence the government may wish to consider setting a new, higher energy price limit that could stimulate increased private sector participation. The introduction of feed-in-tariffs could also stimulate small scale use of renewable energy resources and help alleviate the energy crisis the country is currently facing.

6.2 Identifying constraints

The fact that Nepal is an energy constrained country is well-known, by both national and international stakeholders. The existence of a significant gap between electricity supply and demand is not a new issue in the country and has already attracted a significant amount of research. Known issues in energy generation include:

- The current lack of electricity supply which hovers around the 700MW mark (not including seasonal variations which reduce the total generative capacity during the country's dry season) against an estimated (year-round) demand of about 1400 MW.

- The fact that most generation projects are based on run-of-river systems which means that more energy is created during the four-month wet season than during the rest of year. In addition, generation capacity falls to about a third in the dry season if compared to peak generation in the wet season.

- Political instability means that required changes to policies and regulations may be held in deadlock within parliament for long periods of time, hindering the implementation of policies that could help resolve inefficiencies in the energy sector.

This section focusses on the issues that underline these constraints. The above constraints (barring political instability) are more akin to symptoms. They are the result of other, interconnected issues which essentially translate into:

- A lack of transmission lines that limit investments and the distribution of electricity in the country and regulatory inefficiencies and conflicts of interest in the NEA.

- Not enough market information on the costs of electricity, the capacity of people to pay for electricity and its demand. This means that subsidies are not applied efficiently, limiting infrastructure investment opportunities and the profitability of energy producers.

- No clear government strategy in regards to growth and energy's role, which means that investments are undertaken on an ad-hoc basis and means that the NEA constantly has to catch up with IPP producers and lock in PPAs that it cannot afford, reducing its monetary capacity and thus its investment capacity in infrastructure such as transmission lines.

- No streamlined regulatory systems. Currently the NEA acts as a procurer, distributor and generator of energy (placing it in competition with the IPPs it is meant to buy electricity from), which disincentives investments that may benefit its 'competitors'. It also means that IPPs are less secure and demand more cumbersome PPAs as a safety net – which reduces the NEAs profitability.

6.2.1 Infrastructure constraints

In terms of infrastructure, the main overt concern is the fact that there is not enough electricity being generated in the country, an issue that is also compounded by the fact that the last geographical and hydrological survey that could clearly assess hydro-electrical potential was carried out in 2004 and has not been updated since (according to the NEA). However, discussions with interviewed stakeholders have highlighted the fact that, at present, the major infrastructure concern has been the lack of transmission lines connecting energy producers to the distribution network. In effect, the transmission lines appear to be a pivot upon which construction of actual power generators seems to hinge on. The reality is that electricity power plants are often either not operational, or not constructed until there is a transmission power line in place. The negative knock-on effect can be represented, according to stakeholder interviews, as:

Essentially, the lack of a transmission line halts the whole energy generation process since it effectively provides negative financial confidence signals to any

financial institutions that may be backing the power generation project. For those projects that have the financial capacity to build their own transmission lines, there are provisions in place, by law, that allows them to self-construct and use their own transmission lines. For those that rely on an NEA guarantee to construct transmission lines, there seems to be a long time lag between the time the NEA has guaranteed a transmission line and the period within which it will actually be constructed. The NEA technically agrees to provide 5 percent recompense on all "forecasted" profits that are lost by the power generation company, but in the view of power generators, there has been no actual pay-out where this has occurred.

NEA's financial situation is a major constraint to the construction of all the transmission systems that the grid needs. NEA's accounts (2012) show a loss over the last 4 years. In 2012 its losses amounted to US$ 86.5 million, and even greater losses were recorded in the preceding years. Another potential issue and a common perception amongst stakeholders is the fact that the NEA is only constructing power lines where the NEA requires them. Liberalising the energy transmission sector could help resolve such issues in the long-term, but this should be a part of a wider reform of the NEA and of energy regulators in general.

The overall message is that electricity transmission line systems in Nepal are inadequate and do not reach all power producers. The regulatory systems inhibit the NEA from constructing transmission lines for other IPPs, and the lack of a national energy strategy means that transmission lines are being built on an ad-hoc basis, rather than following a long-term plan for growth.

6.2.2 Regulatory, market & government constraints

The business enabling environment includes a number of significant constraints to efficient energy generation. These constraints result in limits to effective business operations and the promulgation of uncertainties in the market which could further deter private sector investments, by IPPs in the Nepali Energy market. There are three main issues in the business environment that have been highlighted in the literature, as well as through consultations with in-country energy sector stakeholders. These can be broken down into the following:

- Regulatory constraints that limit efficient business operations
- Market information issues that do not provide a clear picture of real prices, supply or demand of energy
- Government vision of where the energy sector fits into the economy

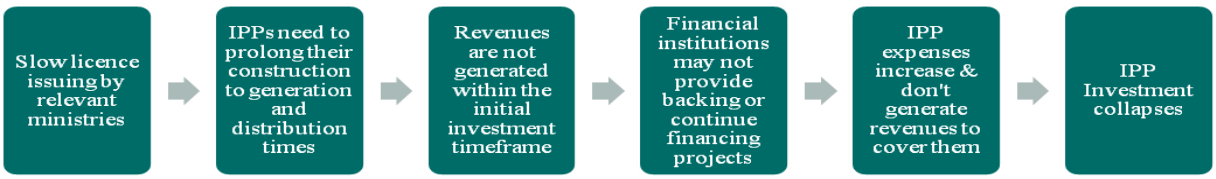
Regulatory constraints

In terms of regulatory constraints, there are two perspectives to the argument. The first is the regulatory system that governs the energy sector, and the second is the arbitration system that governs IPP interactions with local stakeholders (i.e. local landowners or communities).

The first regulatory issue is the perceived lack of support for energy projects below 500 MW. Those projects that are classified as above 500 MW benefit from streamlining effects that the Nepal Investment Board (NIB) brings to the process[49]. Smaller scale IPPs that do not benefit from NIB fast tracking and they see the license system as slow, potentially hindering the swift and profitable construction or operation of power generation plants. The flow chart below highlights how

[49] For instance, setting up a clear Project Development Agreement or facilitating the acquisition of licenses through NIB's legal mandate to coerce line ministries to fast track any licensing procedures that are required in order to bring an IPP project to completion.

interviewed IPPs perceive slow-downs in the license systems and their impacts on IPP investments in energy generation:



There is no cross collaboration between the different agencies that are responsible for issuing all the various licenses required to generate and distribute energy in Nepal. Licenses required can range from visa requirements, to approvals to deforest particular areas, as well as approvals of environmental impact assessments. Related to the slow licensing system is the fact that smaller IPPs may not benefit from PDAs as much as larger energy producers. According to the Centre for Inclusive Growth, PDAs are a method to ensure financing of the energy projects as they provide a set of guarantees that the finance institutions can use to "secure" their investments. Smaller producers find the PDA process time-consuming and do not have the collaboration of the NIB to help them smooth over the PDA drafting process.

The second regulatory issue is the fact that there are also perceived issues in the Power Purchase Agreements (PPAs), namely that the price offered by the NEA is too low to make investments worthwhile. However, the fact that the NEA has managed to secure a large number of PPAs indicates that this may not be a determining issue in securing energy in the country. The fact that the NEA has a PPA pipeline of around 1800 MW to 2000 MW of additional energy capacity planned by 2018 may indicate that there are enough IPPs who are happy with the current process. The real constraint could be the fact that the NEA is not generating enough revenues to meet its financial obligations, and potentially excessive amounts of money are being spent subsiding energy tariffs at an unsustainable price – all of which lead to reduced revenues from NEA operations.

This is exacerbated by the fact that the NEA has to negotiate for PPA prices[50] with IPPs that want front loaded purchase rates (i.e. higher at the beginning of the contract) in order to recover their investments and reduce uncertainty. Current PPA practices allow for a 5 percent in rates for 5 years followed by a flat rate for 25 years. The IPPs see this as a high risk since PPAs are signed before production even begins and it may be take at least 2 to 3 years before IPPs can sell their electricity to the market, mainly due to a lack of transmission lines in the system. The overall effect is that IPPs seek to reinforce PPAs in their favour, whilst the NEA sees more cumbersome PPAs as a disincentive to buy more power from IPPs. Essentially, the NEA is now in a position where it no longer seeks to sign up new PPAs since any additional PPA might result in a loss[51]; whilst IPPs are reluctant to invest in new energy since are not guaranteed sufficiently quick access to markets.

A third factor is that there is also a land-use-arbitration issue. Stakeholder consultations in Kathmandu have highlighted the fact that negotiations, to

[50] Only projects under 25MW have a fixed PPA price
[51] The issue is also further complicated by the fact that the NEAs obligation to pay for profit losses if transmission lines are not set up.

compensate indigenous or local people, are too skewed towards local people[52]. Stakeholder consultations did not, however, extend to discussions with community groups that were actively engaged in land use negotiations; hence their perspectives on the issue could not be properly represented.

The ILO 169 convention

The ILO 169 convention recognises that indigenous and tribal people are likely to be discriminated against. Amongst the various articles of the convention that are aimed at allowing indigenous people to be fully recognised by relevant national laws, the 4th article is the most relevant to this particular discussion since it calls for the adoption of special measures (by signatories) aimed at safeguarding land use rights, allowing the proper consultation and participation of local communities in relevant discussions as well as safeguarding the property of the people in question. What this essentially means is that any negotiation involving the use of 'indigenous' land in Nepal is protected by the ILO 169 convention.

Source: ILO (2013).

Stakeholder consultations have suggested that the private sector needs to accept all demands made by local stakeholders in order to proceed with power investments – which affect both power generation and power transmission projects – and potentially either cause higher production costs (if demands are being met) or can be met by severe blocks to investments if demands are not met (i.e. localized worker strikes or blocks to construction operations). However, the reality may not be properly represented as the power divide between local communities, the government and private sector IPPs is not well documented. Stakeholder interviews have highlighted the fact that whilst there is a Compensation Fixation Committee in place (which helps determine the amount of compensation that land owners should receive when the government buys land from them[53]) such provisions are geared towards people selling their land – whilst the majority of negotiation issues are occurring in terms of land use compensation[54].

Government vision constraints

Political instability, though often cited as a major constraint to growth, is not seen a real issue by foreign investors, who are more concerned with the rules and regulations that define the energy sector. The crux of the matter, however, is that any changes in regulations need to be approved at the parliamentary level, which has been in a considerable period of political deadlock. This has effectively meant that there have not been any changes to the energy regulatory system.

There is also a problem of lack of communication between government ministries. The lack of communication also spills into the planning systems at play in the country. For example, the NEA is adamant that their growth strategy is only based solely on their needs and requirements; on the other hand, the Ministry of Energy is also convinced that NEAs strategy is synonymous with a national development plan for energy (which the NEA denies).

The question then becomes: why is there no government energy strategy? The government sees the NEA's strategy as the *national* strategy but the NEA disagrees with this point of view. The fact that the government holds such an opinion may be

[52] There is no clear system that governs how power producers negotiate with local communities in regards to land use agreements and settlement rights

[53] Following the Land Acquisition Act of 1977 and the Land Acquisition Guidelines of 1993.

[54] Negotiating the use, rather than the acquisition of the land, which is less regulated.

a contributing factor in why it has not formulated its own independent strategy. The deeper issue is that there may be power plays between the Ministry of Energy and the NEA in terms of the government's control of the NEA. In stating that the NEA's energy strategy is solely their own, the NEA is effectively acting as an independent enterprise – potentially reducing government control over its commercial operations and leaving more space for its employees to act upon their own interests – but still depending on government finances in order to meet its revenue shortfalls. On the other hand, the government may be using the fact that the NEA already has an energy strategy in order to avoid developing its own strategy and thus potentially stir up political unrest as different factions may view energy priorities differently in terms of prioritising social groups, economic sectors or geographical regions. The lack of stability in government has also undermined the political processes required to carry a long-term growth vision whilst the constant high-level turnover in government ministries means that there has not been enough time for individuals (such as Energy ministers) to promote a long-term energy strategy.

One of the key factors that contribute to a lack of communication is the fact that there is no pervasive government "vision", that is, there is no long term cross-sectoral development master plan for the country. This means that expansion in the energy sector is not closely tied to any overarching government priorities in terms of what sectors the government is looking to promote in the country. Figure 22 below shows how a lack of a clear vision can hinder the effective supply of electricity at the national level if it is not tailored to meet sectoral needs in the long term:

Figure 23: License system impacts on IPP investments

Another symptom of this lack of vision is the dual role of the NEA, as it acts as both a buyer and generator of energy in the country[55]. As the NEA produces and sells its own electricity but also buys electricity form IPP's there may be disincentives for it to prioritise activities that may benefit its competitors. This could suggest that transmission lines for competitors are not prioritized, or it could also mean that contractual agreements are not moved forward unless the NEA's electricity supply needs are met. An overarching regulator or regulatory framework could assign roles and responsibilities of generation, transmission and distribution. However, this would require an overall strategy for the energy sector. Reforms to the NEA would be highly contentious and hence would require broad political support in order to be fully effective.

6.2.3 Market information constraints

Another major set of business related constraints are those that occur as a result of market information failures. The Nepali energy system is not set up in such a way as to promote the efficient use or collection of relevant market data that would assist in making informed and logical decisions. Market information is incomplete

[55] It is essentially providing competition against IPPs from which it also buys energy – a potential conflict of interest which leads to inefficiencies in the market.

since there is no real understanding of what are the real costs of electricity in Nepal. The higher cost of private diesel generators are not taken into account when factoring the real cost of electricity in the country – this effectively means that price thresholds may be set by the Tariff Regulatory Commission is not the price that consumers are actually paying. Better knowledge of real prices could help to determine what the actual cost of electricity is (for users) and what a more sustainable tariff could be – which in turn could help focus subsidies on the poorest energy users rather than covering the country as a whole.

This could be a politically painful process since it could potentially lead to increased strikes in the country; hence any such studies need to be made publicly available, disseminated in simple language and through mass communication means and needs to be coupled with a good explanation of the cost/benefit of such a move. Political consensus around such a shift may need to be built before anything goes ahead. Market information on effective prices can also help estimate what the benefits and costs of energy trading would be. For instance, what is a good price at which to buy energy from India?

6.2.4 Energy trading & market information

There also seems to be some confusion on the status of energy trading. For instance the Ministry of Energy's opinion is that the Indian market would not be willing to buy "more expensive" Nepali energy. If the effective price of energy was quantified, there would be a good idea of what prices to set exported energy. Discussions with the CIG have highlighted the potential benefits of electricity trading between Nepal and India. The two most likely scenarios that were highlighted were either that Nepal invests enough in electricity infrastructure and is able to meet its demand year round or that Nepal shores up its electricity deficits through trade with India. In both scenarios there are periods where Nepal would produce surplus electricity (for example in the wet season). The third scenario was trading with India in order to cover the deficit gap, all year.

Current electricity trading efforts by the ADB and the World Bank are geared towards the construction of new transmission lines that would connect the two countries. There is currently no plan to link Nepal to other parts of the region (for example with China or Bangladesh), which would effectively make India the only electricity trading partner in the short to medium term hence the importance of knowing the true cost and affordability of electricity in Nepal in order to better negotiate trade terms with India.

The current trading system between India and Nepal works on a government to government basis i.e. only the Nepali government can negotiate with the Indian government to purchase electricity when it requires it (Wiyjayatunga and Fernando 2013). A clear and overarching trade framework agreement (that would allow IPPs in Nepal to sell or buy electricity from India, independently of government negotiations) may help incentivise further electricity investments in the country.

However, the question is whether electricity trading could have negative impacts on the supply of electricity for domestic use in Nepal. Outcomes will be dependent on the kind of trade framework that is set up within Nepal and the safeguards that are put in place to ensure that only surplus electricity is effectively sold. This means that there needs to be some kind of regulatory agency that can ensure that domestic supply is guaranteed and that can control whether IPPs (or even nationalised power producers) are complying with such regulations. The issue is not to limit trading where it is possible but to limit trading where it would reduce the availability of electricity in Nepal.

The failure to correctly understand the cost of electricity in Nepal as well as its price flexibility may be down to a few reasons. The first may be simple technical and financial capacity constraints that do not allow the government to build up such a comprehensive database. This is a purely technical barrier and could be easily overcome through capacity building and technical assistance. However, building up a holistic picture of consumer incomes in Nepal would essentially be seen as setting up a nationwide income database. Resistance to such an income database may come from the consumers themselves who may see such an information gathering process as an attempt to build up information for tax payment purposes. Political parties may not want to upset local constituents and may not seek to push for such information gathering. The programme approach below takes this into consideration by suggesting that representative sample databases could act as the beginning point of such a process.

6.2.5 Demand constraints

There may also be actual market demand constraints. The NEA estimates that it has signed enough PPAs to meet expected future demand. This means that any excess power in generation (especially in the wet season) will not have a buyer and hence the NEA cannot afford to sign any additional PPAs. This means that IPPs are not getting the ironclad PPAs that they are looking for. Such an issue is compounded by the fact that there is no outflow of energy into regional energy markets – transmission lines are being built (1000 MW with the World Bank and 1000MW with the Asian Development Bank, plus two more are being planned through CIG) which would take care of trade infrastructure, but agreements, at least with India, have not yet been put in place to allow the NEA and IPPs to buy/sell energy regionally.

Limited market reach may also factor as a potential constraint. For instance, those people that are living in rural communities may not have access to energy, and even if they did they might not be able to afford the energy. Currently, there is a growing pool of community-based electricity users in Nepal which might help extend the reach of the electricity market to more rural users. According to the National Association of Community Electricity Users of Nepal, there are around 240 community user groups currently in operation in the country. These user groups have managed to negotiate with the NEA for cheaper electricity rates and access to grid energy by providing initial investment funding, and the system could be applied more widely across the country.

6.3 The potential for renewable energy

The estimated potential of green, renewable energy in Nepal is high. Estimates of the nation's hydroelectric capacity place it between 40,000 and 80,000 MW (although there is no real mapping of the actual potential) but such energy would mainly be channelled toward the national grid. The government of Nepal has recognised that the country's geography, coupled with the extremely dispersed nature of rural communities means that most rural inhabitants would not be able to access the national energy grid. Hence access to renewable off-grid energy sources is seen as a way to promote access to energy within these rural communities. Technologies such as micro-hydropower, solar and wind energy, smokeless stoves, and bio-mass energy production systems are all seen as potential sources of energy and energy savings throughout the country, especially for unconnected rural areas. The country has already implemented a number of biogas projects in rural households through the CDM as well as initiating micro-hydropower projects..

CDM energy projects in Nepal

There are currently three CDM projects in Nepal. The project cycle began in December 2005 and the latest approved project began in December 2011. The current projects are:

***Nepal Biogas Support Programme**:* The programme is split into four main activities; the first two activities were undertaken in 2005, whilst the remaining two activities began in late 2011. The overall project is aimed at installing 200,000 biogas digesters across the country, focussing on rural areas. The project is aimed at households with at least two cattle and the biogas digesters will be used to provide heating and energy for cooking. The project will help to reduce GHG emissions by around 57,000 tCO_2e per year.

***Micro-Hydro Promotion Project**:* The project is aimed at the installation of numerous micro hydropower plants across rural areas of the country, with a total energy production potential of about 14 MW. The project will help reduce an estimated 41,000 tCO_2e of GHG emissions per year.

***Efficient Fuel Wood Cooking Stoves Project**:* The main aim of the project is to reduce fuel consumption by introducing fuel efficient cooking stoves in six districts within Nepal. The project will help contribute towards reducing deforestation within the *Terai* region through the use of more energy efficient stoves as well as contribute to a reduction of GHG emissions. It has been estimated that the project could help reduce GHG emissions by around 20,000 tCO_2e per year.

Source: http://cdm.unfccc.int/index.html

Whilst the government is looking to promote renewable energy production amongst low income households, the latest officially available data on renewable energy production in Nepal from the IES (IEA, 2013) actually shows no significant outputs from renewable energy sources.

The country does have an estimated technical potential for about 2,100 MW of solar power but by 2012 only 0.1 MW have been officially installed. However a total country estimate places solar power at about 13 MW of installed capacity representing about 185,000 solar home systems. Larger scale solar projects are being considered, for example a 30MW power plant being built by the Hunan Yueer Solar Energy Technology company as well as a 5 MW power plant being built in Kathmandu in order to power government buildings (Ellis, Lemma *et. al*. 2013). Wind power also has a potential of about 3,000 MW (estimated by the AEPC) but the areas of high potential are all mostly in remote mountain areas, away from the urban centres that would most require them. The AEPC has supported the expansion of biogas in the country, with more than 200,000 biogas digesters already installed but these would only really be relevant for farming households and whilst the AEPC is currently exploring larger scale bio-digesters (using commercial agricultural waste) such initiatives are at the nascent stage and are currently not well developed. Biofuels are also at the experimental level in the country – however current cultivation is limited and is widely dispersed across the country (Basnyat 2011).

Discussions with renewable energy stakeholders in Nepal have highlighted the fact that whilst there is good potential for renewable energy, the uptake of it has been slow, especially in urban areas. The AEPC states that in terms of solar energy, the country has about 300 days a year which could provide effective solar power (both photovoltaic for electricity as well as solar water heating), but the uptake for solar PV has been low due to the high initial investment involved – especially if solar

inverters are purchased which are required in order to store solar power for night-time use.

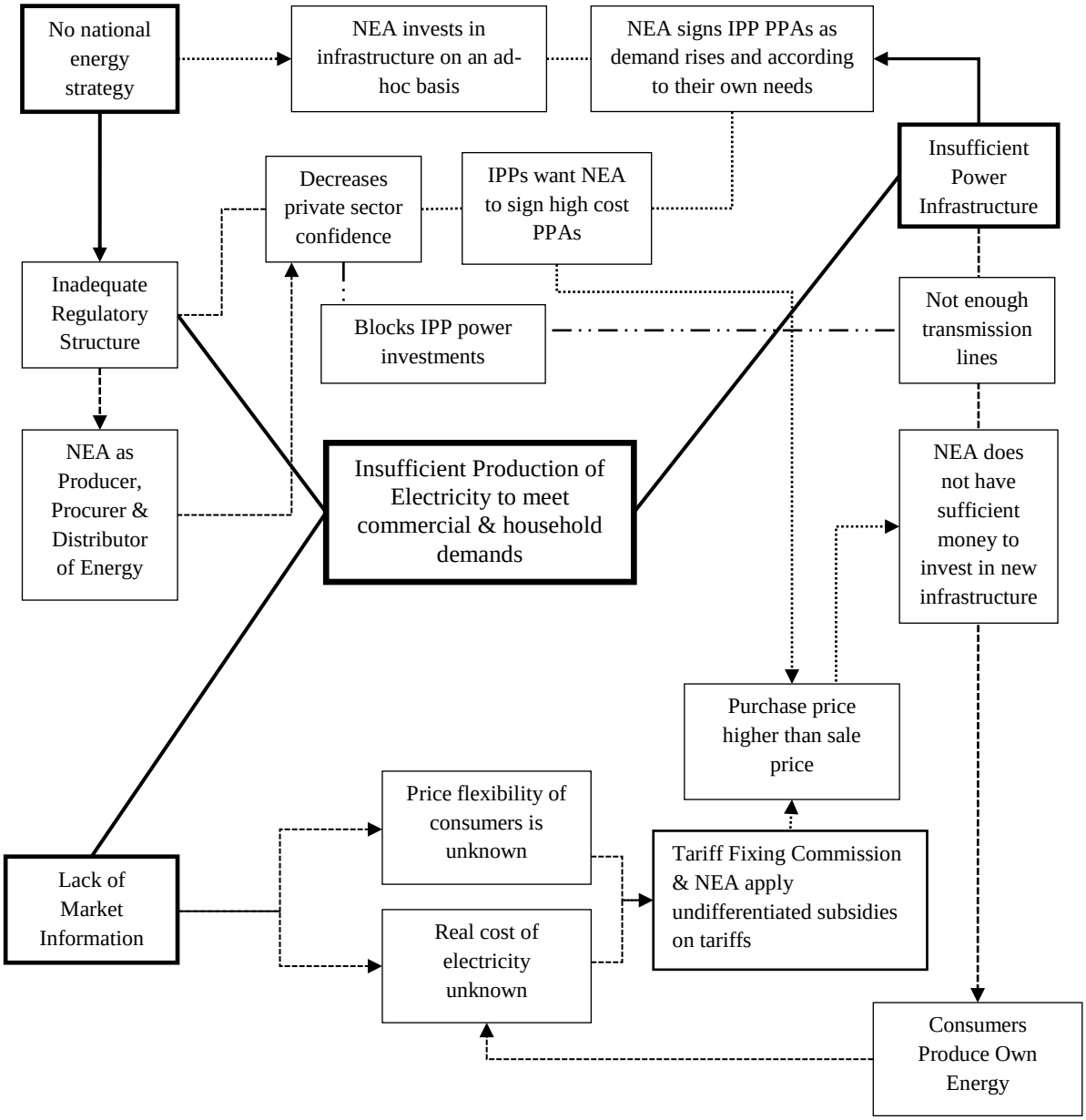
Another issue is the fact that subsidies for solar power are only available in rural areas – which limits its uptake in urban areas i.e. by offices or less energy intensive manufacturers (Ellis *et. al*. 2013). According to the AEPC a further constraint is the fact that a great number of people believe that any long-term investment in renewable energy could be a potential waste of money since there is a wide-scale perception that the government will eventually provide enough energy through the national grid – hence many households and enterprises are putting off investments in renewable energy as they wait for the national grid to provide them with electricity.

6.4 Energy sector problem tree

The varied constraints highlighted in the above sections come together in the below figure. The figure shows the main problem with energy in Nepal i.e. there is insufficient production of electricity which does not meet Nepali household and commercial demands. Unfortunately there is no straightforward linear relation that allows the problem tree to produce distinct branches or issues. Many of the problems that occur in the sector are circular in nature and hinge on the resolution of problems across the board. In essence this could be described more aptly as a problem bush or a problem circle.

The circle highlights the three major issue areas as described above i.e. lack of information, lack of government vision and infrastructure constraints. What it also provides is the relationship between these issues and the problems that prevent growth. Providing a linear course of action in regards to these problems would not be unproductive, but nor would it be the best outcome. Ideally reforms to the sector would tackle issues across the circle. The programme design section below highlights some options that should be implemented in concert in order to help tackle the major stumbling blocks in the sector.

Figure 24: Problem tree for the energy sector



6.5 Opportunities for transformation

Throughout the analysis there seem to be a number of cross cutting constraints that reduce the efficiency of the energy sector and its capabilities to reduce the supply and demand gap in the country. These cross cutting constraints are:

Information: Information is a key factor for most decision making processes, unfortunately information in the energy market in Nepal is severely limited either at the market level or at the stakeholder level. Lack of information limits logical and cost-effective decision making.

Collaboration: Collaboration between stakeholders i.e. between donors and government, between the government and the private sector as well as between

(and even within) government institutions (such as MoE, DED or NEA) seems to be severely limited. Such limited collaboration results in mixed signals sent from institutions to other stakeholders as well as between the institutions themselves and decreases their efficiency and effectiveness.

Communication: Limited scope for institutional collaboration, delimitations of institutional responsibilities and strong attachments to maintaining the status quo means that efficiency effects that could otherwise be reaped from greater collaboration between stakeholders do not materialise.

These cross-cutting constraints translate into three major constraints or gaps in the energy sector:

Market Information: Market Information can help determine real energy demand and the price that both households and enterprises would be willing (or are capable of) to pay for electricity. Stakeholder consultations have highlighted the fact that there is no such information available, what this means is that energy suppliers are not aware of the real prices of energy nor are they aware of the demands for energy in the country. Additional effects include a lack of awareness of the supply situation and how this interplays with both seasonal effects (dry season where there is high production vs. wet season where there is low production) and what consumers are prepared to pay.

Opportunities: The lack of market information is an important gap that needs to be filled in order to promote greater efficiency in the energy sector. The process is however not simple since it requires information on multiple fronts. Such information would include a clear mapping of real household incomes and enterprise revenues as well as the real price that both households and enterprises are paying for electricity – including the costs of ceased production when electricity is not available.

Government Vision: A lack of a coordinated cross-sectoral strategy means that there is no consensus on what the role of energy should be in the country's development. A lack of a long term development vision for Nepal, in turn, means that energy needs cannot be properly planned in the long-term. A lack of effective planning means results in disparities between effective demand and supply of energy and limits cross-sectoral benefits.

Opportunities: There is a clear opportunity to positively contribute to a unified and coherent, long-term and holistic government vision that places energy alongside other government priorities i.e. identifying where Nepal could be competitive (at the regional and global level), what sectors it should promote for its internal needs and how energy should be developed in order to meet such needs.

Regulatory Framework: The tools to implement an effective long-term energy strategy require the right regulatory frameworks aimed at ensuring the most effective use of resources. The fact that only NIB classified energy projects benefit from a streamlined approach to licence and approval provisions is a symptom of such an issue. Another symptom is the dual role of the NEA which acts as both a buyer and generator of energy in the country – i.e. it is essentially providing competition against IPPs from which it also buys energy – a potential conflict of interest. An overarching regulator or regulatory framework could assign roles and responsibilities to different agencies and slowly unbundle the NEA into different agencies, each overseeing different parts of the energy sectors.

Opportunities: There is no mediating, neutral, third party that can oversee compensation/land use discussions. Nor is there anyone to judge whether settlements are fair or to enforce any settlement/compensation decisions.

6.6 Programme options for energy

The energy sector programme propositions are based on the three major constraints revealed by the energy sector analysis. To re-iterate, the three major constraints to growth are:

- Insufficient market information within the energy sector
- Limited integration of national growth and energy strategies
- Inadequate regulatory systems

6.6.1 Insufficient market information

The Nepali energy market is currently hindered by informational failures. What this means is that energy sector stakeholders have no clear conception of how much users are currently pay, or are able to pay, for electricity. Hence there is a mismatch between prices offered to consumers and prices offered to producers which leads to inefficiencies in the markets and hinders investments in the energy sector.

The first method to redress such informational failures is to improve knowledge of electricity user incomes. Electricity prices in Nepal are set by the Price Fixing Tariff Committee, but its formulation is not governed by market forces, rather it is a reflection of how much the NEA needs to increase prices by in order to cover its financial shortfalls. The basic issue stems from the fact that the NEA sells electricity at lower prices than their production cost (if self-produced) or their purchase price (if bought through PPAs[56] from IPPs[57]) due to the subsidies that it applies. This general blanket-subsidy process (which has different levels of subsidisation across both income and user groups – but from stakeholder interviews is loss making across all price ranges) means that the NEA[58] and by extension the Nepali government constantly loses money on all its electricity transactions.

By understanding how much different segments of the Nepali economy can afford to pay for electricity, they would be better able to increase, reduce or wholly remove subsidies based on real income capacities. This would either reduce government expenditure on the NEA or free up resources to invest in either physical infrastructure or elsewhere. Concurrently information on the real price of electricity in the country helps to understand what its real costs are which in turn can help determine if production strategies are cost effective, if the terms of trade are favourable and what current users are already paying for electricity. Understanding the monetary opportunity costs of an unreliable, inconsistent and constrained electrical supply would also help assess the real cost of electricity.

In both circumstances DFID can play a dual role of providing monetary support for the surveys as well as the provision of expertise on how to ensure that surveys are carried out both efficiently and effectively. Results analysis and policy recommendations could also be provided and the funding to set up a database or agency to keep track of such information could also be a part of the programme. Support could be provided towards the set-up of a representative sampling system that would have anonymity in terms of sampled enterprises and households. Once

[56] Power Purchasing Agreements
[57] Independent Power Producers
[58] Nepal Electricity Authority

better information systems are in place and households and enterprises see the benefits that these bring, a wider system could be implemented.

6.6.2 Limited integration of national growth & energy strategies

The information that could be procured through a clear mapping of the real costs of electricity, its usage and the price flexibility of its consumers can be an important source of information that can influence a number of long-term energy strategies. Currently, the NEA is essentially setting up PPA contracts on an ad-hoc basis i.e. as IPPs set up power plants, the NEA issues them contracts when it requires more energy or has the capacity to pay for them. According to stakeholder interviews this has led to a situation where the NEA has stretched its finances and is now in debt, in order to sign up as many PPAs as possible – and subsequently has had to stop new PPA agreements, as well as halt or limit investments in transmission and distribution infrastructure, leaving many power projects in a state of limbo since they have no market to sell to.

Crucially, there is no long-term strategy that guides growth in the energy sector, for instance a strategy that would harmonise new investments in electricity with the needs of users. At a higher level, there is no long-term vision for what economic sectors the government of Nepal needs to promote in order to achieve growth. This means that industrial policy and energy policy are not synchronised – leading to asynchronous developments between energy provision and industrial/commercial demands. The implementation of a national energy strategy could also help the Ministry of Energy acquire greater power in regards to its ability to steer the sector's growth pathway and align it more towards national household and enterprise needs. Coupled with the gradual unbundling of the NEA, more focus can be placed on energy as a catalyst to promote growth rather than energy as an end product.

The fact that the country's electricity supply is dominated by hydroelectricity results in varied productive capacity across the year. If full demand for electricity, across the year is to be met there are two options which the government on Nepal needs to consider. The first option is that Nepal builds up enough electrical capacity to meet its needs all year. This means that during the wet season there will be a significant excess of energy produced. The second option is that Nepal builds enough capacity to meet its electrical needs during the wet and medium seasons[59] and imports electricity during the dry season. Both of these options hinge on the ability of power producers and distributors to freely trade electricity with neighbouring countries. Current electricity trade agreements are on a government to government basis which means that only the NEA can currently purchase or sell power to India. Such trade is based on pre-arranged agreements and not on actual supply and demand.

These three strategies could help establish a clear growth path for the energy sector which serves the industrial and commercial needs of Nepal. It would stop ad-hoc growth in energy supply and incentivise IPPs to invest in larger power projects if they see that there would be a year-round national and international market for their electricity.

6.6.3 Regulatory constraints

The third component – and sequentially the last set of programmatic recommendations – revolves around the enabling and regulatory environment that facilitates investments in the energy sector. Once market information has been

[59] The country has essentially three periods – The wet season that lasts about 4 months, normal conditions for about 4 months a year, and dry weather for another four months.

collated and a long-term growth strategy has been set, the executive processes required to carry out changes need to be entrenched within the Nepali governance system. As it stands there are three main changes that DFID can help facilitate.

The first component is to widen the Nepal Investment Board's scope in order to encompass all public-private partnership projects and to become a general facilitator of investment projects in Nepal. The NIBs current portfolio and activities are limited to about ten or so ongoing large-scale projects, including some major hydro-electric (storage based) power plants – with a minimum generation capacity of 500 MW. It has the legal mandate to fast track licensing procedures from government ministries in order to facilitate these large scale investments. Currently, smaller power projects are excluded from this fast tracking arrangement which means that they are often delayed as ministries issue licenses at their own pace[60]. Expanding the NIB's role into a formal centralised PPP Unit would help it oversee and facilitate investments across all size scales. Expanding its capacity into a facilitator of investments would allow it to incentivise wholly-private funded investments. More importantly it could become a gatekeeper and executor of the government's long term growth and energy strategy, matching investments in energy with the economy's requirements. It is important to note that the NIB, as en executor of the government's long term growth strategy, would have to be closely linked with the line ministries. Ministry representatives should be a part of the NIB's executive board and have a clear role to play in any executive strategy in order to promote good collaborative relations.

The second regulatory reform – potentially the most contentious item on the programme agenda – is the reformation of the NEA. Currently the NEA carries out multiple roles: energy production, procurement, transmission and distribution and is the only institution that can connect IPPs to end users. Within a modern energy sector such roles are often unbundled and distributed across different agencies – more often than not multiple actors can carry out the same role in order to foster competition. DFID can provide research based evidence of the value of energy sector reforms i.e. Kenya in 2005 etc. as well as technical advice on how to carry out reforms. Eventually, reforms would help foster efficiency in investments in transmission lines, remove the conflict of interest that the NEA has as both a producer and procurer of electricity and potentially help alleviate distribution issues as more agencies can be set or invited to enter the production, transmission and distribution network.

Resistance to such a transformation may be high unless a power sensitive stakeholder assessment is carried out, which identifies and helps to negotiate with or eliminate potential agents that may block such reforms.. Initial executive steps could be aimed at setting up alternative agencies that could work in parallel with the NEA with the aim of gradually shifting responsibilities to the parallel agencies and essentially leaving the NEA to focus on a particular part of its process. In the long-run multiple commercial actors can take up roles such as distribution or transmission, provided a strong infrastructure base is already in place.

The final regulatory component requires the institutionalisation of an independent negotiation body that can oversee community-public-private negotiations on land use for energy and related compensation mechanisms. Current negotiations over land use rights and compensation to local owners and communities over the use of land typically involve bilateral negotiations between producers (either the NEA or IPPs) and land owners (either individuals or community groups). Stakeholder

[60] In spite of the fact that the Ministry of Energy also has the capacity – but not the legal mandate – to ask other line ministries to fast track licensing procedures.

interviews have highlighted the fact that there are often too many demands placed by local communities on power producers, especially on IPPs which delay investments and can often make investments non cost-effective. The extent to which the argument of reduced cost-effectiveness is true is debatable but the delays in investments (especially for transmission lines) due to prolonged negotiations have been highlighted as a constraining factor by both the NEA and the IPPs. DFID could thus play an important role in helping set up a wholly Nepali owned mediation authority that is separate from the IPPs, local communities and the government but is legally mandated to evaluate if negotiations are fair and enforce any negotiated terms. This would speed up investment processes and ensure fairness in negotiations for both IPPs and community groups.

Government coordination failures underpin the energy sector discussion i.e. they are one of the underlying reasons why there is limited integration between energy and growth strategies as well as acting as a roadblock for any necessary energy sector regulatory reforms. Whilst coordination failures are evident across the whole breadth of government (between and across ministries as well as other government agencies such as the NEA), for the energy sector the most pressing concerns arise between the National Planning Commission, the Ministry of Energy and the NEA. These agencies maintain an implicit view that they operate in individual silos i.e. each acts independently from other agencies. The systemic entrenchment of this view promotes a host of operational inefficiencies which translate into bureaucratic minefields that energy producers would need to navigate in order to carry out any energy investment as well as creating unnecessary and inefficient redundancies in government decision making processes.

Evidence of how streamlined and coordinated government decision making processes benefit growth and investments in the sector would be helpful as a starting point in any debate on reform. Evidence of the positive aspects of streamlined would also help promote the need for coordination reforms. The key to this kind of reform is to create a support base within the government for such changes which would lead to reduced resistance to changes as well as the political mandate required to carry them out.

6.7 Programme options matrix for energy

Constraint	Programme idea and type of support	Target & impact	Working with and/or through	Niche / other donor work	Approach / theory of change
Inadequate Regulatory Systems	Addressing Government Coordination Failures	Streamline and connect government decision making processes across and between ministries and government agencies.	Coordination issues are pervasive throughout the government – this component could be rolled out throughout all departments and government agencies or limited to energy sector stakeholders only.	Unknown	Improves capacity to take integrated strategic choices in regards to energy investments as well as reduce unnecessary redundancies (i.e. multiple agencies with the same mandate) and cumbersome/ineffective licensing procedures for energy investments.
Insufficient Market Information within the Energy Sector	Database of Electricity Consumers Use a sample survey system to estimate incomes & usage needs of electricity consumers.	Information on the demand needs and financial capacity of energy users would allow better pricing strategies and reductions in blanket subsidies on energy which in turn would reduce government expenditure and free more resources for capital investments.	Implementation through the Nepal Central Bureau of Statistics	IMF undertakes reviews of the Nepal Tax System which dovetails with the creation of a national income database. The CIG already carries out limited enterprise surveys for electricity users and similar systems may be extended at the national level. CIG supports limited surveys of user needs and the AECP is working on price estimation at a limited level.	Would provide either the real or a close estimate of the price capacity of electricity producers.

	Database on Real Electricity Costs Survey of electricity costs of final consumers. Provision of financing to contract national level survey and TA aimed at ensuring that both real costs and opportunity costs are taken into account.	Information on the real price of energy and on the opportunity costs of limited energy supply (as well as the use of alternative energy sources) could help determine the effective cost of electricity in the country. This could be reflected on both the retail price as well as on the price at which energy could be traded for maximum efficiency.	Implementation through the Nepal Central Bureau of Statistics and through the AEPC	The Alternative Energy Production Centre is currently estimating electricity costs in the country but its efforts have been limited and not undertaken at the national level. The AEPC currently receives funding from multiple donors.	Improve knowledge of real prices and allow correct pricing strategy of electricity both for domestic and international markets.
Limited Integration of National Growth and Energy Strategies	Drafting a holistic national growth strategy Bridging line ministries with the NPC and high level government vision. Provision of TA and funding to carry out growth scenario analysis. Provision of funding to assess where Nepal's competitive and comparative advantages lie and what sectors it should promote as well as the cross-sectoral strategies needed to achieve this.	National level decision-making processes. Allowing unified growth strategy that can efficiently and effectively combine growth in multiple sectors and growth in energy provision through long-term planning.	National Planning Commission & Government line ministries	Current government strategies are limited to three year periods and do not look at long-term growth.	Allows long-term development planning for the country. Could improve the effectiveness of the NIB and would help integrate energy needs into national industrial strategies.

	National Energy Strategy Funding & TA to analyse the energy sector's role in long term growth.	National level decision making processes that can inform (and be informed by) national growth strategy	Ministry of Energy & National Planning Commission	World Bank currently working with NEA to develop their energy strategy but limited to the NEA	Would allow the staggered construction of energy power plants aimed at meeting demand rather than government agencies having to fund potentially superfluous energy PPAs based on unregulated supply.
	Energy Trade Strategy Funding & TA for research on long term import/export of energy strategy.	Umbrella trade strategy that would cover all trade relations (including between IPPs and foreign markets) and allow all electricity producers to export excess energy during the rainy season and import deficient energy during the dry season.	Ministry of Trade & Commerce, Ministry of Energy, Power Producers & National Planning Commission	Both World Bank & ADB are working on providing physical infrastructure to facilitate and looking at Nepal-India electricity trade but this is limited to government-to-government electricity trade and does not include provisions for IPPs.	Together with an effective energy pricing strategy and a holistic vision of future energy requirements (and growth plans), any excess energy capacity could be sold to India
Inadequate Regulatory Systems	Transforming the NIB into a centralised PPP unit. Provision of TA & Seed funding to enlarge operations. Expertise to integrate PPP plans in long-term growth strategy.	Streamlining NIB investment fast-tracking processes by widening NIB's reach. Inclusion of smaller scale energy investments. Providing a gatekeeping role for PPPs and aligning PPPs with the national growth strategy.	Nepal Investment Board and representatives of interested line ministries. The CIG could take a strengthening role due to its continued support of the NIB.	The Ministry of Energy is already using the NIB streamlining processes but they have no legal mandate to expedite licencing processes	Improves coordination across infrastructure project investments. For energy it can ensure that supply does not exceed the government's capacity to procure energy and that any new investments work towards a long-term development plan.

Negotiation mediation Authority TA & Seed funding for research into in-depth power analysis and stakeholder analysis of mediation processes between power producers and land right owners.	Initial steps require the proper analysis of negotiation systems and stakeholder power relations. This can in turn inform and lead to the set-up of a non-politically aligned third party negotiation authority with legal mandate. The mediation authority should be Nepali run & owned but can be (financially) supported by DFID.	Requires set-up of third party independent authority. Cannot be set up within government but needs legal and political mandate to carry out its activities.	ILO collaboration may be relevant to the ILO 169 convention process and the dynamic interaction between it and any mediation authorities.	Increase efficiency in land use negotiation systems which could speed up the energy investment process and help settle disputes between government, power producers and local communities.

	Gradual restructuring of the NEA Research into best practices for energy sector restructuring. Advice to government and TA in carrying out reforms. Stakeholder analysis of NEA to determine power relations. Initial processes may revolve more around how to set up alternative agencies that can work alongside the NEA and gradually shift responsibilities across to them.	Seen as a major hurdle to competitiveness in the energy sector. The NEA currently acts as both a buyer and producer of energy and has *de-facto* control over the country's energy supply	Nepal Parliament, Ministry of Energy	ADB Currently considering a feasibility study	Increase efficiency by separating responsibilities on the provision of transmission lines, the procurement of electricity, its generation and distribution. Could lead to more competition, greater supply of electricity and lower prices in the long term

7 Transport

Infrastructure is at the very heart of economic and social development. It provides the foundations for virtually all modern-day economic activities, constitutes a major economic sector in its own right, and makes an important contribution in raising the living standards and the quality of life. Its role in economic growth has been well recognized and available empirical literatures suggest that infrastructure has a positive productive effect on the economy; and efficiency impacts of infrastructure also tend to crowd in private investment and output in different sectors[61]. The output elasticity of infrastructure in South Asia is in the range of 0.24 percent to 0.26 percent (Sahoo and Dash 2012). Infrastructure also contributes in reducing transaction and trade costs, attracting foreign direct investment (FDI), facilitating social mobility and interactions, and providing employment opportunities. In summary, the contribution of infrastructure to the economy is substantial and in general, its benefits exceed the costs.

Transport infrastructure influences the movement of individuals and goods in both time and space. It reduces the effects of distance between regions, helps in integrating national markets and also determines the location and kind of economic activities. It also enhances economic and social opportunities by improving mobility and accessibility. The immediate and direct benefit of development of the transport infrastructure (both domestic and cross-border) is reduced trade costs (Fujimura 2004). In developing countries, a lack of adequate infrastructure explains at least 40 percent of transport costs (IADB 2002), indicating the need for improving the quantity and quality of transport infrastructure. It not only affects the users of the transport positively, it also has a significant bearing on the non-users in the zone of influence of the transport facility as well as a wider regional or national impact (see Table 5).

Table 10: Importance of transport for development

Market consequences	Extra-market consequences
A. For users of transport services Vehicle size character Transport operating costs Cost of time Financial position of transport firm Reliability, speed of transport Commodities carried Freight flows and volume, direction Passenger flows and number, direction Changed distribution channel (handling warehousing and inventory) Price change for commodities	Tourism Recreational amenity Improved food safety Integration Improved information
B. For non-users in zone of influence	Impact on general well-being of community and region

[61] See: Aschauer 1989; Easterly and Rebelo 1993; World Bank 1994; Pereira 2000; Roller and Waverman 2001; Serven and Calderon 2003; Pedroni and Canning 2004; Estache 2008.

Changes in cost of public services Changes in value of land for all uses Change in value of crops and natural resources Change in rural land use Change in urban land use	Emergence of entrepreneurship
C. Wider regional/national impact New pattern of investment Changes in employment opportunity Change in pattern of income distribution and level Changes in balance of trade, terms of trade Spread of money economy Changing pattern of public finance and taxation	Changing pattern of internal/external links Changing relative significance of settlement, region sectors Demographic change, structure, migration Changing investment criteria Changing political alliance

Source: Adapted from Hilling 1996.

Nepal, a landlocked country with China to the North and India to the South, East and West, with three physiographic areas[62], faces enormous challenges in the development of various modes of transport infrastructure. Road transport is the predominant mode of transportation except for a limited air service to some part of the country. Rail infrastructure is negligible with only a small length of narrow-gauge track in poor condition. Being a land-locked country, Nepal uses India's eastern port of Kolkata as its gateway to the sea and to trade with rest of the world.

7.1 Evaluating performance

Available studies indicate that 'limited and low quality infrastructure'[63], and resulting high cost and low reliability have been the critical constraints to economic growth and the expansion of productive capacity in Nepal (ADB 2009, World Bank 2012, MCC 2013). The Enterprise Survey, based on the survey of 482 firms, found that transportation was the fourth most important constraint for the business people in the country.[64] The survey also found that almost 31 percent of the firms identified transportation as a major constraint, compared to 18.2 percent for the rest of South Asia (IFC 2013).

An effective transport infrastructure not only promotes economic activities, but also reduces trade costs by enabling entrepreneurs to access input and output markets efficiently, and in cost effective manner. Nepal's transport system is not only inadequate but also of low quality, and is inefficient due to poor condition of infrastructure and an obsolete transport services system. Road density is 121 km per square km of land (Table 11), less than that of Bangladesh and India, and little more than half of the road is paved. Available length of rail route is 32 km (Table 12).

[62] The mountain in the north, the hills in the middle, and the *Terai* – low altitude plains bordering India

[63] Primarily energy and transport infrastructure.

[64] The survey found that political instability was the important constraint for the business community followed by lack of electricity, access to finance and transportation.

Table 11: Transport infrastructure

	Nepal	India	Bangladesh
Road density, km/km2 of land (2007)	121	2226	2079
Paved road (percent of total) (2010)	53.9	49.5	9.5
Length of rail route available, km (2011)		63974	2835
Air transport registered carrier departure, worldwide (2012)	34745	660862	20778

Sources: World Development Indicator, World Bank 2012 and GoN 2012b.

Table 12: Quality of transport infrastructure

	Nepal		India		Bangladesh	
	Score	Rank	Score	Rank	Score	Rank
Quality of road	2.7	126	3.6	84	2.8	118
Quality of railroad infrastructure	1.1	121	4.8	19	2.4	78
Quality of port infrastructure	2.7	134	4.2	70	3.5	104
Quality of air transport infrastructure	3.0	131	4.8	61	3.2	125
Available airline seat km/week, millions	90.1	83	3288.0	13	203.0	62

Note: Country's rank is among 148 countries; Scores are derived from the Survey and expressed on a 1–7 scale, with 7 being the most desirable outcome.
Source: WEF 2013.

Nepal ranks 126th position in the quality of road, 121st position in the quality of railroad infrastructure, 134th position in the quality of port infrastructure and 131st position in the quality of air transport infrastructure among 148 countries, which is significantly lower than India and Bangladesh. Similarly, the total length of the Strategic Road Network (SRN) – comprising of highways and feeder roads – is 24,583 km. Of this, 10,320 km (41.9 percent) is black topped surface, 5,828 km (23.7 percent) is graveled, and 8,435 km (34.3 percent) is muddy (GoN 2013b). In addition, there are 50,994 km rural roads most of which are non-engineered, equipment based roads and do not meet the Nepal Rural Road Standard 2055 (1st Revision 2069). Of the rural road network, 1,575 km length is black topped, while 14,602 km is gravelled and 34,766 km is earthen road. In total, more than one-third of the road network is not in trafficable condition and most of the roads are concentrated in the low land *Terai* and in hill areas (World Bank 2012).

Table 13: Cost of transport

	Nepal	South Asia average	OECD high income average
Cost to exports (US$ per container)	1975	1603	1028
Inland transportation and handling	1100		
Cost to import (US$ per container)	2095	1736	1080
Inland transportation and handling	*1250*		

Sources: World Bank and IFC 2013.

The railway network in Nepal is almost non-existent except for two small networks – one connecting Nepal's inland container depot with India and the other connecting Janakpur with Jayanagar in Bihar[65]. Nepal Railways Company (NRC) owns the 53-kilometer rail line, which is composed of two sections: 32-kilometer section between Jayanagar in India to Janakpur in Nepal, and a 21-kilometer section from Janakpur to Bijalpura, which is not operational at present. The Indian Railways manages the six kilometers railway line (of which four-kilometers fall in Nepal) that connects Inland Clearance Deport (ICD) in Birgunj to Raxaul, India.

Due to a lack of other modes of transport, air transport has become an important mode of travel for both goods and people in many remote areas of Nepal[66]. Consequently, air transport's performance in these regions is better compared to other modes, though the overall quality of air transport infrastructure is still poor (Table 12 and 13). There are 48 airports, comprising one international airport – Tribhuvan International Airport (TIA) in Kathmandu – four regional airports in Biratnagar, Pokhara, Bhairahawa and Nepalgunj, and 43 other domestic airport facilities comprising of airports and short-take-off and landing strips. In addition, six airports are under construction and there is a new project under consideration for a second international airport at Nijgadh through Built-Own-Operate-Transfer (BOOT) scheme.

Only 34 airports are operational with regular services. Twenty nine international airlines are presently operating from Kathmandu to some 22 cities in Asia and Europe. In 2011, domestic passenger movement was 3.32 million passengers, an average annual growth of 10.3 percent per year during last five years. International passenger movement was 2.7 million, an average annual growth rate of more than 10 percent during the last five years and international freight movement was 13,486 ton (INECO Priotec 2012).

The inadequate and inefficient transport system, along with anti-competitive practices in transport services (in particular the syndicate system), has been reflected in high transportation costs. The cost of exporting and importing a container is about 20 percent higher than that of South Asian average, and almost double of developed countries. Such high costs may partly be explained being landlocked and the country's terrain, but it is also due to the inadequate domestic transport infrastructure and inefficient transport management system (Table 8).

[65] It is a narrow-gauge railway line of which only 35 km is in operation.

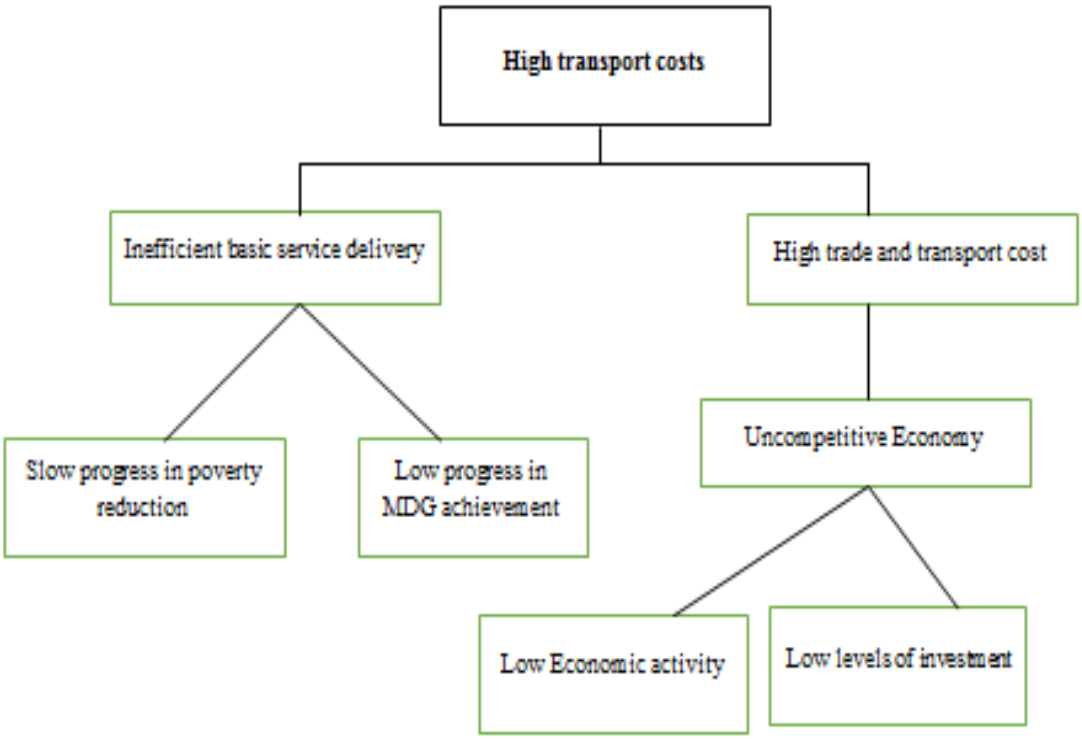
[66] Two districts in Nepal do not have access to roads. Furthermore, 18 districts in Nepal and the whole of Karnali zone do not have access to black top roads and therefore, many parts of Nepal are not endowed with all-weather roads. In such circumstances, air transport remains the major source of transport for these regions.

High transport costs have not only caused difficulty in integrating the rural economy into the national economy but also made production and export uncompetitive.

7.2 Challenges

There are currently four modes of transport available in Nepal, namely: roads, railways, waterways and aviation. However, feasibility study done by two private consulting companies under the terms of Ministry of Physical Planning and Works (MoPPW) concluded that in the three large rivers basins of Nepal viz. Gandaki, Koshi and Bheri, water transportation was commercially unfeasible (Pangeni 2013a). Furthermore, since most river systems in Nepal are small, the scope of expansion of water transport services would be very small. Therefore, road, rail and air transport are the only economically viable and practically feasible modes of transport in Nepal. A problem tree highlighting the focal problem- high transport costs, their causes and effects in transportation sector is presented in Figures 25 and 26[67].

Figure 25: Effects of high cost of transport



7.2.1 Policy structure and resource management

The need to develop a reliable, cost effective, safe and sustainable transport system that promotes and sustains the economic, social, cultural and tourism development has been recognized in the Transport Policy 2001/02 (GoN 2001). Moreover, various plan documents had identified transport infrastructure as one of the priority sectors (NPC 2007, 2010 and 2013). The Transport Policy also provides policy statements to develop all means of transportation (road, air, rail, water, ropeway

[67] This section focuses on rail and air transport as road transport is dealt by MCC.

etc.), in a coordinated manner and enact a comprehensive Transport Act. No legal framework is available for the development of transport sector nor brought in any implementation strategy and investment plan.[68]

As a result, ad hoc political and administrative decisions have been the guiding principle in expanding transport infrastructure. The government transport budget allocation, dominated by road sector, has remained stagnant despite the fact that investment requirements have risen due to increased demand with expanding economic activities and greater people's mobility as well as due to the need for reconstruction and rehabilitation of damaged transport infrastructure during Maoist insurgency. The transport budget as a percentage of GDP has remained stationary at around 2 percent of total GDP, and around 10 percent of total budget, whereas comparable figure for EU and China is 5 percent and 9 percent of GDP respectively (The Economist 2011) [69]. About 90 percent of the transport budget is allocated to road, whereas railways and aviation get 3 percent and 6 percent respectively. Most of the road budgets are for new construction and the share of maintenance in the transport budget shows a declining trend.

The asymmetric budget allocation pattern of the government among modes of transport and geographical regions shows that investment decisions are made at project level and without any cost-benefit analysis between and within different modes of transport, and also without taking into account the prospects of their interoperability and interconnectivity. Such a state of affairs could be due to the lack of a comprehensive transport sector development plan. A comprehensive plan would help guide development of the country's transport system by: identifying a range of policies relating to the sector as a whole and to the different modes of transport; and clearly spelling out the investment plan, institutional and regulatory measures, and the role of government and private sector.

7.2.2 High cost of air transport

Air transport costs, consisting of the aircraft capital and direct operating costs, the airport and navigation fees, the ground handling charges and cost of airline administration, is high in Nepal compared to other south Asian countries.[70] Poor and inadequate airport infrastructure, an inefficient management system and an imperfect market structure are the contributing factors to high costs.

Poor infrastructure & aviation capacity

The aviation industry in Nepal started in 1949 when a four-seated aircraft landed on the current Tribhuvan International Airport (TIA). Since then Nepal has come a long way. It constructed an international airport, founded a domestic civil aviation board and established the Civil Aviation Authority of Nepal (CAAN), became a member of International Civil Aviation Organization (ICAO), established the then Royal Nepal Airlines Corporation (RNAC)- a public sector flag carrier and subsequently liberalized its air transport sector (CAAN 2007).

All the airports are operated and managed by CAAN[71]. However, out of 48 airports in Nepal, more than 20 airports are considered seasonal in nature and 14 airports 29

[68] In 2007, GoN adopted Sector-wide Road Programme and Priority Investment Plan, but the document deals only with Strategic Road Network (SRN).

[69] For developing countries as group, the figure is around 3 percent.

[70] During the consultation, key informants disclosed that the freight cost from Kathmandu to Europe and North America is about 1.25 times higher than the cargo originated in Bangladesh or India.

[71] According to the CAAN Act, CAAN is the body responsible for flight operation, communication, navigation, transportation services for national as well as international air carriers. It is an autonomous body which handles registration, certification, price fixation, and prescribes conditions for safe and efficient air service operations. It can also develop plans for the aviation sector. The CAAN has on its board, Minister of the MoCCA as the Chairman, and other representatives elected by the government as it sees fit. The NAC is an autonomous public

are short take-off and landing strips. None of the domestic airports in the country comply with the ICAO standards of safety[72] (INECO Priotec 2013). Even TIA, the country's only international airport possesses a single runway and a single international terminal (however, there is a separate VIP terminal). The major revenue source of CAAN is the primarily the TIA, Kathmandu since four regional airports and 10 touristic-domestic airports are barely making profits and the rest 39 airports are not in a position to meet operating costs (Deoja 2012). Overall CAAN has been running in net profit since the last 10 years, it posted NPR 850 million in net profit in FY 2011/12 (CAAN 2012), which is substantially below the resource requirement necessary for infrastructure development of international standards.

Since the adoption of open and liberal sky policy in 1993, the role of the government in the aviation sector has been limited to regulating the licensing, operation and control of airline and other aviation related activities. The Civil Aviation Policy 2006 encourages private sector including both domestic and foreign investment in airline operation, airport construction, operation and management and provision of air transport related facilities and services (GoN 2006). Foreign private investment is permitted to hold up to 80 percent in an international airline, up to 49 percent in domestic airlines and up to 95 percent in flight schools and repair and maintenance companies[73]. Despite a liberal aviation policy, there is no foreign investment in airlines and the private sector plays only a limited role in the operation of air transport infrastructure.

The Nepal Airlines Corporation (NAC), Nepal's national carrier, possesses only two international aircrafts purchased in mid-1980s which have barely been functional in recent years[74]. Besides the NAC, only two domestic companies provide international services primarily in India and other neighbouring countries with single aircraft in their sleeves. In international sector, Nepal has been able to utilize only 40 percent of its allocated international aviation capacity partly due to lack of availability of aircrafts. Such limited capacity is also one of the major roadblocks in the development of its tourism industry and could have contributed to the failure to meet the target for tourist arrivals of one million in 2011 the Year of Tourism. In the domestic sector, there are 13 different air companies operating domestic flights. Out of these, eight of them are fixed wing operators with a total 38

enterprise. According to the Nepal Airlines Corporation Act 1963, the Board of Directors of the NAC are appointed by the Government of Nepal. The Chairman/Deputy Chairman of the board can also be appointed by the government. The Government of Nepal can also issue directives to the Corporation as it may deem necessary. Additionally, the national aviation policy issued by the MoCTCA (Civil Aviation Policy 2006) sets the objectives of CAAN which are: to develop Nepal's aviation sector, to increase its safety and security, to pursue bilateral and multilateral service agreements to increase tourism prospect. While the airlines are required to apply for licenses in the Ministry airlines following certain criteria, CAAN distributes the licenses to the new aircrafts as well as operators. Therefore, while the MoCTCA is responsible for drafting of policies and receipt of certificates, the CAAN is responsible for regulation, price management, flight operation, issuing directives for safety compliance and registration of new aircrafts. The government then monitors the prices of air tickets fixed by the airlines based on CAAN's recommendations.

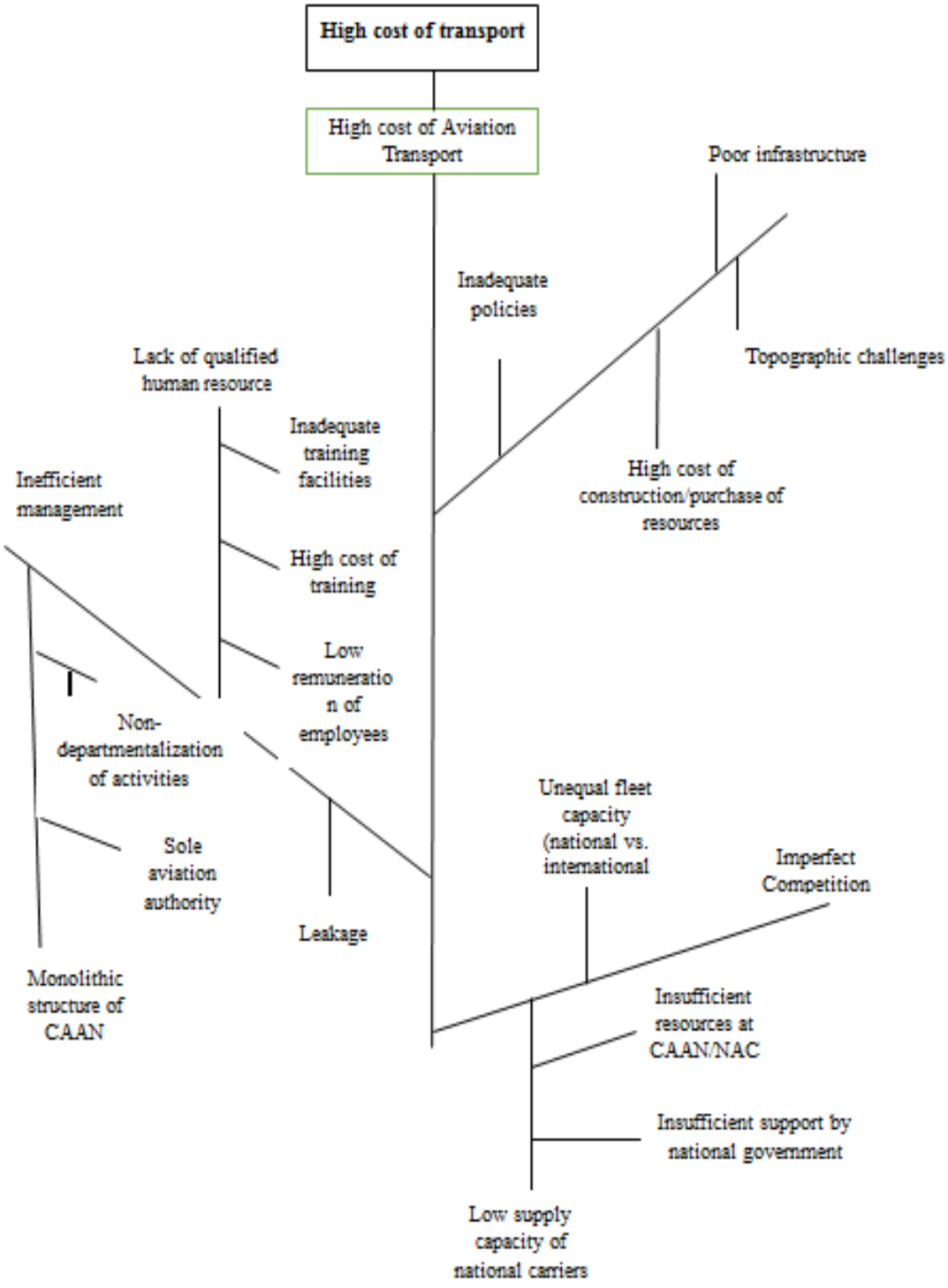
[72] Only TIA is officially mandated to comply with the ICAO standards because of its international status.

[73] The policy permits domestic as well as international investors in setting up and running Flying School for pilots and training facilities for other personnel. Airports will be made available for the institutes for their training purposes. Similarly, the policy specifies that legal and operational restructuring of the NAC will be pursued to make it more capable, reliable and market oriented. Moreover, private investments will be permitted in the NAC to expand its operations, and procedures related to leasing of airlines will be made more simple, effective and transparent. The policy also classifies airports into four categories namely: international airport, regional hub airports, airports in regions with airport facilities and airports in remote regions. It prophesizes on gradual improvement of airports keeping in mind topographical location, population coverage, regional balance, tourism promotion, proximity with other airports and investment requirements, conception of airport development plan to conduct gradual improvements of Nepali airports. It includes provisions to make ground handling services more qualitative and competitive. It stipulates involvement of the private sector in the development, construction, as well as the operation of air transport infrastructure and facilities. As such, various methods of project ownership for private sectors like Build-Operate-Transfer (BOT), Build-Own-Operate-Transfer (BOOT), Operate-Transfer (OT) have been forwarded as feasible means of private participation.

[74] See: Himalayan News Service 2013.

aircraft. The other five use helicopters (rotor wing) with a total of 20 vehicles to carry out their operation.

Figure 26: Problem tree for high cost of air transport



NAC has not been able to add aircraft to its fleet because of its inability to generate profits[75] as well as government policy with regard to sovereign guarantee to government owned public enterprise[76]. In addition, political interference and corruption has also held back the proposal of leasing in/ acquiring new aircraft.[77] Despite the fact that the expected marginal rate of return on the investment in the aviation industry is positive, problems associated with acquiring aircraft and expanding the fleet are the real challenges for the private sector (Ineco-Prointec 2012). Nepal's civil aviation policy prohibits importing aircraft that have exceeded a 20 year life. There is a 13 percent value added tax (VAT), import duties and other additional services charges on the import of spares parts. In addition, the operating cost has increased due to rising fuel prices. The cost of fuel and therefore, cost of air transport has risen over the years.

The Nepal Oil Corporation (NOC) fixes the aviation fuel prices not only to meet the rising international price requirements but also to cross-subsidize other petroleum products (see Annex 1). Moreover, aircraft insurers/ reinsurers have placed Nepal in high risk zone for aviation due to the number of accidents and perceived insecurity, and therefore have increased the insurance premiums (Ojha 2013; Prasain 2013). Failure of some airlines, such as Necon Air, Cosmic Air and other domestic airlines companies have prompted banking sector/lenders to attach high risk premiums to loans, This has led to a rise in cost of capital making additional resource generation difficult and expensive. It has also acted as a strong disincentive for potential new investors as well as operators in this field (Ineco-Prointec 2012). Because of these reasons, many private air companies are hesitant to acquire additional aircraft or open a new airlines company.

Inefficient management system

The CAAN is a monolithic organization responsible for regulation, inspection, airport operation and air navigation operation. Because all activities take place under a single management unit, the efficiency of the agency has been low. There is strong and urgent need to restructure the organization to make it more lean and focused.[78] There is also a lack of: a systematic Management Information System (MIS), and a comprehensive computerization plan; both of these are necessary elements for modern day management[79]. All these highlight the deficit of capacity in the CAAN to undertake important and informed initiatives to improve the policy framework and bridge infrastructural gaps in the Nepali aviation sector.

Despite the fact that there exists civil aviation policy and an act, Nepal does not have a long-term civil aviation development plan with clear investment and maintenance plans. Since CAAN is an autonomous body, it is expected to be sustainable in its operation. However, the amount of resources generated by the agency is inadequate to take infrastructure project or acquire aircrafts. The government has been reluctant to provide assistance to the authority which has constricted its ability to expand its scope. Second, despite existence of policy on

[75] Accumulated net loss of NAC in 2011/12 was Rs.1.57 billion (GoN 2013b).

[76] Currently, NAC is in the process of negotiation for acquiring 6 aircrafts from China, partly in grants and partly in loans.

[77] For example, there was alleged corruption on Lauda Air lease deal, China South-West Airlines lease deal and Air Bus purchase deal.

[78] ADB is providing support to develop capacity of CAAN, in particular, (i) adopt civil aviation regulations in accordance with international standards; (ii) prepare a strategy and implementation plan to separate its regulatory and airport operation functions; (iii) develop a national air transport development plan and a corporate business plan; (iv) devise and implement a human resources development plan; (v) improve and integrate its management and financial planning systems, and provide training for their efficient operation; and (vi) conduct feasibility studies for private sector participation in the development and operation of airport infrastructure (ADB 2009).

[79] An aviation MIS which serves as an information hub recording the volume and movement of aircrafts, cargo, can serve as a multi-dimensional tool which can be useful in areas of price and revenue management, flight operation and air cargo management and tracking, airport management system and a central reservation system.

promotion of private sector participation in the operation and development of air transport infrastructure such as construction and operation of the entire airport, or portion such as passenger and cargo terminals, the government has not developed any framework to engage private sector in build-operate-transfer projects. The current predicament of virtual monopoly of the NAC and exclusion of the private sector from the handling operations in the TIA which has led to high costs and low efficiency, suggests that the policy hasn't been actively pursued.[80].

7.2.3 Lack of railway network

Since the cost of transportation is extremely high with regards to both passengers and freight, an alternative cost effective transport mechanism should be explored to reduce the cost of transportation in Nepal. Railways can be an important transportation system in this regard. Empirical estimates of the cost of freight transport by road and by rail indicate that rail haulage cost is about half of the road haulage (e.g. CRA International 2006). If the cost of vehicle maintenance, road traffic congestion and accident, and greenhouse gas externalities are included, the relative benefit of rail transport would be further increased. In addition, railways are quick and efficient modes of transport capable of handling large amount of passengers and freight. It not only helps promote interoperability and interconnectivity between infrastructures, but also boosts the local/regional economy by creating a new high quality multifunctional urban landscape. Despite the fact that the first railway service in Nepal was commenced in 1927, railway network is negligible. For political economy reasons and because of vested interest, there has been an absence of policy framework in railway development.

Political economy challenges

The interest of Nepali politicians, irrespective their stature, is to nurture political clout at the local level focusing on their own electoral constituency and, therefore, their natural choice for the development of transport system has been either building roads or constructing airports to the neglect of railways. Construction of railway does not pay politically in the short run since the benefits of railways cannot be localized, and land acquisition adversely impacts the electorate. As a result, the development of a railway appears as a passing reference in the electoral documents of political parties, if mentioned at all. In addition, road transport associations are very strong. They can enforce an illegal syndicate system and a price cartel. Their vested interests might have blocked any initiatives on railway development.

Inadequate organisational capacity

The Department of Railways, the apex national body responsible for development, expansion and management of railways in Nepal, came into operation in 2011 and operates only at central level. A railway transport system requires a multi-tiered organization system at a local, regional and national level responsible for development, operation, expansion and maintenance of the railways (GoN 2010c). This structure is currently non-existent in the railway department. Considering the budget allocated to the Department of Railways, it becomes extremely hard for the Department to expand its area of operation.

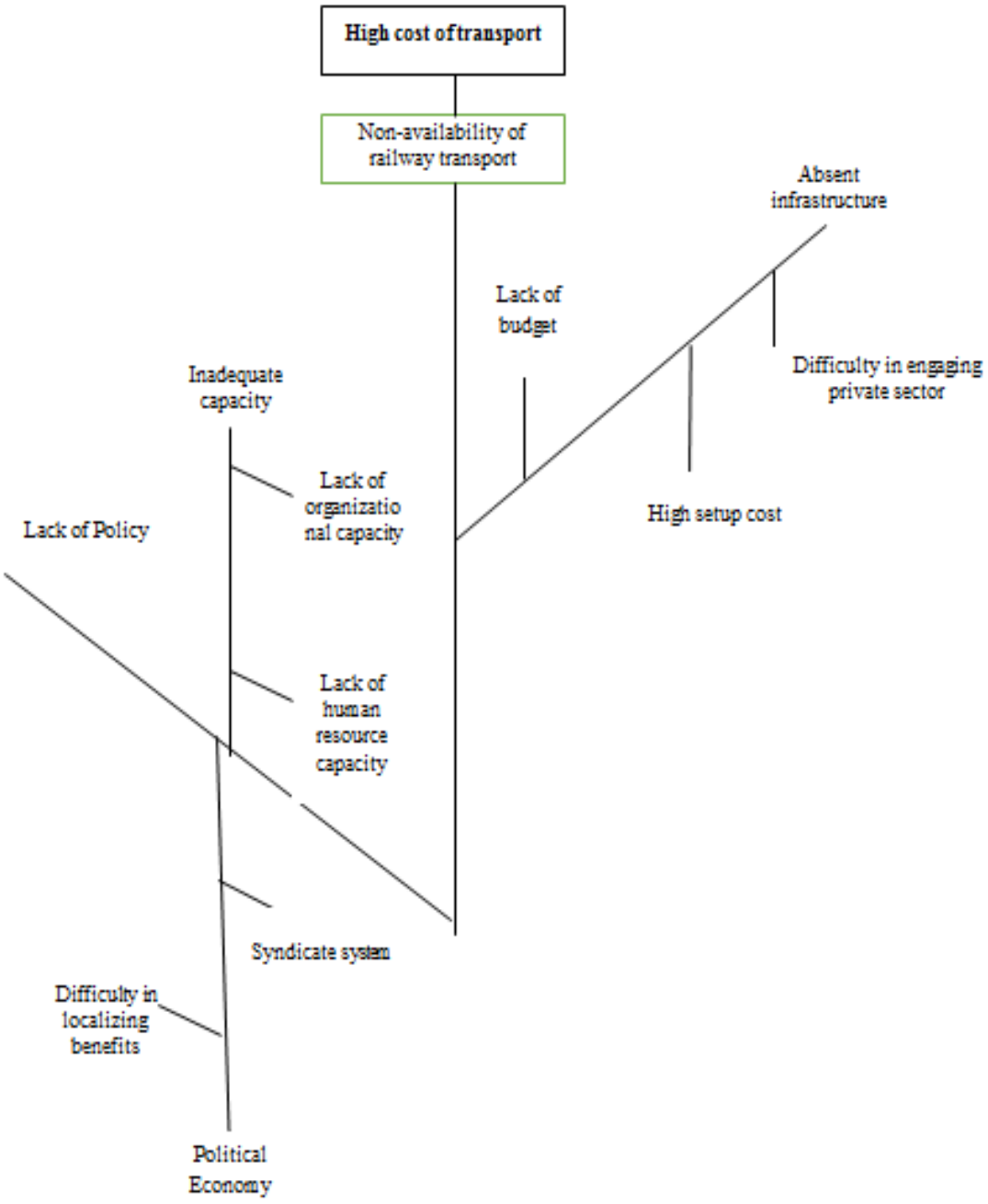
Because of an underdeveloped organizational structure and neglect of the railway sector the Department of Railways has been able to attract qualified technical staff and experts[81]. In addition, there is strong tendency of the officials to transfer or

[80] Handling operations remains an important source of income for the NAC. In the FY 2011-12, the NAC managed to raise Rs. 2 billion from its handling services (HNS 2013, Prasain 2013).

[81] The officials from Department of Railways informed during the consultation that the number of applicants for railway services in the national civil service examination with railways related comprehensive curriculum did not match with the number of vacancies.

leave the Department because of inactivity in the Department and resulting lack of career prospects. All these factors have weakened negotiations and advocacy in favour of railways in the policy formulation process and of the identification of the economic benefit of railway vis-à-vis other modes of transport. Recruiting technically qualified human resources is a challenge to the development of railway capacity in Nepal. This in turn will be solved through extending greater priority and resources to railway development in Nepal.

Figure 27: Problem tree for lack of railway development



Challenges in land acquisition

The feasibility study on railways estimates that at least 58,327 households would fall within the area of influence of construction on the East-West stretch. For the

Kathmandu-Pokhara alignment, the figure stands at around 10,104 households. Out of this, at least 54,620 households are estimated to be involved in agriculture, and the majority are local native inhabitants (GoN 2010). Land for them not only holds economic importance for their livelihood but also it has cultural and sentimental values. In addition, various protected forest and wildlife conservation areas lie on the proposed rail alignment (GON 2010). Previous experiences on such large scale projects in Nepal are littered with instances of problems related to land acquisition. Most recently, the inception of the Kathmandu-*Terai* Fast Track road was delayed due to problems of land acquisition. Similar problems have been encountered in the various hydro-electricity and water supply projects too. As such, it would be difficult to manage land acquisition, resource dislocation, population relocation and encroachment of protected areas.

Lack of financial resources

The investment requirement for the development of a nation-wide network of railways with appropriate technology is significant, which would put a large dent in the public finances[82]. It would necessarily require considerable foreign assistance or private investment. But development partners have not shown any interest in railway development. Instead, the assistance on infrastructure development has been on the decline. For the private sector, insufficient passenger movement, an inadequate volume of users and freight, as well as a long gestation period has made railway projects a financially unprofitable venture. In addition, the majority of terrain in Nepal consists of hills and mountains. The cost of expanding the railway network in such places would be extremely high, with the cost of construction of the railways in the hills rises by as much as three times compared to their construction in the plains (MoPPW 2010). Moreover, until recently, the price of electric technology for railways was high, meaning the system would have been fossil fuel dependent adding an additional burden to the foreign reserves of the country.

Absence of policy

Political economy factors and investment requirement partly explain an absence of a clearly defined railway policy in Nepal. The National Transport Policy (NTP) 2001 has mentioned development of electrified railways, and private sector participation as a major part of national transport sector policy framework, however, no concrete action has been taken in this regard. In addition, there is not a separate railways development or investment plan, as available for other modes of transportation. A feasibility study on the development of railway transport was undertaken only in 2010 (GoN 2010). However, no initiative has been taken to formulate a comprehensive railway policy and legislation despite the fact that the NTP has recognized the need for a comprehensive transport act, which would cover rules and modalities involving all forms of transportation and transport infrastructure including the railways. The reason for such a state of affairs could be a lack of a clear understanding on the role of railways in economic development, and its contribution to economic growth. As a result there is an absence of public demand for the development of railway transport.

7.3 Opportunities for transformation

Despite substantial challenges in the development of railways and air transport services – ranging across policy inadequacy, the lack of institutional capacity, and a lack of resources – the potential economic development and the structural change and resulting derived demand for transport services (coupled with the possibility for

[82] The feasibility study estimated the total cost of fixed capital infrastructure for East-West and Pokhara-Kathmandu corridor to be around $ 6.54 billion (at US$ 1 = NRS 100).

use of domestically produced energy in railway transport) have created opportunities for transformation of air and rail services. The commitments of all major political parties towards the development of a rail network, as reflected in their recent election manifestos, indicate increasing national support for the expansion of railway transport.

As discussed earlier, there are significant gaps in the policies relating to the aviation and railway sectors. In the aviation sector, an airport plan and an investment plan do not exist. In the railway sector, no policies or regulations have been formulated. Similarly, a comprehensive transport sector development plan is also absent. Besides improving the policy structure in the transport sector, steps need to be taken to improve the capacity of the personnel working in these sectors. An important entry point could be the development of a comprehensive transport sector development plan with identification of inter-modes of transport trade-off and complementarity, infrastructure requirements, investment plan and role of private sector and government in infrastructure development and management. In addition, a comprehensive information management system with regard to the uses of all modes of transport would help not only the management of the transport sector, but also the planning process.

Significant potential remains unexplored for Nepal in terms of its aviation services. The country has signed bilateral air service agreements with 36 countries. This provides for 5.7 million seats annually to and from Nepal. Only 40 percent of this capacity, overall, has been utilized. Meanwhile, there has been a substantial rise in the number of tourists arriving and leaving the country by air. There has also been rise in the number of Nepali citizens, including migrant workers, travelling by air in the recent years. However, the lack of airport infrastructure facilities of international standard and inadequate fleets of airline companies may work as a deterrent to manage and meet the increasing demand for air services. In this context, up-gradation of existing airports, regional hub airports and rural airports with high tourism potential, and financial and technical support for acquiring and expansion of fleet of national carriers, could be an entry point for engagement. This would help ensure regularity and predictability of flights for international travellers[83], and would improve air travel safety. Development of a regional hub (for example, Biratnagar Airport) may also reduce pressure of international traffic in TIA. Expanding the capacity of domestic airlines would also improve the competitiveness of the international airline market in Nepal[84].

The development of railway transportation also provides opportunity for transformation. Railway transport is more energy efficient than road transport. Also, the coefficient of friction on railway track is low and one horsepower can pull 500 kg on rail, which on road is equivalent to 150 kg (Thapa 2009). As the cost of electric technology has declined in recent years, and high level government officials and policy makers have shown increasing interest to implement big hydroelectric projects, railway transportation is going to be not only environmentally friendly and cost efficient, but also an economic activity with strong backward linkages using domestic inputs in its operation.

The approach paper of the thirteenth Development Plan has recognized railway as an alternative mode of transport to be developed, and the government has identified Mechi- Mahakali electrified railway line which connects Kakarvhitta (Mechi) in the

[83] Various airlines, e.g. Austrian Airlines, Lufthansa, had withdrawn flights in short notice, resulting virtual absence of direct flight to Europe from Kathmandu. Had there been national carriers operating in European route, such humiliating situation for tour operators could not have been aroused.

[84] Because of market imperfection, air fare is almost one and half times higher for Kathmandu-Delhi-Europe route compared to the fare of Kathmandu-Delhi, Delhi-Europe.

east to Gaddachowki (Mahakali) in the west passing through major economic centres such as Itahari, Bardibas, Chandaranigapur, Simara, Butwal, Lamahi, Kohalpur, Attariya and Mahendranagar. The identification of need to establish an independent railway board is also certainly a positive signal highlighting the willingness of the government to develop the railway sector. In addition, the Governments of Nepal and India have agreed to develop railway infrastructure at five cross border points along Nepal-India border, namely Biratnagar-Jogbani, Bardibas-Janakpur-Jayanagar, Bairahawa-Nautanhawa, Nepalgunj-Nepalgunj-Kakarbhitta-Panitanki, and New Jalpaiguri railway, thereby connecting Nepali commercial centres with the Indian railway network.

Moreover, Nepal's railway will be part of the Trans Asia Railway linking major Asian cities. More importantly, election manifestos of four major political parties (CPN UML, Nepali Congress, Nepal Janadadhikar Forum and UCPN-Maoists) for the upcoming Constituent Assembly election specifically mention construction of East-West and Kathmandu-Pokhara Railway network connecting major cities and high-population areas in *Terai*, to reduce the cost and time of transport as an important development sector priority project. Thus, it is highly probable that any initiative in railway sector development will be supported by all political parties.

Although the railway feasibility return from the East West Railway Service (EWRS) is less than the required benchmark, the economic internal rate of return (EIRR) of the project is positive[85] (GoN 2010). The study estimates that without any financial support in capital cost, the EIRR of the project comes out around 4.45 percent, a figure which becomes 6.62 percent in case of a 30 percent financial grant. If one were to discount the Kathmandu-Pokhara section, the cost of the project drops by almost 44 percent, which would lead to even higher EIRR. Since the EIRR was calculated on the basis of "with the project" and "without the project" costs comparison, it shows that the cost of transport for both passengers and freights drops considerably using railways (considering the high cost of setup). Additionally, the report assumes the rate of growth of manufacturing and industries at current on-going rate, and has not considered the possibility of a crowding-in effect, which would further increase the demand for the railway service increasing its profitability. Completion of railway lines would not only provide transportation services at affordable prices, it would also diminish the national dependency on POL products and reduce the imports bill of the government.

7.4 Programme options for economic transport

The causes of high transport costs are due to inadequate institutional capacity, low quality and insufficient transport infrastructure. The recommended interventions include both institutional capacity development as well as infrastructure development. Institution & policy development

1. **Development of comprehensive transport sector development plan**

The National Transport Policy (NTP) 2001 details the national policies for all modes of transport (road, air, water, railways, and ropeways), and transport sector safety and environmental protection. A master plan for a Strategic Road Network (STNs) has been developed, and the Centre has given authority to the District

[85] Although profits are most important private invest signals, they may not be a good signalling mechanism for projects related to national economy. Cost benefits analysis on such projects involve economic costs and benefits where profitability includes: a) financial profitability expressed in economic prices; b) profitability in economic prices associated with differences in project boundary; and c) profitability in economic prices linked to external economies and diseconomies (see: Ali 1990). Positive economic rate of return therefore indicates positive economic profitability of the project.

Development Committees to design their own District Transport Master Plan (DTMP). However, significant policy gaps still exist in the transport sector.

The NTP 2001 is only a policy outline, and does not specify the targets and the strategies required for successful implementation of identified policies. Although various master plans have been developed with regards to the STNs and local and feeder roads, a comprehensive design and investment plan covering all forms of transport infrastructure is lacking. Though there exists aviation policy, it lacks airport development strategy and investment plan and in railway sector there is virtually no plan or policy. Consequently, the budget allocation from the government has followed a trend-based rather than need-based policy. A coherent role of private sector in the investment and a benefit sharing process has also not been specified.

A unified and comprehensive transport development plan helps guide the development of the country's transport system, taking into account the synergies and complementarities among various modes of transport – road, rail and air – and according to the pattern, demand and needs of users. It also spells out a framework for the development of detailed policy and legislation, as well as identifying investment priorities, and a set of prioritized actions. As such, a holistic and comprehensive transport plan would recognize the inter-linkages between various modes of transport utilizing the potential of complementarities and help reduce the cost of infrastructure development. It may not only improve the performance and profitability of various modes, but also significantly reduce the cost of transport services.

2. **Development of transport management information system (MIS)**

Information on the nature of uses of various modes of transport across the country with an up-to-date database on the transport system is a must for efficient transport management. At present, the Department of Roads (DoR) is the only transport department which possesses an active information management system. The Department of Local Infrastructure Development and Agricultural Roads (DoLIDAR), Department of Railways and the CAAN do not possess such a system.

There is a need for the development of a comprehensive transports MIS and live information database which collects and processes information of all transportation sectors simultaneously. Such system will serve various purposes. First, an integrated management information system which has up-to-date information system on all modes of transport can provide valuable data on volume and nature of users of all modes of transports at all points of time. This data can be utilized to design transport infrastructure development and maintenance strategy. Second, an integrated MIS can identify inter-linkages between different transport sectors and help utilize potential synergy. This would lead to an optimal utilization of available resources. Third, MIS can also lead to a more efficient and productive workforce who can make informed decisions. Fourth, it can produce up-to-date information on the current movement of all vehicles and other modes of transport which facilitates vehicle enquiry and cargo tracking. Spot tracking can lead to faster and safer travel, thereby reducing cost of insurance and consequently leading to cost of transport services for the users. Finally, a widely accessible MIS can also be extremely useful for the users because they can make an informed decision and lastly, the MIS can be used in enhancing sustainability, safety and security of the transportation assets.

3. **Development of railway act, policy & board**

The Department of Railways under the Ministry of Transport was developed as recently as 2011, and therefore the department is still at its infancy and lacking technical and institutional infrastructure and qualified human resource. In addition,

despite the recognition in the on-going three year plan on the importance of railways in Nepal, no initiative has been taken in development of a legal document or a policy framework for the advancement of the railway network. Furthermore, key informant in the department revealed that the division is in the process of being transformed into an independent board. Therefore, there exist significant areas of intervention in the railway sector. Intervention could be in the form of enacting railway act or a detailed railway development and maintenance policy. Similarly, considering DFID has been a participatory member in the newly formed Nepal Investment Board, it can lend its experience and expertise to assist in constituting Railway Board and building its capacity[86].

4. **Best practices in public-private partnership (PPP)**

Considering the resource constraints of the government, it is imperative to stimulate private investments in large infrastructural projects. Therefore, since the advent of liberal policies in the country post 1990, private sector has been recognized as an engine of growth and its role has been encouraged in all sectors of the economy, including infrastructure development. However, because transport infrastructure sector are high-cost areas which require large investments with long pay-back periods, private investors are generally unwilling to invest in these areas. Consequently, the government has not enjoyed much success in getting the private sector involved in infrastructure development in the transportation sector. Unofficial estimates suggest that private investments in overall infrastructure sector has been a mere 20 percent to date (Shah 2013). An important area of intervention therefore could be sharing with the government with examples of successful integration of the private sector elsewhere in the region/world bearing in mind various unique constraints of Nepal's economy. A catalogue or template of possible schemes for future Private Public Partnerships (PPP) in infrastructure development and management would be of significant value for the government.

5. **Capacity enhancement of transport & planning bodies**

There is a deficit of resources including skilled human resources. This is one of the key impediments in reducing the cost of transport. Interviews with key informants and literature reveal substantial space of intervention in the area of capacity development of human resources at various transport-related agencies. Lack of professional and technical human resources in the railway sector has resulted in inefficient operation and bottlenecks in developmental activities. In addition, high level policy makers indicated that trained and skilled human resources in government and regulatory agencies would help government institutions devise better policies. The proposed integration of MIS facilities in various transport departments and regulatory bodies also requires training human resources capable of effective operation and utilization of new technology. Even in the private sector, over the years, notable failures have been noticed among big and small airlines carriers which have been attributed to improper planning of their companies. Therefore, significant potential for intervention exists with regards to enhancement of human resource capacity, not only in government related agencies but also in private transport sector organisations.[87]

7.4.1 Infrastructure development

1. **Expansion of aviation capacity**

[86] Railway sector will require not only investments but also a management and operational structure for its functioning. The feasibility study on railway stipulates for a three-tier management structure requirement for effective functioning of the railway. As such, a separate legal management and operations entity is required for sustainable operation of the railway. Additionally, the Investment Board Act has no provision on the areas of operation, management or maintenance of an infrastructure.

[87] Although the ADB has provided assistance in the reorganization and restructuring of the Civil Aviation Authority of Nepal (CAAN), capacity development of its personnel has not yet been pursued.

Investigation of the constraints of the aviation sector identified unavailability of aircraft as one of the major reasons for the non-performance of the national carriers and non-utilization of available capacities. In fact, international operation of the national air carrier is non-existent. As discussed earlier, a lack of aircraft is one of the reasons for declining profitability of the NAC, and in turn has been unable to accrue sufficient resources for investing in new airlines. Similarly, private sector airlines operators do not have sufficient fleet to operate international flights. Therefore, one of the potential areas of support could be assistance to national airline operators – that is NAC or other private sector actors – in their lease/purchase of additional aircraft.

Although ADB is providing support in airport development[88], improvements of various regional as well as local airports still remains an important area of intervention. Assistance can be provided in improving infrastructure of airports not pursued for improvement by the ADB and can be selected based on high contribution to tourism development and trade, or immediate need of improvement due to safety reasons or urgent need for improving accessibility[89].

The approach paper of the on-going three year plan has identified up-gradation of Biratnagar Airport, which is the second largest airport[90] in Nepal in terms of its volume, from national hub airport into a regional/international one. Thus, the third area of intervention could be infrastructure development of Biratnagar Airport. Its development as a regional/ international airport would reduce traffic volume in TIA, promote tourism as it is in proximity to various tourist destinations, and reduce travel costs for migrant workers.[91]

2. **Support in the construction of railway network**

As explained above, the cost of building the East-West Railway would provide a significant benefit to the economy; however, it would be very difficult for the government to mobilize resources from its own revenue sources. In this context, providing seed money for a Railway Development Fund, to be managed through the Railway Board or Government of Nepal, for mobilization of financial resources domestically (both from private and government) and internationally (loans and grants) for the construction of railway infrastructure and management of railway services, could be an important step in the development of railway network in Nepal. Such a fund would manage resources not only for East–West Railways but also for cross-border railway networks.

[88] ADB is providing support on improving operational capacity of TIA, strengthening institutional capacity of the Civil Aviation Authority of Nepal (CAAN) to facilitate future reform program and private sector participation, and improving infrastructure of three remote domestic airports, namely Simikot, Lukla and Rara, through Air Transport Capacity Enhancement Project (ADB 2009).

[89] Such Airport could be among Bajhang, Bajura, Bhojpur, Chaurijhari, Dolpa, Jumla, Manang, Phalpu, Rumjatar, Salley, Simikot, Thanmkarka and Tumlingtar. (INECO Priontec 2012)

[90] In 2011, the traffic volume in Biratnagar airport was 372,045 passengers, a number slightly higher than Pokhara airport. (CAAN 2012)

[91] It is estimated that total inflow and returnee migrant workers from eastern development region was about 300,000 in 2012. (NTB 2013)

7.5 Programme options matrix for economic transport

Constraint	Programme idea and type of support	Target and Impact	Working with and/or through	Niche/other donor work	Approach/theory of change	Comments and key questions
Lack of access to transport services	Support to development of public transport services – trolleybus and rail network	- Improved access to transport services - Promoting modal shift for improved environmental and economic performance	- Ministry of Physical Infrastructure and Transport - Department of Transport Management - Kathmandu Metropolitan City - Other municipal authorities	Potentially coordinated with: - Asian Development Bank (KSUT) - Global Environment Facility (GEF) - JICA - Government of South Korea	Technical assistance to support rehabilitation of existing transport infrastructure, and development of proposed projects, including: -Kathmandu – Bhaktapur (trolley bus) - Mechi-Mahakali (rail) - Pokhara-Kathmandu (rail)	n/a
	Support to development of public transport services – para-transit	- Improved access to transport services - Promoting modal shift for improved environmental and economic performance - Improved private sector participation	- Ministry of Physical Infrastructure and Transport - Department of Transport Management - Traffic Police - Kathmandu Metropolitan City - Other municipal authorities - Private sector operators	Potentially coordinated with: -USAID - Clean Energy Nepal (CEN) - GIZ	- Market analysis and development activities to support full electrification of the tempo network in Tier 1 and 2 cities, and promotion of associated infrastructure and support services	. n/a

Absence of comprehensive and synchronized policy structure	Development of comprehensive transport sector development plan	A well-coordinated transport sector development effort that: Recognizes the inter-linkages between various modes of transportation Establishes pre-defined investment requirements of various sectors of transport and the sources of capital Clearly defines the role of private sector in the development and benefit sharing process	NPC, MoPIT, Department of Railway, Department of Road, MoCTCA, CAAN, Private Sector	No donor engagement Transport policy exists Government is in the process of reviewing priority investment plan for road sector	Can attract private investments in the transport sector Can increase the coordination among various departments leading to better output Leads to efficient transport system reducing the cost of its development consequently resulting in better access to transport facilities at lower costs	There could be initial reservation from sectoral ministries/ departments as they might perceive intervention in their assigned tasks Need to mobilize NPC to take the lead and ensure government ownership
	Development of transport management information system	A platform for up-to-date information on the movement of all forms of transport vehicles Information hub for performance monitoring, need assessment and priority identification	Department of Roads, Department of Traffic Management, Department of Railways, MoPIT, private sector	No work exists on road transport and inadequate information system in air transport	Results in better informed decision making among the policy makers, and efficient utilization of financial resources Increases coordination among various departments Leads to better travel and	Should it be carried out in a big bang manner-covering all modes of transport or taken up separately for road, air and railway? If the system is unbundle, what should be the priority mode of transport/ geographical areas?

		Vehicle and cargo tracking facilities are made possible Ease of access of information to potential service users as well for maintenance of infrastructure			transport experience and reduces travel costs	A long term project requiring support from local bodies and private sector.
Lack of institution/ policy	Development of railway board	Creation of an independent organ responsible for planning, development, management, and expansion of railways	MoPIT, Department of Railways (DOR)	Identified area by the policy document Donor support hasn't been found on railways sector, it presents a good opportunity	Creates an administrative centre responsible for the development of acts, plans and policies of the railway sector, and its management and operation The board operates as a mediator between the government, development partners and the private sector and therefore will be useful in garnering resources required for railway development	Low cost high value impact intervention
	Development of railway development plan/policy/act	Creation of a long-term regulation and policy structure for railways which can provide guidelines for	Railway Board and MoPIT	No donor support exists and therefore presents a good opportunity	Existence of a regulation framework as well as plan/policy structure can attract investments/assistance	If comprehensive transport development plan is not materialized, an alternative intervention

	development as well as management of the railway infrastructure			and provide legal basis as well as modality for the development of railway sector	for railways sector
PPP Best Practices	Provide the stakeholders with cases of successful and feasible PPP practices that have taken place elsewhere Provide a template for the government for PPP projects in transport infrastructure development and management	MoPIT, MoCTCA, CAAN, Private Sector, NPC	DFID has been providing support in the development of Power Purchase Agreement	Increases private sector participation and reduces expenditure burden for the government Increases the potential sustainability/profitability of the projects due to private sector participation	Opportunity to replicate existing support Possibility to apply in other infrastructure sectors
Capacity enhancement of regulators/ planning agencies	Provide assistance in training human resources	CAAN/ Department of Railway/ Railway Board /NPC	Development partners are engaged but on ad hoc basis	Leads to better planning decisions/reduces cost of planning/leads to efficient regulatory body	Opportunity to develop human resources in a planned manner, in particular in railway sector. But it should be followed by the development of comprehensive transport development plan and establishment of Railway Board and Railway Development Fund

Inadequate infrastructure and aviation capacity	Assistance in acquiring aircrafts	Increase in the number of aircrafts available with NAC/ private airlines operator leading to higher profitability Increased arrival of tourists, lower prices for the customers and higher inflows of foreign exchange	CAAN, NAC/ NRB/ Private sector	Employees Provident Fund and China's EXIM bank have provided soft loans/assistance for purchase of aircraft. Assistance on loan repayments can be useful. Additional assistance on further acquisition can also be provided	Increases the passenger volume of the NAC and reduces its unit overhead costs increasing its profitability The profits generated through international sector can be used to lower the prices of domestic air travel, especially to inaccessible places Provides competition for the international air carriers and reduces inefficiency in the market	Access to such loan to private sector? The impact would be similar
Inadequate infrastructure and aviation capacity	Infrastructure development of airports	Increase in the safety of the airports making destinations safer and to a certain extent more attractive to potential customers Increased predictability of the flights	CAAN/ Ministry of Culture, Tourism and Civil Aviation	ADB (Air Transport Capacity Enhancement Project) is working in developing the TIA, Gautam Buddha Airport, and airports at Simikot, Lukla and Rara. Improvements in other airports can be pursued.	Improvement in airport infrastructure can lead to safer travels for passengers. Safer travels leads to reduction in insurance premiums of the airlines leading to lower costs for the customers	Potential candidate could be up-gradation of Biratnagar Airport to regional/international airport and other airports with the potential of promoting tourism and trade.

	Seed money for railway network development	Establishment of Railway Development Fund Increased resource mobilization for railway network development	MoF, Department of Road, Railway Board, development partners, private sector	Government has already conducted feasible study Bilateral talks with India on cross-border railway network in progress No engagement of development partners barring India.	Creation of new dedicated structure can boost priority of railway transport Assist interested development partners/ private sector to engage with 'single window'	Good opportunity to lead support in the development of railway infrastructure.
Poor transport management / management of transport externalities	- Support to adoption of proposed pedestrianisation programmes / extension of existing pedestrianized / access-controlled areas, and implementation of road separation measures to promote non-motorised transport	- Improved transport management - Addressing transport externalities, including: - Pollution - Congestion - Road traffic accidents - Improved tourism destination management and associated livelihood activities - Promotion of poverty reduction through implementation of employment-intensive public works	- Ministry of Culture, Tourism and Civil Aviation - Ministry of Physical Infrastructure and Transport - Department of Transport Management - Traffic Police - Kathmandu Metropolitan City - Other municipal authorities	Potentially coordinated with: - U NESCO - Clean Air Asia (CAA)	- Technical assistance to support proposed pedestrianisation and road separation activities in Tier 1 and 2 cities	- Support to adoption of proposed pedestrianisation programmes / extension of existing pedestrianized / access-controlled areas, and implementation of road separation measures to promote non-motorised transport

Support to revision of fuel and vehicle import / pricing policy	- Improved transport sector management
	- Addressing transport externalities, including:
	  - Pollution
	- Address macroeconomic vulnerabilities generated by rising fuel imports
		- Ministry of Finance
		- Nepal Oil Corporation (NOC)
		- Ministry of Commerce and Supply
		- Ministry of Physical Infrastructure and Transport
		- Department of Transport Management
		- Traffic Police
		- Kathmandu Metropolitan City
		- Other municipal authorities
			Potentially coordinated with:
			
			- GIZ
				Design and implementation support for additional environmental fiscal reform measures (building on existing cess per litre to reduce air pollution), including equalisation of:
				  - Fiscal treatment of petrol and diesel.
				  - import policy for petrol and diesel cars
					Support to revision of fuel and vehicle import / pricing policy

Support to development and implementation of improved emission and efficiency standards	- Improved transport sector management
	- Addressing transport externalities, including:
	  - Pollution
	- Address macroeconomic vulnerabilities generated by rising fuel imports
		- Ministry of Finance
		- Nepal Oil Corporation (NOC)
		- Ministry of Commerce and Supply
		- Ministry of Physical Infrastructure and Transport
		- Department of Transport Management
		- Traffic Police
		- Kathmandu Metropolitan City
			Potentially coordinated with:
			
			- Global Fuel Economy Initiative (GFEI)
			- ICIMOD
			- GIZ
				Technical assistance to support
				  - upgrading of Nepal Vehicular Mass Emission Standard similar to Euro-3+.
				  - Improved vehicle testing through Vehicle Fitness Test Centre (VFTC).
				  - strengthened Air Quality Monitoring System
					Support to development and implementation of improved emission and efficiency standards

			- Other municipal authorities			
Lack of inclusive / pro-poor transport planning	- Support development of revised National Transport Policy and associated sub-category policies (e.g. non-motorised transport, electric 2W)	- Improved access to safe, sustainable and affordable transport - Improved participation of the poor in: - infrastructure construction / maintenance - the provision of transport services	- Ministry of Physical Infrastructure and Transport - Department of Local Infrastructure and Agricultural Roads (DoLIDAR) - Department of Transport Management - Traffic Police - Kathmandu Metropolitan City - Other municipal authorities	Potentially coordinated with: - IFRTD - GIZ - JICA	Technical assistance to support Revision of vehicle-centric transport policy.	- Support development of revised National Transport Policy and associated sub-category policies (e.g. non-motorised transport, electric 2W)

8 Tourism

8.1 Evaluating performance

The service sector is the largest economic sector in Nepal, overtaking agriculture in 2002 (DFID 2013). It has grown as a proportion of GDP from 35 percent in 1991 to 47 percent in 2011, and the value added of services has grown at an average of 5.72 percent for the past 5 years since the conflict (higher than the average GDP growth of 4.79 percent over this period).

Although tourism is not discretely captured in the public accounts, its total contribution to the economy is estimated to have been NRs.147.2 ($1.69bn) in 2012, around 9.4 percent of GDP (WTTC 2013). The 'direct contribution' was NRs. 67.2bn ($771m, 4.2 percent of GDP), while the remainder was accounted for by indirect contributions such as investment related to tourism, related government spending, goods and services purchased along the supply chain, and 'induced' income contributions (e.g. spending by those employed in the sector). Foreign exchange earnings were worth $356.7m in 2012, and there has been an average growth of approximately 12percent over the past decade.

There is broad participation in the sector, which is estimated to have supported 553,500 jobs directly and 1,255,500 indirectly in 2012 (WTTC 2013) – likely to account for approximately 41 percent and 18 percent of non-agricultural employment respectively, and 11 percent and 5 percent of total employment.[92] Tourism has provided a steady and comparatively good income for a large number of Nepalis. Over 20 years the average annual earnings per capita in the service sector were $1,107; this was more than 3 times the average in agriculture and in manufacturing, and while growth in services kept pace with inflation, agriculture and industrial workers saw real earnings decrease (Basnett 2013).

There is anecdotal evidence that these opportunities are relatively inclusive, with many of the jobs going to people in the lower wealth quintiles and from diverse ethnic backgrounds (NMDP, 2012). Moreover, many of the opportunities are in rural areas and parts of the country that otherwise offer very little. The gender ratio is not clear, although some case studies have shown a very low ratio of women to men (Banskota 2012). It is likely that large proportions of tourism revenues accrue to elites and merchant classes in Kathmandu and other tourism hubs (Bhattarai *et. al*. 2005; Updahayaya, 2011), but minimum wage reforms have helped to ensure greater inclusivity, with the daily minimum wage in the sector rising from NRs. 74 in 2000 to NRs. 300 in 2011 (Rimal 2011).

8.1.1 Sector mapping

Nepal has an established niche within international tourism. There has been a broad and steady increase in international visitors since the country opened for tourism in 1962, and 10 of the past 20 years have set new records for arrival numbers, with 803,092 registered in official statistics (GoN 2013) and the real total likely to

[92] This is using the 11,779,000 figure of total employment from the 2008 labour force survey (Central Bureau of Statistics, 2008), the most recent figure available.

exceed 1.3 million[93]. The only notable exceptions to this steady trend has been during periods of civil war and high instability,[94] but since the end of the insurgency, arrivals have grown at an average of 15percent.

Traditional source markets are the US (48,985 visitors in 2012), the UK (41,294) and Europe (30,409 from Germany and 28,805 from France). Their numbers have declined as a proportion of total visitors, but there has been a modest level of growth on aggregate over the past 10 years. Moreover, Western tourists tend to stay longer periods, and the total number of tourist days for the top 5 Asian countries is similar to that for the top 5 Western (GoN 2013c and 2011b).[95]

Neighbouring countries provide the largest number of visitors (India 165,815 recorded and likely 500,000 additional, China 71,861 and Sri Lanka 69,476). China and India represent key growth markets. Over the past decade, Indian arrivals have more than doubled, and Chinese numbers have increased more than seven fold. Domestic tourism is thought to represent a significant market, but very little is known about it.[96]

The age group 31-45yrs accounts for the largest number of tourists (231,117 in 2012; GoN 2013c and 2011b), and it has been the biggest demographic for some time, representing the largest group for 19 of the past 20 years. There has however been growth in the number of older tourists, with 46-60yr olds recently overtaking 16-30 as the second largest group, with the number of visitors over 61yrs growing at 32percent from 2011 to 2012.

Female tourists are also a growth market. 2011 was the first year where their numbers exceeded male visitors, and they accounted for up to 45.3percent of visitors in 2012. There are a relatively high proportion of repeat visitors to Nepal, with 20.2percent in 2012. The majority of tourists do not visit as part of a regional tour (NTB 2011), and while recent figures are not available, it is likely that both package tourists and independent travellers represent significant groups (ibid.).

Nepal has strong natural endowments and some highly unique natural and cultural assets for tourism development. A diversity of attractions, activities and locations is also a considerable strength, with many tourists engaged in a diverse set of activities in a single trip. More details relating to this diversity:

- Cultural, religious and pilgrimage tourism is a major market, and is likely growing. There are 13 UNESCO world heritage sites in Nepal, and it is estimated that at least 400,000 tourists visit cultural and religious sites.

- Trekking, mountaineering, and adventure tourism – the traditional mainstays of Nepali tourism – are still very important markets. Nepal has 8 of the world's 10 highest mountains and mountaineering brings small numbers but considerable revenues. There are approximately 250,000 tourists going trekking per year.

- Nature and wildlife tourism is also popular, with tourists enjoying the great diversity of flora and fauna. Over 130,000 tourists visit Chitwan National Park alone.

[93] Indian visitors arriving by land are not registered in official figures, estimated to be 500,000 in 2010.
[94] For example, drops have been attributed to the Indian border blockade of 1989, the Maoist insurgency 1996 – 2006, and the royal massacre of 2001 (NEF 2011).
[95] India, China, Sri Lanka, Japan and South Korea account for 3.48m tourist days, while the US, the UK, Germany France and Australia account for 3.42m.
[96] It is estimated that domestic tourism represented 55%-65% of travel and tourism's contribution to GDP in 2012 (WTTC 2013).

- Business and leisure tourism are also steady markets.

8.1.2 Governance of tourism

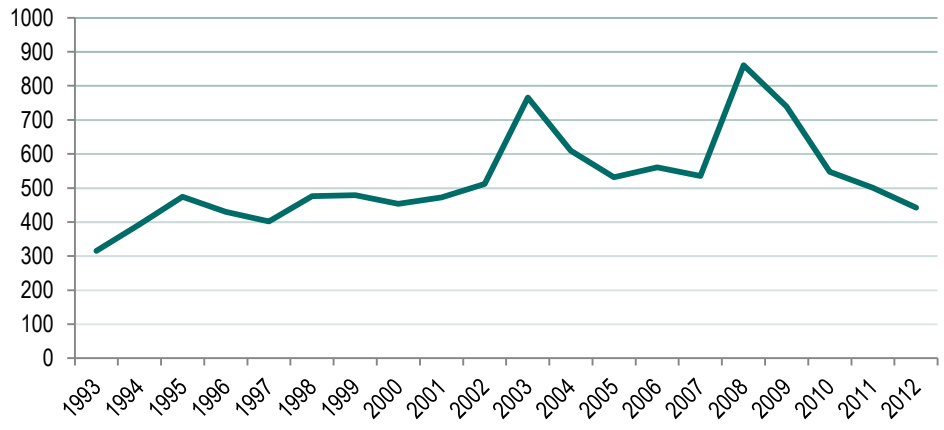
Tourism services in Nepal are governed by a range of regulations, with the tourism act (1978, last amended in 1996) setting out standards and procedures for tourism businesses. The tourism policy of 2008, and 'tourism vision 2020' (2009) set out broad goals for the development of tourism in Nepal, with the inclusion of some specific targets, but they lack strong focus or adequate prioritisation. The Ministry of Tourism, Culture and Civil Aviation (MoTCCA) is responsible for formulating and implementing tourism policy, and the Nepal Tourism Board (NTB) is responsible for marketing and promotion. The effectiveness of these institutions is undermined as many key powers and responsibilities are distributed among other ministries. In addition policies are rarely being backed up by practical plans or sufficient budgets. For example the budgets of MoTCCA and NTB, $12.2m and $7.2m respectively, tend to be spent on recurrent expenditures (Jones 2013).

8.2 Identifying constraints

For over two decades, tourism has represented a very stable sector, with stable growth in visitors and revenues, which are underpinned by diversity of attractions, and in visitors' country of origin. This results in the country being buffered from changes in tourist tastes. Other countries with similar portfolios for tourism have emerged from conflict and shown two- and three-fold increases in the value of their tourism industry in the period between five and fifteen years after conflict and this indicates the potential for Nepal to expand the sector over a relatively short timeframe (NMDP 2013; Bhattarai *et. al.* 2005).

However, the past 5 years have seen the emergence of a central problem for the sector, namely a worrying shift towards a 'high-volume, low-value' model that is not be sustainable (see Figure 28). There is a striking trend of decreasing value captured per tourist. Average income per tourist has shown instability and a general downward trend, with the 2012 figure of $444.2 per tourist the lowest in 15 years. As there is a high and stable average length of stay (12.16 in 2012),[97] the drop can be observed in the average spend per day. There has been an overall downward trend since 2006, with the figure of $35.6 per tourist per day the lowest since 1996, and less than half the highs in 2003 and 2008 ($79.1 and 73.0 respectively).

Figure 28: Average spend per tourist (current US$)



[97] The average length of stay is between 10.5 and 13.5 days for the vast majority of the past 40 years.

These drops mean that recent years have seen a levelling out of earnings from foreign tourists with totals relatively constant over the past 5 years, despite the 61percent increase in arrivals over that period. Moreover, this continued growth in numbers could be dangerous, as there are already indications that key attractions are reaching or exceeding carrying capacity (Jones, 2013). These results in overcrowding which can impact on tourist enjoyment have implications for safety, and cause increased degrading of natural and ecological attractions (Brown *et. al*. 1997).

The drop in value capture is the central challenge to address in order for tourism to contribute to economic transformation; while it has historically represented a higher productivity sector, this is now being eroded. There is currently no analysis available that would allow the causes of the drop to be established to a high degree of certainty, but a number of factors emerge as significant from our synthesis of existing sources. Given Nepal's almost unparalleled natural and cultural assets for tourism, this challenge relates primarily to the issue of ensuring proper management, and to ensure that revenues are captured and, where appropriate, reinvested in the sector. There are many constraints to the development of the sector that are symptomatic of systemic problems (for example poor infrastructure, poor investment environment, and human resource constraints), but while relieving those issues would be sufficient to enable healthy development of the sector, it is not necessary that they be addressed at scale in order to do so (also see Figure 29 below). As such, the top level problem can be disaggregated into three constraints (Jones 2013) and one group of opportunities, which should mark the key priority issues for the sector.[98] For each we outline the constraint and the evidence behind it, and then go on to discuss, and where possible quantify, the impacts on the economy.

8.2.1 Destination-level management

There are challenges and constraints to managing and developing areas for tourism. This partly relates to inadequacies in local government provision of small and medium infrastructure such as roads, facilities, and public services that are important for the development of tourism enterprises. There are also challenges in local planning (tourism is rarely considered) and poor implementation of zoning rules and environmental protection measures. In addition, there is frequently poor management of the tourism attractions and activities themselves, with unmanaged use of many assets leading to degradation and serious concerns over safety and sustainability (ibid.). There is no support for private sector actors attempting to remedy these problems.

There is evidence of these trends in most of the country's established destinations. For instance:

- In Kathmandu, unplanned urban development and poor waste management contribute to an unattractive environment for tourists, and there are threats to the preservation of key cultural sites (Maharjan 2012).

[98] Implicitly, two potential explanations for the drop in value capture have been ruled out. Firstly, some commentators have argued that the figures are a result of under-reporting of revenues in order to avoid tax. This has been discounted in our report because it contradicts the experience of a large number of interviewees in the sector, and because there is no explanation apparent for why this under-reporting has suddenly boomed, especially since recent times has in fact seen large improvements in government collection of tax revenues. Secondly, currency variation does play a role in the value accruing to tourism businesses, however these drops in figures do not match up with the value of the Nepali rupee, and the period covered does not even account for the dramatic drops seen in recent years.

- In Lumbini, visitor numbers are thought to top 800,000 with very little revenue collected (SEDF 2012); and only one of seven pillars that mark the key pilgrimage sites is still standing.
- In Pokhara, problems of haphazard land use development are aesthetically damaging key areas, and inadequate water supply and sewage systems are causing pollution and challenges for tourism businesses. The lake that is the signature attraction of the city is now half its original size, and will disappear within a number of decades if current trends of road development upstream, and hence siltation, continue (Adhikari 2002).
- On Mount Everest, overcrowding results in queues for the summit that are hundreds of people long, which are causing serious safety hazards evidenced through some of the recent deaths on the mountain. The gateway to Everest, Lukla, has big challenges with waste management and insufficient water services; and annual flight problems see thousands of tourists stranded for days with diminishing supplies and overcrowded conditions.

These trends are a constraint on productivity, through hindering the development of quality products and services resulting in value leaking from the sector (either due to uncaptured demand, or insufficient reinvestment of revenues into upkeep and development). The kind of longer-term investment that would be needed to make serious improvements in services and destinations is dis-incentivised, not only by the poor macro-level investment environment, but also because of local level uncertainties – especially around the implementation of planning and zoning laws. It is highly costly for a single business to overcome deficiencies in local facilities alone, and they either face the problem of free-riders, or no support for contributing to a service that is open for all to use. Poor adherence to local fee/levy collection leads to a reduction in available resources for investing in product upkeep and upgrading. Additionally, poor destination-level management is also likely to hinder the output in the sector, if and when established attractions become degraded to the extent that they result in reduced tourist numbers. It is also likely to impact inclusion, as strong local management would ensure that greater value is retained in the destination, and many improved facilities and services could have knock-on effects for the local communities at large.

There is insufficient evidence to quantify the likely economic impact of strengthening destination management, but there is considerable anecdotal evidence on the beneficial effects in terms of tourism flows and services. There are a number of areas which have witnessed striking increases (both in visitor numbers and value captured) as a result of improved local management. Bandipur and Bhaktapur stand out in this regard, where local leadership and coordination have resulted in investment, higher quality hotels, higher charges taken for better-kept sites, and improved local employment. The management of the Annapurna Conservation Area Project (ACAP) was found to be highly effective at protecting the environment at the same time as ensuring tourism revenues contribute to the lives and livelihoods of residents (Baral, Stern, *et. al*. 2010). These examples suggest that improved management could have a relatively large impact.

Drivers of destination level management

The current lack of formal accountability mechanisms at the local level hinders destination management. There have not been local elections for over 15 years, with the Ministry of Local Development centrally appointing the heads of all local government bodies, and the heads of local government bodies are rotated on a very frequent basis. The lack of formal mechanisms through elections limits the

incentives for local governments to respond to the needs and preferences of their constituents, and decision-making is typically highly opaque (S. Jones, 2010). This means that while in some locations there are formal bodies in local government for the management of tourism (for example tourism development committees); there is very limited evidence of their effectiveness.

Norms of patronage are widespread, but do not necessarily inhibit good local governance. Positions of power are distributed according to loyalty and group membership, and are then used to serve the interests of client groups (ibid.). Dynamics are multifaceted and can have different effects. At one end of the spectrum, Nepal has a strong tradition of local-level democratic norms and institutions, and there are a wide variety of effective governance arrangements set up without central directive for the management of common resources (Ostrom 1990). Allegiance to one's own area or people can also have some positive implications for local-level governance, in areas where one or two groups make up the majority of the population.

However, similar informal dynamics also lead to rent-seeking behaviour, with many examples of local government and also business associations imposing tolls and collecting levies without any indication that the money raised will be used for the development of the area or the sector. There is a history of extractive relationships between the centre and the periphery in Nepal (Whelpton 2005). Present-day manifestations see government and political party representatives placed locally by the centre, who are bound to serve Kathmandu elites (Jones 2010).

Incentives for good local management vary from place to place. One axis of variation relates to the nature of the products they rely on and their position in the value chain. Competition between destinations offering similar types of tourist product has in some instances contributed to strong and inspired local management of tourism (for example, Bandipur). However, local stakeholders are more likely to be driven towards stable and rational local management of assets and resources where destinations rely on a single attraction or activity and hence have clear common interests. Conversely, areas characterised by multiple tourist activities, or multiple different industries and sectors, face bigger challenges to overcome for collective action[99].

There are many incentives for the private sector to make major contributions to local governance and management initiatives. Businesses, especially where successful, high profile or longstanding, often face pressures to contribute to their local area – for example through employing local people or providing small-scale infrastructure. This is particularly noticeable in poorer regions and more remote areas, where successful tourism enterprises support a surprising extent of local public goods and services, but can also occur in more affluent and urban areas. In some places, short-term and self-interested behaviour is incentivised by a precarious economic existence, and/or challenges of instability and uncertainty. In places where tourism has been stable and growing, local actors are less likely to see issues as zero-sum practices and more likely to invest in collective solutions to their problems.

Concerted efforts to build relationships and trust have had some positive influence on local management. Within the confines of the local power structures, there are

[99] There has not been a considerable analysis of collective action problems in tourism past what is contained in Jones (2013). Anecdotal examples point to their existence, for example: the provision of local facilities such as water or electricity is seen to be considerably more costly on aggregate when companies pay for individual services compared to broader public provision, but the high fixed costs deter action.

examples of successful efforts led by respected and often politically neutral individuals; for example building larger bodies from smaller units purposefully but organically, by drawing on local democratic norms (Baral and Stern 2009). However, more often the management of tourism is characterised by poor partnerships between local-level stakeholders, even between different subsectors of the industry. Hotel owners, restaurant and bar owners, taxi drivers and others often contest and come into conflict over local management, seeing issues as 'zero-sum', and with their respective associations refusing to compromise.

While there is typically a broad recognition of the challenges faced, in various destinations groups are fragmented and platforms are missing for collectively prioritising problems and developing solutions. Most of the problems faced involve distributed costs and partly distributed benefits, meaning that majoritarian or entrepreneurial policy and decision-making is required (Jones, Jones, *et. al*. 2012). Without local elections, there are some 'second best' mechanisms that are relatively transparent and founded on relatively democratic principles – for example where tourism or businesses associations represent the majority of local interests. However, even where collective will can be mustered; there are still gaps and challenges with problems partly caused by the behaviour of different groups, where information and perspectives can be politicised and divisive. Furthermore, low accessibility to technical knowledge hinders the effectiveness and, as a result, the legitimacy and stability of collective action thus further hindering the ability to monitor collective agreements in the face of politicisation.

8.2.2 National level public investment

There is little public investment in tourism, with the most urgent aspect being poor connectivity infrastructure. Problems with an inadequate road network are longstanding, and make access to many areas with tourism potential very difficult. Bus operators work as a cartel, creating additional challenges in the provision of tourist services. Moreover, there are insufficient airports serving hill and mountain areas, and existing airports are not maintained. Domestic airlines are frequently unreliable and have a poor safety record (with an average of more than one crash per year). International arrivals already exceed the official capacity of the one international airport by 50 percent, and very little progress has been made to develop a second international airport

The connectivity problem is evidenced by the considerable travel times required to reach areas of high tourist potential. Reaching many destinations can take multiple days, making them effectively 'off the map' for most tourists. Few tourists visit places such as Humla, Doplo or Kanchenjunga because the long travel times, and uncertainty around flights make them impossible to fit into a trip of average length. For example, visiting Humla requires devoting eight days to the journey from Kathmandu to the trekking trail and back, compared with the average of thirteen days in-country.

The most direct economic impact of this is on the future output of the sector. As there is already stable and continued growth in arrival numbers, and a good deal of diversity in the attractions on offer, inability to reach other destinations is a bottleneck to net growth in the future[100]. A more immediate indirect effect is that the lack of other accessible locations increases the pressure on existing hubs and destinations, with the knock-on effects of poor management described above. It could also be that productivity is hindered, where there are destinations with the potential for developing higher value services that are currently unreachable.

[100] The one exception may be arrivals capacity at the international airport, which appears more urgent.

In the longer term, poor national connectivity is an issue for the inclusivity of the sector. Often, poor connectivity is taken as a constraint to geographic inclusiveness of the sector, but this is not necessarily the case in the short term When new areas are opened up for trekking, it takes years if not decades for the local private sector capacity to grow, during which time little revenue is left in the local area. The impact of transport infrastructure on the economic growth of an area is complex (Jones and Demenge 2013), and will not always be positive. The most immediate effect of a new road or airport may be to increase migration away from remote areas, and the undermining of local markets through imported goods. However, a number of contributing factors, such as strengthening local capacity and marketing, could enable the development of new routes to contribute to the geographic inclusiveness of the sector over the long term.

The evidence on the likely economic consequences of these constraints is, again, relatively sparse. There are a number of areas which there is sufficient evidence to suggest have untapped potential for tourism (for example Rara National Park, Humla and Dolpo), but no attempt has been made to specifically calculate their potential value to the economy.

Drivers of national level public investment

The distribution of public investment in general, and transport infrastructure in particular, reflects the political history and geography of Nepal. This begins with a historical strategy of neglect (for instance the explicit 'no roads' policy pre-1950), designed to consolidate the power of ruling elites against internal and external threats (Molesworth 2001; Whelpton 2005). The major transport links that have been built since then reflect political and security concerns to co-opt integrate and reward. Most starkly, the central region and Kathmandu, as the main power base in the country, has the highest density of roads, whereas the limited power and political importance of the East, Mid-West and Far-West in particular, is reflected in their lower road densities.

These factors mean there is lower pressure to build or improve airports or roads in hill and mountain areas, where places of natural beauty are often highly remote and of limited political importance. On the other hand, as identity issues and federalism continue to dominate the political agenda, this may result in a more even geographic distribution of political power, and hence greater chances for previously low-priority areas to stake their claims on resources.

Transport infrastructure tends to be distributed according to clientelistic norms, as with much public spending. Choices around the roads to fund and how to route them are driven by the need to benefit constituencies, usually the ethnic group or party members of politicians or politically appointed civil servants. Demands from, and competition between, such groups represent the dominant underlying dynamic shaping connectivity in Nepal, and hamper the chance of developing any formal decision-making process. As a government document acknowledges, 'allocations for infrastructure or budgets for development works are mainly influenced by demands made to government bodies either directly through "delegations" of local government leaders or through their local representatives' (DoLIDAR 2009: 12).

These same incentives hinder the ability to build links of sufficient quality and constrain the effective implementation of public investment more generally (Jones 2010). Limited resources mean it is often possible to build only a small number of routes effectively. However, practice reflects the interests of decision-makers, who spread resources across a large number of routes in order to win the allegiance of large numbers of communities. Associated corruption further hinders quality as positions of power and influence are often bought or distributed according to

loyalty to patronage groups, on the understanding that this will be repaid by the position holder's ability to direct resources (e.g. through allocating construction contracts).

The tourism industry does not form an effective lobby, owing to fragmentation. Tourism in general, and particularly in Nepal, where the sector is so diverse, covers a wide variety of economic activities, relies on a diverse set of resources and is influenced by a variety of actors at a number of levels and in a number of locations. As such, there are major collective action barriers to overcome, even where there might be real economic gain at stake through the development of the sector. The challenge is even greater because of the crowded market, and also the proliferation of tourism-related associations.

In the context of weak national tourism management bodies (for example, MoTCCA has around 1percent of the budget of the top 5 ministries) and key powers for tourism development spread around various government bodies, the barriers to inter-ministerial coordination are particularly harmful to the sector. Ministerial positions are bought and fought over by individuals and political parties, for the benefits that can be accessed by those in charge. This makes each ministry, and departments within each ministry, into a 'domain' of power, serving the interests of the minister in order to capitalise on the opportunity presented by the position[101].

The roads-related government bodies are relatively strong, but tourism development is not a major consideration in planning the road network. The Ministry of Physical Planning and Works (MPPW), and within this the Department of Roads, has a considerable budget of approximately 100 times that of MoTCCA, attracting higher-capacity civil servants as well as large amounts of donor funding and technical assistance. There is a depth of agreement on the importance of building roads and transport infrastructure that stands out as a special case in a country that has many problems in establishing consensus. However there is no consensus on where, or to what end. Some focus on economic ends, social goals, political and strategic interests or administrative concerns – and to some extent they seem to be accepted as an end in themselves. This limits the space for government action to prioritise investments, as there is no agreed basis on which to do this, thus further allowing for the wide dispersal of resources.

A strengthened economic lobby in government could represent an opportunity to promote tourism-related infrastructure investments. In particular, the recently established Nepal Investment Board (NIB), which has responsibility for some key infrastructure along with wide-ranging powers and high-capacity staff to deliver them, is an opportunity for the promotion of improved public investment and the required infrastructure. However, a purely technocratic approach to choosing national-level investments may cause backlash and blockages. Scientific and technical knowledge tends to be best brokered on issues with commonly agreed goals (Jones *et. al*. 2012), but there is an aforementioned lack of agreement on the ends roads should serve, and on the priority areas for tourism development. A more democratic approach would be needed, in particular for identifying areas of high potential.

8.2.3 Challenging environment for higher quality products and services

There are a series of problems that hinder businesses in the provision of higher-quality services and catering to higher-value clients:

[101] Specifically impacting tourism, bodies set up to tackle coordination tend to exist only on paper, for example the National Tourism Council set up in 1992 met only five times in thirteen years, and its replacement has not been significantly more active (Dhakal 2005).

- The investment climate is challenging, as turmoil and instability makes it harder to guarantee returns on investment and incentivises other inefficient business behaviours.

- Insufficient government provision of infrastructure and services imposes considerable costs, as do low levels of skills and poor human resource development.

- There are few incentives for businesses to upgrade their products or invest in human capital. Larger and higher-value businesses face additional costs, for example businesses with small numbers of employees or low revenue are not required to pay value-added tax (VAT). This also creates a disincentive for small business growth, as moving above certain income or employment thresholds carries disproportionate costs.

- Larger, better-established and higher-value businesses tend to be more frequently targeted by industrial action and rent-seeking activities, due to their higher visibility and perceptions of success.

The statistics on business growth evidences these challenges:

- While the period 1991-2008 saw growth in the service sector driven by rising productivity and limited absorption of labour (DFID 2013), since 2008 this trend seems to have reversed with a mushrooming of low-end services.

- The number of travel agencies has increased by a multiple of 3.5 and trekking agencies by 2.5 (to 2116 and 1524 respectively) over the past decade.

- There are 503 registered hotels, with very little increase in higher standard hotels and 95 percent of the growth over the past 3 years accounted for by the lowest official standard (GoN 2013c and 2011b)

- It is estimated that only 24 percent of all tourist accommodation are registered (GoN 2013c) of 2,604 enterprises in 2011 in total (Sedai 2011).

There is anecdotal evidence that this growth itself impacts on the success of higher-value businesses. It is argued that this mushrooming has led to an 'unhealthy competition', with many businesses having a 'copycat' mentality and competing on price alone, undercutting each other and paying little attention to the quality of products provided to tourists. There are reports of poor adherence to, and enforcement of, business standards, and multiple instances given by interviewees of government barriers to innovation. Interviewees reported fewer higher-quality tour operators selling packages into Nepal.

These factors have a direct impact on productivity in the sector, by constraining value capture. While there is insufficient analysis available that might allow a robust link to be made between cause and effect, or to point to specific examples of direct consequences of these trends, some comments can be made. The constrained value capture is partly evidenced by the drop in foreign exchange earnings. If foreign tourists spent the same amount in 2012 as just three years previously, an additional $246m would have been received in revenue (+69percent). There are some questions of whether the reduction is partly due to unregistered businesses not reporting revenue, but this is still tied to difficulties with quality services as unregistered businesses are less likely to invest in product upgrading.

There are also likely to be impacts on degradation as more consistent enforcement of standards would see businesses on the whole able to take more responsible actions. It is unclear what the impact of a move to higher value services might have on inclusion – it could be, for example, that the mushrooming of lower-end services is facilitating a more inclusive spread of the benefits of tourism – but it is difficult to estimate the potential impact.

Drivers of the challenging environment for higher quality products and services

The tourism sector is affected by the legacy of the conflict, and by continued instability. The conflict hit hard many of the people who had invested in tourism and who relied on it for their livelihoods. There has since been a high level of political instability, with few governments lasting more than a year, a significant amount of turmoil and unrest, and a series of mini-crises. The effect of this is to drive many businesses to operate with a high discount factor – placing relatively high value on short-term profit ahead of longer-term, larger, and more uncertain gains. This factor seems to apply less for businesses, subsectors and areas that have witnessed periods of steady growth, but elsewhere has the effect of slowing investment and increasing corner cutting – quality of services and safety are often sacrificed.

There is a history of poor relations between the private sector and government. Before the 1990s, Nepal operated a controlled economy; while policies have slowly changed, their implementation is in some areas inadequate and sceptical attitudes remain. There is infrequent government consultation of industry, and a common perception on the part of business that any government action (or inaction) is the result of corruption.

This also leads to high transaction costs associated with any interactions between the two – in particular, government behaviour results in a disincentive to innovation. Businesses attempting to undertake an activity or carry out a service for the first time face high costs in the face of distrust, and risk aversion on the part of civil servants. Entrepreneurs have to devote a considerable amount of time (and/or money) to persuading MoTCCA to permit even pursuits well-established elsewhere, with turnover at the ministry causing added uncertainties. While the first company to do something bears these costs, once it has secured permissions, others can take up the idea quickly without having had to make the initial investment.

Rent-seeking and corruption inside and outside of government damage the sector. A variety of government and non-governmental bodies find ways to extract money from tourist flows. Little of this money is used to provide beneficial services to tourists or businesses, and must count as value lost to the sector. Corruption hinders the enforcement of quality standards in particular. Prevailing expectations of corruption undoubtedly have a firm grounding in reality, even if the actual extent may not be quite as widespread as the stereotype. Low capacity and clientelism in MoTCCA limit the incentives for effective monitoring, who (reportedly) take money to overlook a contravention of standards. With high turnover of government staff, amounts to be paid are likely highly variable and hence difficult even to write off as just an additional 'cost of doing business'. However, recent crackdowns by the revenue department indicate there may gradually be an improvement on this front.

Politicised labour unions pose a serious hindrance to higher-value businesses, although they have had some clear benefits for the worse-off in the sector.[102] Unions have significant power to disrupt business operations, and their behaviour

[102] The increases in minimum wage are popularly attributed to the unions.

can be particularly damaging because of the centralised but competing nature of political patronage networks, meaning unions tend to work for the interests of their parent parties rather than members. At a minimum, this imposes additional costs (for disruptions, closures and settlements to disputes), but also potentially longer-term damage to the image and reputation of more established businesses. Unions have proven on many occasions that they are happy to risk the closure of a company, and loss of their members' livelihoods, in order to extract rents (UN RCHCO 2011). Higher-value businesses in particular face severe disruptions due to being higher-profile and more well-established.

The behaviour of businesses and entrepreneurs in reaction to prevailing incentives reduces the number of higher quality businesses. A number of trends are evident:

- There are diseconomies of scale. Not registering as a tour operator means not having to pay 25percent taxes to the government, and other entrepreneurs try to keep their earnings under the VAT threshold, even if it means splitting the company into different entities. Firms with fewer than five employees can avoid many regulations relating to labour unions.

- Especially for people living in rural areas, setting up a small shop stocking biscuits and water, or producing arts and crafts to sell to tourists, is most usefully understood as a livelihood strategy. Rather than seeing it through a traditional lens of private sector growth, it is primarily about spreading risk, adding another potential source of income to a variety of other activities, rather than an attempt at being 'entrepreneurial' or to build an active and vibrant business.

- There is a clear 'copycat' mentality, with businesses crowding into areas and activities visibly proven to provide returns. While the speed and spread of imitation do demonstrate clear adaptive qualities in the sector, they also reduce the ability of the sector to manage and develop products and services, and further increase the relative cost to businesses that do something innovative for the first time.

Perceptions of unethical business practices and poor monitoring and enforcement become a self-fulfilling prophecy. A large proportion of people running tourism businesses believe the majority of competitors are unscrupulous and willing to resort to any means necessary to succeed. The logical implication of this belief is that operating according to the rules puts one at a competitive disadvantage, and, when combined with perceptions of government corruption and inconsistent or ineffective monitoring, the perceived costs and benefits are likely to weigh heavily against ethical business practice.

Reliable information on service quality is increasingly available to tourists. Trip Advisor, and other ratings services and staples such as the Lonely Planet serve as relatively reliable guides to the quality of service provided – although they mostly cover hotels and restaurants, with gaps in particular relating to trekking and travel agencies and operators. As the coverage and reliability of these services increase, incentives for quality service provision will also increase in those subsectors covered. For those travelling on a package, it is not clear what sources tour operators rely on in order to judge the quality of services or to discover new products.

8.3 Opportunities for transformation

Two kinds of opportunities could be of strategic importance to the development of the sector.

- First, expanding to new areas and augmenting existing products would allow continued growth of the sector without causing further over-crowding in established destinations.

- Second, developing higher value products would serve to improve the economic impact of tourism.

For each, there is minimal available analysis on full potential, and hence the full significance of these opportunities for economic transformation is not possible to calculate.

Existing trekking products could be supplemented without the need to overcome connectivity constraints, and the steadily increasing visitor numbers give cause to suppose they would be taken up. There are still areas within the 'tourism triangle' under-developed for trekking, with space for increasing the volumes visiting Manaslu, Makalu and Kanchenjunga that could be filled if accommodation was filled. In established regions such as Annapurna, Everest, and Langtang, tour operators report a gap in the market for shorter treks (popular especially with Asian markets and older visitors), and there seems to be an increasing appetite for tourists coming outside traditional peak seasons, meaning that trips to the 'rain shadow' may become more popular (NMDP 2013). There is also considerable potential to develop nature tourism – despite the fact that 23percent of the land area is covered by national parks and PAs, the vast majority of visitors are currently focused on a small number of these areas.

Capitalising on these opportunities is primarily about adding capacity for carrying out existing activities, and hence would be likely to increase the output of the sector without making a major difference to productivity. The significance of the opportunities to the growth of the sector is unclear, although NMDP estimated that developing 'ready-to-develop' areas and adding routes to established areas could add 100,000 additional trekkers per annum (NMDP 2013)[103]. It could be relatively inclusive as well, for example NMDP (ibid.) estimated those 100,000 extra tourists would create 31,000 full-time income opportunities.

The opportunities for developing higher value products are unclear. There are a number of areas that appear to have potential on face value, but there has been limited investigation of the realities (e.g. retirement packages, medical tourism, and resort development). The main 'known' is the burgeoning middle class in India and China. Tapping more effectively into these growth markets represents a considerable opportunity (Sharma 2006), as these two countries represented the fastest growth in recent years, and this is expected to continue[104]. These represent quite different markets from Nepal's traditional tourist visitors, requiring careful and creative supplementing of existing product offerings or the development of new products.

One clear possibility is religious tourism – despite the wealth of cultural and religious sites suitable for development, these assets currently remain underdeveloped and it is likely that very little money is captured from tourists

[103] Assuming constant income per tourist this would add $44.4m to tourism revenues (an additional 12%).
[104] For example outbound Chinese tourist numbers expected to double between 2010 and 2020 (Boyd 2011).

visiting for these purposes (Sharma 2006). Leisure and business tourism also seem to be important activities for Indian and Chinese tourists, and Nepal has potential to broaden and deepen its offering on this.

The discussion below outlines the drivers and constraints around each of the key problems and opportunities listed in the previous section. The political economy dynamics are examined, looking at how structural factors, institutions, actor incentives and behaviour, and the flows of information and knowledge explain the persistence of a problem, the main drivers of change around it, and the feasibility of promoting lasting change.[105]

8.3.1 Challenges for capitalising on strategic opportunities

Overall, there do not seem to be major, systemic constraints preventing Nepali entrepreneurs from capitalising on the opportunities listed above. There is very little indication of any major reasons why they have not yet been capitalised upon, and with the financial incentive involved, it seems quite possible that actions will be taken to this end in the near future. There are, nonetheless, some challenges which are worth mentioning, even if they are weaker forces than those relating to the constraints listed above.

Many of the challenges relating to destination-level management are relevant for businesses trying to capitalise on the new opportunities mentioned above. However, they are likely to be relevant to a lesser degree because of the scale of destination management required. For example, promoting new trekking routes might require investing solely in very small infrastructure such as upgrading and maintaining paths, and improving water facilities at a few specific locations. Collective action is also important for branding and promoting a destination, and this is likely to face some of the obstacles listed above.

There will be variation across destinations in the nature and extent of challenges. In remote areas or areas with weak private sector capacity, those constraints are likely to be slightly more relevant, but the opportunities listed are mostly in more accessible areas. The challenges will also vary with the local political context and informal dynamics. For example, it may be that part of the reason religious tourism has not yet developed to its potential are that many of the sites are in the *Terai*, where there are areas of violence and instability, as well as weak rule of law associated with the open border and activities of criminal groups.

Tour operators (TOs) play a key role in the market, but they are relatively fragmented. Since tourists tend to visit a number of destinations within Nepal, and partake in a number of activities, the role of tour operators is central and they are crucial decision-makers for shaping which products and destinations get developed. However, the mushrooming of small operators, the prevailing distrust between TOs, and the prevalence of competing associations within the same subsector, results in little collaboration. This limits their ability to work together to exploit opportunities. This is important because TOs may not be able to go it alone where an area needs considerable development to meet tourist standards. It is also important with respect to negotiating deals with TOs from tourist-sending countries. A disunited TO sector reduces their bargaining power and hence the proportion of value captured by Nepal from package tourists.

However, there is a cadre of bright, successful tourism entrepreneurs in Nepal. Often relatively young, many have been educated abroad or otherwise exposed to new ideas, and have their sights set on international markets rather than being

[105] This section is adapted from Jones 2013.

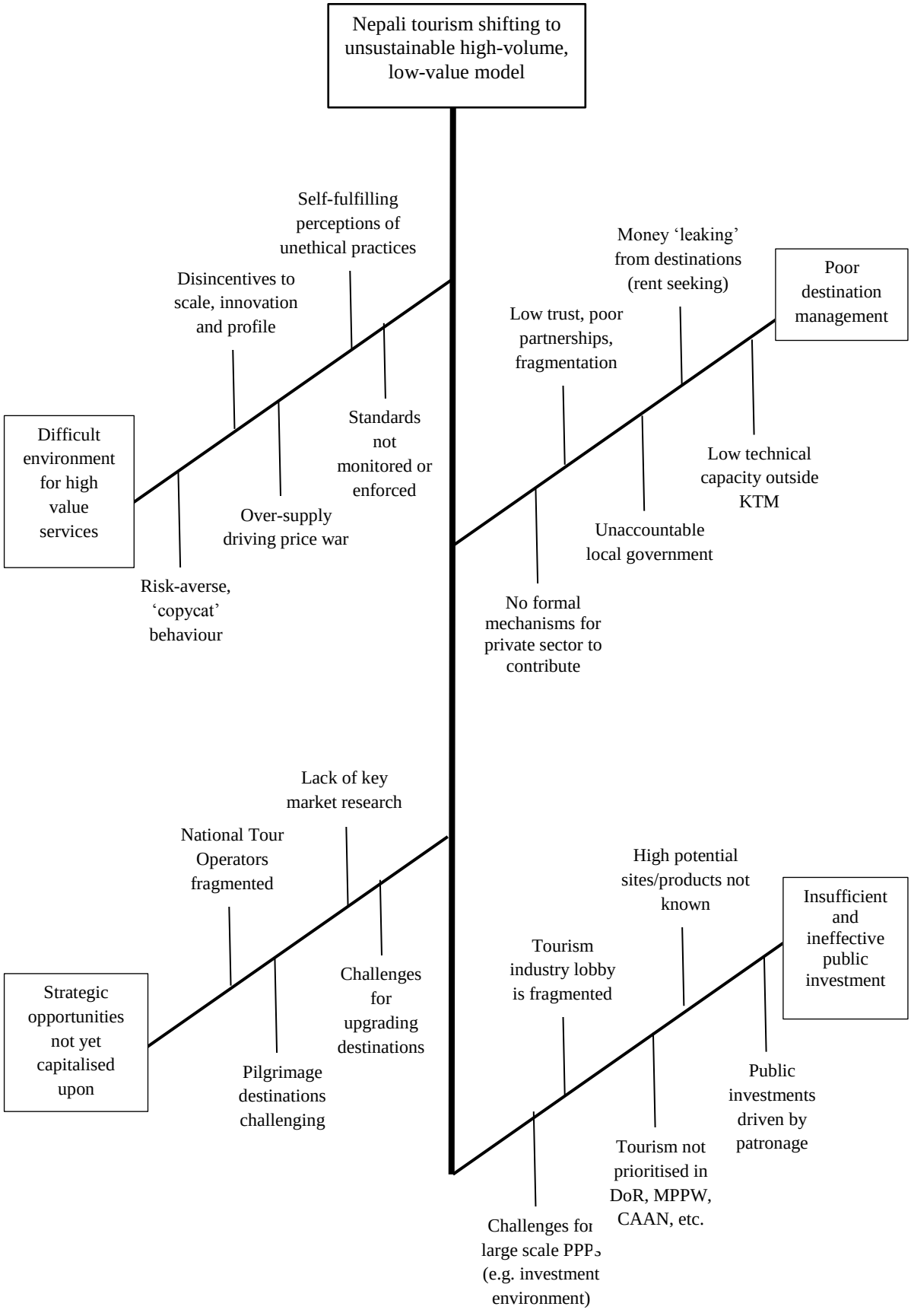
preoccupied with national power battles. In one of the few semi-functioning sectors in the economy, some people have been able to rise based on their own skills and efforts. This group brings a good deal of creativity and endeavour to the sector, and is likely to play a major role in capitalising on opportunities, provided they can find sufficient backing and investment.

Knowledge gaps

There is a need for further research and analysis of the following:

- Improved information on revenue distribution and value added within the sector, disaggregated by destinations, activities, industry sectors
- Assessment of areas and products with potential for development and likely appeal to key markets
- Assessment of the funding flows and end usage of mechanisms for 'recycling' tourism revenues
- Research on the basic dimensions of domestic tourism: numbers, activities, value
- Gender and social inclusion analysis of tourism, including aspects such as unpaid work, ownership patterns of businesses, and exploitation (for example of porters and girls in dance bars).

Figure 29: Tourism sector problem tree



8.4 Programme options for tourism

The key priority for the tourism sector is to **increase the value captured per tourist per day**.[106] This equates to a strategy of promoting economic transformation by increasing the value of activities within a sector. The 2012 value captured per tourist per day is $35.6 – half of what it was 4 years ago. If it had been the same, with the 2012 number of visitors, the sector would have contributed a further $809m (equivalent to 4.4 percent of GDP).

As outlined in the constraint analysis above, Nepal has strong natural and cultural assets for tourism, meaning that the drivers of the current trend towards low-value, high-volume tourism primarily relate to management – destination level management, national level public investment, and the facilitation of an environment that is conducive for private sector development. These translate naturally into three programme objectives:

- Strengthening destination level management of tourism
- Improving national level public investment in tourism
- Improving the environment for higher quality products and services

The first two of these could be seen as having additional contributions towards economic transformation. Many of the required goods and services likely to come out of improved tourism management and public investment in local infrastructure are non-excludible and have important spillover effects. Thus, change relating to, and driven by, the tourism sector will contribute to broader productivity gains in the economy, for example by helping to relieve infrastructure constraints. One final objective relates to facilitating the private sector to capitalise on strategic opportunities in the sector.

These are, primarily, higher value goods and services that seem to have high investment potential and a growth in which would contribute to the transformation of the sector according to the top-level priority named above.

8.4.1 Promoting small/medium PPP infrastructure and services

The primary hypothesis behind this programme is that, given the right space and opportunity, tourism businesses and other private sector actors in other industries have the interests, incentives and capacities to help improve the planning and delivery of local infrastructure and services. Their involvement in identifying, planning, financing and implementing projects is likely to lead to activities that have genuine benefits for tourism – and other sectors – locally, and address constraints to local economic development.

There are formal and informal barriers to the involvement of the private sector in the delivery of local infrastructure and services. Aside from the lack of formal rules governing the process, the biggest hurdle is the fragmentation of the private sector, and lack of trust between them and government. As such, the programme will attempt to facilitate local level problem-solving by lowering transaction costs and by providing an impetus to start the process:

- For the transaction costs, the assumption is that external facilitation and coordination reduces the costs on businesses to set new ‘rules of

[106] Choosing this priority ensures that maximum value will be captured divided by the environmental and other negative impacts of tourism, which can be seen as roughly proportional to the number of tourist days in the country.

engagement', and that improved access to technical knowledge also reduces the uncertainties around identifying problems and designing collective solutions.

- For the impetus', it is hypothesised that an exogenous force is required to change the situation of entrenched relations and self-fulfilling expectations of others' behaviour. This can be delivered by providing funding for collaborative enterprises, and by an 'outsider' making the initial mobilisation effort.

One assumption behind this approach is that it is possible to mobilise sufficient coherent ownership, which in turn could be affected by factors such as the level of local ownership of businesses, the existence of economic or symbolic common interests, or the underlying conflict and fragmentation in an area. Other factors surround the idea that government-business relations can be improved, which assumes that there is some level of informal accountability between local bodies and their constituents, and that there aren't already strongly embedded relationships with negative implications , such as corruption and collusion.

Programme elements

Many of the needs and hypotheses behind this programme proposition are not specific to tourism, and as such, this programme could be framed as facilitating small/medium PPPs that are broadly relevant, or focused on other sectors as well. The Ministry of Federal Affairs and Local Development would be the most appropriate government counterpart (and they showed considerable interest in consultation discussions), aligned with, or directly under, the Local Governance and Community Development Programme (LGCDP) – possibly with externally-delivered elements. The outline of the programme would be as follows:

1. *Developing policies and rules*. An adequate set of formal rules should be developed to guide small and medium PPPs through MoFALD. This can draw on the PPP white paper (2010), and recent experience at UNDP and the CIG. They should also be trialled and adapted in practice before finalising, with strong Ministry involvement. This may have been completed before a programme can begin, under the CIG tourism project.

2. *Stratified funding.* The programme would require a commitment of a certain percentage of funding from MoFALD budgets (e.g. 33percent - to be taken from local body budgets rather than centrally), supplemented by DFID funding, and a required minimum percentage of private sector funding and revenue streams (e.g. 33percent).

3. *Facilitation support.* This would be required at each destination where the programme is implemented, involving the mobilisation of the private sector, and the facilitation of a coherent voice, momentum for practical action, and an establishment of working relationships with the local government. It would need to be externally instigated, but over the course of a few projects as relationships get built, formal structures and platforms can be set up to ensure the sustainability of the partnerships, and to allow the phase-out of external assistance. This may need to be delivered by a CSO, and possibly an international service provider is required to secure the initial 'benefit-of-the-doubt'.

4. *Brokered technical assistance.* The gap in technical capacity outside Kathmandu will have to be remedied, with inputs mobilised in response to local demands (depending on genuine ownership e.g. resource commitment). Given the lack of experience of delivering TA to local needs, this would initially function as a learning exercise on local needs and how they can be best met. The primary implementing partners would

be Nepali institutions for technical assistance), which may require additional funding to fulfil this role.

To tackle the complexity of the task: including the distribution of capacities between government, private sector and communities; the need to negotiate collective action from divergent goals; and the uncertain process of building ownership; the programme will need to be action and results-led, and needs to allow considerable room for flexibility at a local level (Jones 2011). From DFID, technical assistance would be required for 1 (if this is still required) and 3. Budget support would be the main inputs for 2 and 4.

8.4.2 Strengthening protected area management

23percent of Nepal is covered by a protected area (PA) of some variety. In these areas, PA represent the most prominent body for local governance and management of tourism with considerable potential for resource mobilisation and use, and from a national perspective their management is crucial for the management and sustainability of key economic assets. As such, strengthening protected area management would contribute to improved destination level management of tourism, as well as directly contributing to overall value capture.

While many PAs have in the past been lauded for their strong management and legitimate governance arrangements, the past decade has, in general, witnessed a weakening of these in the face of politicisation and other external pressures. The following model should be adopted for reinvigorating, and making more professional, their management:

- Internal pressure: it is required that residents and constituents of PAs who are their intended beneficiaries pressure for improvement management and accountability.
- External pressure: internal pressure is unlikely to succeed on its own. It is likely that government Ministries with oversight and management would need to pressure for change, as well as the industry actors using the PAs and hence responsible for resources on which they depend
- Capacity building: technical assistance will be required to ensure that a genuine will to change is translated into productive improvements in management.

This assumes that sufficient support can be mobilised within government for change (change may entail less rent captured in Kathmandu), and within the private sector (it may increase their costs due to, for example, increased entry fees).

Programme elements

This programme would need to work primarily with the Ministry of Forestry and Soil Conservation – in particular the Department of National Parks and Wildlife Conserves – and the National Trust for Nature Conservation (NTNC)[107] –. It would also need to work closely with MoTCCA and the Ministry of Science, Technology and Environment.

This could be implemented under the IFC's programme stream on 'catalysing investment', or as a new, standalone programme possibly best run by an INGO. The programme should devise a customised approach for each PA, given the wide variety in local contexts; and would need to work with an opportunistic and flexible approach, given the unpredictability of opportunities for genuine reform.

[107] Who have already expressed interest in the idea

The following elements would be required:

1. *Local accountability measures.* In order to mobilise the local communities and identify weaknesses in management, exercises such as Public Expenditure Tracking Surveys would be required. Social accountability tools such as participatory budget monitoring should be used to improve local scrutiny of PA expenditure, as could participatory impact assessment of downstream impact of PA activities. Deliberation and planning would be needed to build on these; PA management, community groups, and tourism businesses, would need to jointly review findings to improve management.

2. *Top down assessment and planning.* Rigorous impact assessments should be carried out of the downstream impact of PA management activities, along with a review of PA mandates and entry fees, and revenue recycling arrangements carried out with key Ministry decision-makers.

3. *Reform packages of TA.* The financial resources for changing and improving management should be mobilised from existing and/or planned increases in tourism revenue streams; but assistance may be needed on management (e.g. expert advice on tourism, environment, and service delivery aspects), marketing and mobilising international investment, and possibly gap funding for PA activities where appropriate.

Either TA or CSO core-funding would be required for 1, and TA would also be required for 2 and 3, with the possibility for gap funding for 3 above.

8.4.3 Supporting large-scale tourism-related public investment

There currently exists a Nepali institution with the mandate to install some key connectivity infrastructure that also has a relatively high level of staff skills and capacity: the Nepal Investment Board (NIB). Assuming that the NIB is allowed to continue to function as intended under a new government, the primary mechanism for seeing these projects through is ensuring NIB has sufficient and appropriate staff capacity, specialised technical assistance, and support for running PPP processes.

For those important pieces of connectivity infrastructure that do not come under the NIB, the situation is more complicated. Leadership by the private sector needs to be built, in order to which provide impetus for key links to be built using PPPs. This could be done using one or more of the following approaches:

- Convening and ‘crowding in’ investment around a few specific areas with significant potential
- Contributing to PPP connectivity infrastructure with public, and external, funding
- Building long-term, credible, comprehensive plans with solid and realistic implementation arrangements.

In turn, implementing this would require significant engagement at the local and national level to secure sufficient support of key power-brokers.

Programme elements

This work would need to proceed in a flexible and opportunistic manner. It is not clear which investments or connections are feasible for implementing in the short-to-medium term, and each one would have quite different needs in terms of types of

support and expertise required. Clearly the NIB would be a key implementing partner, with the implementing agency being either CIG or IFC.

Multifaceted technical assistance would be required, flexibly brokered according to needs and ownership. Capital might be required to contribute to the operating costs of NIB, and also to pay for portions of the infrastructure themselves.

8.4.4 Tourism markets development programme

A markets development programme is needed to facilitate and enable the private sector to capitalise on strategic opportunities, and to improve the environment for quality services.

The NMDP approach works to address systemic constraints to the functions of market systems, such as the core transaction of supply and demand and the range of functions around this. Rather than delivering services, the approach is to facilitate key players in the tourism sector to work more effectively, in order to provide more appropriate and sustainable solutions.

Programme elements

The tourism markets development programme is ongoing, but emerging from the constraints analysis are two priority issues through which NMDP could best catalyse economic transformation:

5. A focus on promoting higher value products and services. This priority comes as a direct result of the importance of upgrading the productivity of the sector. Many opportunities seem to hold potential for upgrading Nepal's tourism offering, and the precise focus for NMDP will need to be determined in collaboration with domestic players.

6. Self-regulation of quality and standards, at subnational level. This is implied by the low likelihood of MoTCCA being able to make significant gains in monitoring and enforcement, and the higher potential for building coordination and monitoring at a destination level. The focus could be on voluntary certification schemes, combined with incentives through branding, capacity-building and business development services.

7. Strengthening a consumer-led approach to quality information. A mapping would be required of existing services, and how key gatekeepers use such information. Efforts might then be needed to strengthen coverage and accuracy, to fill gaps (e.g. trekking lodges, tour agents), and increase utilisation, working with established and popular services such as Lonely Planet and Trip Advisor).

The NMDP is ongoing, it is not clear whether implementing these recommendations would require additional resourcing.

8.4.5 Strengthening the regulatory environment for quality services

The primary hypothesis here is that particular government regulation and policies are potentially important in shaping business behaviour; improving both policy content and its implementation (the latter representing the biggest gap currently) is presumed to then affect tourism industry players and strengthen the hand of businesses working to provide quality services.

The following appears to be the most promising avenues:

- While MoTCCA is relatively weak and without consistent leadership or prioritisation, other avenues should be explored to strengthen policies and regulations that affect the incentives and environment for quality services.

This could include working with the revenue authority (MoF), the Ministry of Commerce and Supplies, or the Ministry of Environment.

- If and when MoTCCA provides a credible plan for regulating business quality, this could then be supported. Novel implementation arrangements might be required, such as establishing a relatively autonomous and unit for regulating quality, which would need to be staffed with skilled and motivated individuals, and likely partly self-funded – for example through fines levied on non-compliant businesses.

Programme elements

Policies and regulations, and their implementation arrangements, change according to a wide variety of factors. Again, the programme will need to work opportunistically and flexibly, choosing from the realistic set of programmatic options to focus on and offer the best chance of downstream impact[108] . This effort could be carried out as part of a broader business and investment climate reform programme, so long as tourism-specific goals are integrated. The inputs required are likely to be TA only.

[108] This may often be about improving implementation measures rather than writing new policy

8.5 Programme options matrix for tourism

Constraint	Programme idea and type of support	Target & impact	Working with and/or through	Niche / other donor work	Approach / theory of change	Comments and key questions
Poor destination level management	**Promoting small/medium PPP infrastructure and services** DFID financial support for seed funding, TA and facilitation support for identification/installation/ maintenance/ management processes	Address constraints to local economic development and to the upgrading of destinations by facilitating the provision of strategic local infrastructure and services (e.g. roads, water, waste management)	At least aligned with LGCDP programme (MoFALD), possibly seed funding could be provided through MoFALD systems. Process support may need to be external, e.g. contract out. Idea has already been floated in HJ interviews with MoFALD, high level of interest expressed.	Previously UNDP PPPUE programme did something similar, but neglected 'process' aspects, and now there is nothing comparable. Closest is LGCDP programme, but no proper guidelines for PPP and gaps in process support.	Provide firm framework for private sector contribution to destination management. Facilitate collective action by businesses who could cut costs or capitalise on opportunities better together	Could be generalised to help tackle industry or local level constraints to growth more broadly, especially. providing infrastructure important for agriculture. Lessons and initial guidelines to be developed under MOU between MoFALD and CIG
	Strengthening protected area management Technical assistance / facilitation, including impact assessments, revenue modelling and institutional design. Provision of large TA packages for implementing (self-selected) reforms,	Improve destination protection and management by integrating with tourism market development activities. Improve / restore destination revenue generation capacity. Strengthen mechanisms for local distribution /	Working directly with PAs (e.g. CNP, BNP, ACAP, and SNP) and associated management and oversight bodies. For example, Department of National Park and Wildlife Conservation (DNPWC), National Trust for Nature Conservation (NTNC) etc.	Limited support to previous work in hill and mountain regions by international donors / NGOs. Disproportionate focus on non-Terai regions within previous donor programming.	Map distribution of current and potential benefits from different operating models Developed and implement integrated model for PA self-financing. Introduce accountability measures to track revenue generation and disbursement and increase	Interest expressed by both IFC team and governance programme in World Bank (PRAN) Clear opportunity to expand work in Terai Protected Areas (currently underinvested relative to market potential). to test concept

	coordinated with other sector components (e.g. market development / promotion of investment)	investment in destination protection and improvement.			local pressure for change. Capitalise on external pressures for reform e.g. ending of NTNC mandate over ACAP, and tie increase in funds (e.g. higher entry fees) and big packages of TA to genuine progress on organisational reforms	
Strategic opportunities not capitalised upon (and environ for high-value services)	**Market development programme** Mostly TA and capacity building	Strengthen private sector offerings on higher value services, and improve self-regulation of service quality, thereby improving productivity	Exploring entry points with various private sector players including the associations, large TOs, and also working with NTB to strengthen information and research required	Current NMDP in early phases on tourism	Private sector-led, focusing on behaviour change	Path dependence means best option in the near future is to integrate these objectives into the tourism component of NMDP. Close attention must be paid to the ability of the M4P model to deliver on these objectives; learning and adaptation must be a priority

Insufficient & ineffective public investment	**Support large-scale tourism-related public investment** DFID provide TA and possibly gap funding	Improved connectivity to area(s) of high tourism potential through new road/domestic airport/2nd international airport, leading to output-led growth Area-based PPP development e.g. urban development corporation, e.g. concessions, e.g. resort development, leading to higher value tourism products	Work through Nepal Investment Board Work on one of existing projects on their list e.g. one of the roads; or on Ratna Mandir (temple in Pokhara), tying area development to its sale. Or, gauge interest in adding a new one.	CIG track record of strengthening NIB and working with them on hydro. CIG looking into UDC possibilities in Pokhara IFC involvement on Ratna Mandir project but current status unclear	NIB has the powers, remit, and ownership, but currently lacks capacity and funding. Gap funding is on its way, but further analysis, TA etc. would be required	Tourism projects possibly lower priority for NIB in the near future Support could be integrated into a CIG phase II
Poor environment for high quality products and services	**Investment climate programme**	As is	With Federation of Chambers of Commerce, Nepal Rastra Bank, etc.	IFC currently conducting		Programme need not be just tourism-focused, but should have tourism-specific component included. See programme options elsewhere for more detail on improving the investment climate

9 Labour migration & remittance

9.1 Evaluating performance

9.1.1 Labour migration

It is estimated that every year about 400,000 Nepali travel abroad for work (World Bank 2011). India is the most common destination, with approximately 72 percent of migrants – 2 million undertake seasonal migration, and 867,000 go there for more permanent work. Of the 1.2 million (28 percent of the total) remaining, who travel to countries apart from India, 64 percent go to Gulf countries, 19 percent to Malaysia and 15 percent to other developed countries (such as Australia, Japan, the UK and the US) (ibid.).[109] Migrants abroad are mostly employed in manufacturing (32 percent), construction (16 percent) and the hotel/catering industry (16percent).

Labour migration increased at an annual average rate of 47 percent between 1999 and 2009, using the figures on formal, registered migrants (CBS 2008). The roots of this lie in the 18th century, when Nepalis joined the army of a Sikh ruler in Lahore, and from the early 19th century the country provided *Ghurkha* soldiers for the British army (Seddon 2004; Seddon, Adhikari, *et. al*., 2001). Since then, households have employed circular, labour out-migration, largely to India, with typically 3 percent of the population absent. The large expansion and beginning of migration to Malaysia and the Gulf began in the 1990s, promoted by more liberal travel policies and high GDP growth in those countries. These trends were further accelerated by the Nepali conflict (World Bank 2011), with just one small dip in 2008/09 related to the global financial crisis (NIDS and NCCR 2012).

Migration is ubiquitous, common across all geographic regions and ethnic and social groups, and comes from all five development regions. Significant numbers participate from the mountains, hills and the *Terai*,[110] and migrants are more likely to come from rural areas than urban (World Bank 2011). All ethnic groups are strongly represented, although with above average probability for Muslims, Hill Dalits, Hill Janajatis and Brahman/Chhetri (ibid.). In addition, participation is high across all wealth quintiles, increasing from the poorest quintile (around 40 percent probability) to the fourth quintile, where it peaks (at around 50percent), and then dropping to its lowest level for the wealthiest quintile (around 30percent) (ibid.).

[109] Even these large figures must be incomplete, as 31% of recruiters in Nepal and India reported sending migrants to Iraq and 31% sent Nepalis to Afghanistan, where they are not officially allowed to work (ILO, 2008).

[110] The hills are slightly better represented than the *Terai* proportional to the population, but overall geographic participation is fairly even.

Many migrants find work through labour agencies.[111] These formal, registered companies bring in demand from overseas labour markets and meet those demands with a supply of Nepali labour. They establish business networks that supply information on demand for overseas labour in destination countries. Migrants pay fees to these agencies in exchange for their services, and to cover costs such as commissions to agents in receiving countries, advertisements in newspapers, taxes, and air tickets (Gurung 2004). Between one third and 80 percent of migrants travel solely through informal agents (or *dalals*).[112] They also act as intermediaries between the would-be migrant and a formal employment agency in Kathmandu; others operate for informal recruiters located in New Delhi (ILO, 2008). Moreover, they facilitate the migration process by for example obtaining documents, filling applications, organising travel to Kathmandu or elsewhere, Individual agents can be formally registered, but relatively few have done so (NIDS and NCCR 2012).

The core policy for the management of labour migration in Nepal is set out in the Foreign Employment Act 2007 and Regulation of 2008 (GoN 2007). This envisages the operation of selection, recruitment and employment of Nepali labour overseas as private sector-led, with the government providing a regulatory function focusing on the safety and welfare of migrants, and ensuring they make well-informed choices. To provide for migrant safety and welfare, there is a welfare fund and compulsory insurance. The process of migrating for work is specified carefully with a number of requirements placed on labour agencies, for example, publishing a 'demand letter' outlining employment opportunities, and checks to be made by DoFE (DoFE final approval is required before a migrant leaves). There are severe punishments for infractions by recruitment agents, including large fines.

9.1.2 Remittances

Official remittances in 2011 were at NRs. 346 billion ($4.01 billion), equivalent to 21percent of gross domestic product (GDP). The real total is likely to be considerably higher, as this omits remittances from India and informal flows. The Nepal Migration Survey (NMS) estimated that the real figure most likely far exceeds 25 percent of GDP (World Bank 2011) due to these omissions. Extrapolating from other robust figures, the total appears likely to be closer to $6.3 billion – over 33 percent of GDP.[113] It is estimated that approximately half the remittances from abroad come from the Gulf countries, 21 percent from the 'other developed countries' listed above, 19percent from India, and 10 percent from Malaysia (ibid.). Official remittances have grown by an average of 24 percent over the past 10 years. Continuing at present rates, remittances could exceed the total GDP of Nepal in 2020 (Jones and Basnett 2013).

Against weak export performance and a large amount of imports, remittances are an invaluable source of foreign exchange that contributes to keeping a positive balance of payments. Remittances have been the key factor in the surplus registered over each of the past 10 years despite a large trade deficit (Kharel, 2011). The additional household expenditure stimulated returns partly to the banking system, adding to liquidity – particularly crucial given structural problems with the banks. In the

[111] There are currently 632 registered manpower agencies, nearly all based solely in Kathmandu. About 400 are members of the industry association the National Association of Foreign Employment Agencies (NAFEA), and estimates are that not more than 100 are actively operating, with less than half of these dominating the market share (Manandhar and Adhikari, unpublished).

[112] ILO (2008) estimated one-third and 80% comes from comparing the highly robust NMS data with Department of Foreign Employment (DoFE) official statistics

[113] This includes the non-India total mentioned above, along with an estimate for Indian remittances that was calculated taking the average remittances received by households with migrants in India multiplied by the estimated total of migrants in India.

context of a low number of formal sector jobs in Nepal[114], labour migration has also made a considerable contribution to reducing un- and under-employment. Other positive knock-on effects include higher wages resulting from reduced labour supply, and better rental terms for cultivation (typically by the poor and landless) of the land of absent migrants (Adhikari 2006; Adhikari and Hobley 2013). There are also indirect contributions to the domestic economy, including the labour industry, is thought to total approximately NPR. 13.5 billion ($180 million) (Adhikari and Gurung 2011).

Remittances make a major contribution to household income. They contribute one-quarter of the income of all households and almost two-thirds of the income for those receiving money from abroad (World Bank 2011). Households with a migrant in the Gulf receive an average of NRs. 163,000 per year ($2,120), in Malaysia NRs. 113,000 ($1,470) and in India NRs. 62,000 ($ 800) (ibid.). The majority of migrants choose to send money home through formal channels (World Bank 2011). This sees a large proportion of the flows going through money transfer operators (MTOs) and the commercial banks (market shares 70percent and 30percent respectively – ibid.), with relatively competitive prices compared to regional comparators (Jones and Basnett 2013).

Poorer migrants are more likely to go to India, and migrants from higher wealth quintiles are more likely to go to higher value destinations such as the Gulf. However, the distribution of remittances is considerably more equal than the distribution of national wealth. The remittances received by the richest quintile are approximately one-third of the total, followed by 30.7 percent for the fourth, 17.2 percent for the third, 9.8 percent for the second and 9.2 percent for the poorest (ibid.). Calculating the Gini coefficient of remittance incomes gives a figure of 0.274, compared with a Gini coefficient for the country as a whole of 0.44 in 2004 and 0.33 in 2010.

Increased remittances have been proven to be the cause of more than half of the 11 percent decline in poverty reduction in the period 1996-2004 (Glinskaya *et. al.* 2007). It is estimated that the reduction to 25.4 percent by the end of 2009 owed mainly to increased access to remittances, with the ratio of households receiving remittances rising from 31.9 percent in 2003/04 to 55.8 percent in 2011 (NIDS and NCCR 2012). Moreover, recent research has shown that migration provides much improved social mobility, especially for Dalit people, with social structures transforming in reaction to the economic drivers (Adhikari and Hobley 2013). Thus, labour migration and remittances is a strong driver of inclusion and poverty reduction, and the most realistic driver for inclusive growth in Nepal in the near future.

9.2 Identifying constraints

9.2.1 High social and economic costs of migration

Migrants to destinations apart from India must pay very large sums upfront in order to secure their posting abroad – typically much more than the legal maximums. The NMS showed that migrants travelling to the Gulf paid an average of $1,370 (NRs. 120,000, compared with the legal maximum of NRs. 70,000), to Malaysia $1,500 and to South Korea and Japan $9,600 (World Bank, 2011a).[115] One report found that the amounts paid were above the legal maximums 75 percent of the time, and

[114] No recent firm data are available but estimates are no more than 2 million, compared with a workforce of over 16 million.
[115] Securing a placement in India can cost US$10-260 (World Bank 2011).

the amount is typically extremely large compared with the income of the migrant.[116] In addition, more than two-thirds of migrants took large loans to cover this cost, most often from informal village lenders (47 percent) at a typical interest rate of 30-35percent (Amnesty International 2011; World Bank 2011).

Many migrants face poor working terms and conditions. Only 55 percent of migrants to India had lodgings, and while 79 percent in the Gulf did have access to lodging (World Bank 2011), poor living conditions are reported to be widespread (e.g. more than 20 people living in 1 room) (Amnesty International, 2011). Approximately half find that they receive less pay than promised, and, although comprehensive comparisons are missing, one study shows that Nepali workers in Qatar are paid less for the same work than counterparts from other source countries (World Bank 2011). Many face poor working conditions, with 30 percent reporting excess work time, and the physical toil they are subjected to is evidenced by the frequency of injuries and industrial accidents (25 percent reported being injured at work, 45 percent falling ill) (World Bank 2011). It is estimated that approximately 2,400 Nepali labourers die abroad each year (Kathmandu Post 2010).[117] Exploitation, physical abuse and sexual violence are rife for domestic workers (Amnesty international 2011), and female migrants are in a particularly vulnerable position (for example 67 percent report work-related illness or injuries compared with 40percent total for men – World Bank 2011).

There is evidence that Agents can deceive migrants. Typically, migrants are not given sufficient orientation and training before departure (69 percent – World Bank 2011), and very little preparation in general. Deception on salary amount, type of job offered, work hours, overtime pay or rest days is possible because only half of migrants ever receive a contract (51 percent – ibid.). When a contract is provided, it is often in a foreign language and not explained to them, and it is often too late to challenge as they only receive their contract, passport, visa and flight ticket days or hours before departure – frequently at the airport itself. At this point, migrants are often too indebted to refuse the job (Amnesty International 2011).

In addition, there is evidence that exploitative practices continue in-country. Findings suggests that 25 percent of migrants had their passport or ID confiscated on arrival in order to make them easier to coerce and control (Amnesty International 2011)[118], and 35-40percent were sacked when they fell ill (World Bank 2011). Migrants frequently find no redress in their destination country, with reports of embassies either being unresponsive or simply taking incidents as opportunities to extract money from companies in order to then side with them to the detriment of the migrant worker (Amnesty International 2011). Notably, these problems appear to happen less for migrants who work in India – possibly due to the relative ease of travel to India, in comparison to other destinations (ibid.).

Migrants and their families are highly vulnerable to slipping into poverty and indebtedness owing to the high debts taken on, combined with the real chance of migrant workers being injured or otherwise made unable to work to pay off debts. Combined with their frequently being paid considerably less than promised, these deceptions amount to forced labour by ILO definition[119], as workers must continue to work in order to bring down significant debts (Amnesty International 2011).

[116] The average cost of migrating is more than three times GDP per capita, while the NMS found the cost was typically seven times migrants' monthly income and eleven times their total savings (World Bank 2011).

[117] This tally with other evidence e.g. extrapolating the figures from the recent revelations from Qatar would give around 2200 per year.

[118] They cannot seek other work without risking detention and deportation.

[119] See; http://www.ilo.org/sapfl/Informationresources/ILOPublications/WCMS_081991/lang--en/index.htm

There is also evidence of more severe exploitation in the form of human trafficking for the purpose of forced labour (US State Department 2011) and, while comprehensive figures are scarce, it is clear that forced labour, bonded labour, and human trafficking are significant problems (e.g. 12,000 children per year are trafficked from Nepal to India alone, and 100,000 are thought to be sold into bonded labour) (Sijapati, Limbu, *et. al.* 2011; NHRC 2010).

In many cases, labour agencies are not held responsible for these abuses, and mentioned above, labour agencies should be held legally responsible but the monitoring and enforcement of these rules is rated as highly unsatisfactory. As of June 2011, no agency had been penalized under the Foreign Employment Act, other than for failing to pay bank guarantees in relation to their registration (Amnesty International 2011).

However, informal agents seem to be a bigger issue. Migrants travelling through the informal system face greater challenges, as formal agencies are required to provide orientation (and the percentage that do roughly coincides with the percentage of migrants going through formal channels according to our estimate above), and this is proven to have a measurable impact in terms of reducing exploitation[120]. The cases received by the government hotline provide an insight into where blame for abuses lies. Apparently, approximately 80 percent of complaints are against individuals including brokers, with the remaining 20 percent against registered agencies (NIDS and NCCR 2012). This is also a major problem with the Foreign Employment Act, as only a small portion of migrant flows come under the Regulation, with a large percentage of migrants never seeing a formal labour agency, and even those who do arriving there by informal means.

These are issues for the inclusiveness of economic activity, as poorer migrants are priced out of better earnings by illegal fees required to secure better placements, and are also more heavily impacted by loans and indebtedness (also see Figure 30). These trends impact on productivity due to the expensive loans taken, and the chances of families slipping into poverty trap should their migrant abroad be rendered unable to work while there are still debts to be paid. Moreover, illegal costs are levied, many of which are sent abroad along with more than 50 percent of the money taken by agents (Adhikari and Gurung 2011). There is very strong evidence on these problems, and a relatively good knowledge base on their causes. The main knowledge gap relates to details on informal agents.

Drivers of the high costs of migration

The enabling force behind poor conditions for migrants is a demand for unskilled and semi-skilled labour that is far outstripped by the supply – this puts employers in a very strong position to dictate terms and conditions. Fast-growing economies with labour-intensive sectors within manufacturing, construction and services create a demand for workers, which cannot be met by domestic populations – especially in many Gulf countries with small, relatively rich populations. Source countries in South Asia and elsewhere have large, low-income and low-skilled populations. With large gaps in the performance of Gulf economies and those of Nepal, Bangladesh etc., there is a corresponding gap between the wages on offer in these countries for similar work. With this large wage differential, companies only have to raise pay and condition a small amount over migrants' domestic opportunities in order to access a massive potential supply of willing migrants to take up these positions. Prospective migrants, in competition with each other for a limited

[120] Typically, these problems happened less by 5-20% if migrants have government orientation before departure – World Bank, 2011a.

number of jobs and with limited domestic opportunities, are forced to accept poor conditions. The strong position of foreign employers is illustrated by the fact that clients in receiving countries often demand that agencies provide workers without paying any commission (Gurung 2004).

The structure of the labour migration process creates large opportunities for malpractice by those market actors linking demand and supply. There are usually large distances between migrants and their prospective employer, with jobs in countries often relatively unknown to the migrant, making it difficult to verify claims of recruitment agents. Securing a job through an agent is a 'one-shot' activity, requiring from the potential migrant a heavy amount of commitment before s/he is able to assess whether the agent might make good on their promises, and the distances (and associated travel costs) make it considerably harder for migrants to reject placements once they have reached their destination. Deadlines for filling the placements add further pressure for accepting claims. These factors increase opportunities for exploitation, partly evidenced by the fact that migrants to neighbouring countries report lower levels of abuse than those travelling to the Gulf and other more distant destinations (World Bank 2011).

The protection of Nepali migrant workers is hampered by a lack of control and jurisdiction over key actors and key migration routes. *Dalals* and informal agents provide functions to formal agencies based in Kathmandu – linking potential migrants in rural and remote areas to agencies – that must be required otherwise they would not continue to be paid. They are not recognised in the Foreign Employment Act, but a generally low level of state governance outside Kathmandu means they can continue to operate despite illegal status. This means there is no clear entry point for government to monitor, or improve the policing of, middlemen. Second, the open border to India severely hampers the ability of the government to influence the migratory process. The fact that the majority of migration seems to occur through informal channels, with workers crossing the open border to India before leaving through an Indian airport, illustrates this point. Also, this means many of those responsible for the exploitation of Nepali workers are therefore individuals and organisations in India (ILO 2008), making the issue of bringing perpetrators of exploitation to justice one of foreign policy, rather than direct Nepali regulation and enforcement.

Exploitation of Nepali migrant workers is lucrative, which creates and fuels constituencies against reform. Given the huge numbers travelling abroad for work with expectations of improved incomes, and the space and opportunities the situation presents, middlemen and employers can make considerable amounts of money. Giving lower wages and worse conditions to labour migrants enables agents to generate larger profits, so long as they are not prevented from doing so, and one study put a figure of NRs. 17.2 billion per year ($198 million) as a conservative estimate[121] of the total value of corruption and exploitation in foreign employment (Manandhar and Adhikari unpublished)[122]. With a variety of actors organised to extract rents in Nepal and elsewhere, these flows create vested interests directly opposed to improved regulation and enforcement, who are able to draw on considerable resources with which to pursue their aims.

Enforcement of the Foreign Employment Act is hampered by corruption. As the gatekeeper on official labour migration, DoFE is able to extract considerable rents. It is reported to operate with an organised network of corruption, with pre-agreed

[121] This was based on the assumption that only 88,000 travelled through informal channels an underestimate by a factor of at least 10.
[122] A more realistic estimate might be closer to $2bn.

allocations of quotas to collect and share rents in an organised way through all levels of the administration; it seems likely that at least NRs. 350 million ($4.7 million) per year is made by the department[123] (Manandhar and Adhikari unpublished). This makes the department one of the main 'prizes' for political competition over ministries between political parties. This, in turn, means that the main body responsible for monitoring and enforcing the Foreign Employment Act is run for very different purposes, and probably explains the poor government record in investigating and prosecuting agencies.

Political links further hinder enforcement. Registered manpower agencies are known to have strong links to high levels in Nepali politics (Manandhar and Adhikari, unpublished). For politicians and political parties such links are useful not just for the revenues and rents available but also in order to find work for their cadres, constituents and supporters (and hence recruitment agencies provide a natural extension to age-old patron–client relationships embedded in Nepali politics). These links further reduce the ability of DoFE to enforce the Foreign Employment Act. It should be noted, though, that with high levels of political instability, and coalitions very frequently formed and reformed, using political links for protection is not a completely reliable strategy for an agency involved in exploitation. As such, it is not surprising that evidence suggests migrants travelling through registered recruitment agencies are less likely to be subjected to abuse and exploitation.

There is limited interest in many receiving countries in protecting the rights of migrant workers. Employers can push conditions below minimum standards owing to a lack of action by governments in many receiving countries. There are a number of possible reasons why there is limited interest in protecting migrant rights in receiving countries: it could be a result of poor regulation of business generally, or to do with political factors that mean migrants are less visible or seen as 'second-class citizens'. Many receiving countries have not ratified international conventions on migrant rights, and workers' rights more generally are very weak (for example there is no right to industrial action in some receiving countries). There are also large issues around the status and treatment of women in some of the Gulf nations. Given the financial gains made by those exploiting migrant labourers, there is reason to believe that collusion and corruption also have a role in sustaining these practices.

At the destination level, competition between migrant-sending countries enables a 'race to the bottom' for workers' wages and rights. Although it would be to the benefit of each migrant-sending country for their government to intervene to guarantee their rights are protected, these governments face a collective action problem in protecting workers' rights. Taking a stand individually to protect workers' rights raises the cost of employing nationals from their country, and hence would likely set their citizens at a disadvantage (and correspondingly result in advantages to those who do not stand firm on protection measures). For example, the high-level task force recommended a 'no fee recruitment system' whereby the foreign employer pays the fees of recruitment agencies (rather than the migrants), but in a competitive environment this would be very difficult to implement. This issue is particularly problematic for Nepal, as a relatively small player compared with Bangladesh and others.

Migrants are in a poor position to demand fair treatment, in competition with one another and separated from support networks. Pre-departure, migrants are competing with each other for a limited number of positions in the face of few

[123] The informal rate is NRs. 1,000 per migrant, multiplied by the number travelling through official channels.

domestic opportunities. Although it is in their collective interest to pressure agents and agencies to improve conditions, the situation is not conducive to this: the pool of potential migrants is very large and distributed across the country, and potential 'free riders' would face high expected benefits with limited chances of repercussions (as they immediately leave the country). Once working in the destination country, the migrant is separated from all family, kinship and other ties, which would typically be drawn on to solve problems. The significance of this is illustrated by the NMS, which shows that, where migrants had social networks in destination countries, they were an important factor in protecting migrants from abuse. This is particularly important for those who travel through informal channels, and hence have no recourse to law (World Bank, 2011a). Some recent examples of protests and collective action in destination countries by mistreated migrants[124] further illustrates this dynamic, but this is fraught with risks (especially in countries where industrial action is banned), and the fact that the main effect of this is to harm Nepalis' job prospects shows collective action by migrants could not succeed on its own.

Low awareness and a lack of information on the part of migrants have an influence on continued exploitation, but it is a small one. The process of securing and taking up a job abroad is opaque. Migrants frequently are not fully aware of the different steps required on their part, or on the part of their agent, about the rights they have or the key risks they face. However, given all the above factors, this is not the most decisive factor in trends of exploitation. The NMS clearly demonstrates the effect of lower awareness. Those who had received awareness and information sessions were between 5 percent and 10 percent less likely to experience various types of abuse or exploitation (World Bank 2011). In terms of the costs and benefits of migrating for work, there is a lack of strong data on the full costs (including training, forgone opportunities etc.), and research from elsewhere shows that migrants tend to overestimate the potential real gains once all the costs and risks of failure have been considered (Hanson 2009). However, decisions are not always taken on according to a purely rational cost-benefit analysis, and travelling abroad for work has become institutionalised. It is seen by many as a 'rite of passage' for young Nepali men, a way to enhance their status in the community. There is also a 'demonstration effect', with migratory trends spreading around social networks (Adhikari and Hobley 2013; World Bank 2011).

The treatment of labour migrants is a high-profile issue, but this does not necessarily translate into a strong constituency for ending exploitation. Instances of cheating, exploitation, extortion and other abuses committed against Nepali labour migrants are frequently reported in the press, and the causes and remedies are frequently under public debate. Public pressure in reaction to specific abuses often translates into knee-jerk reactions from government (e.g. the to-ing and fro-ing over female migrants), and heights of public sentiment are illustrated by an incident in 2004, when 12 Nepali labour migrants to Iraq were executed by a terrorist group on the 20th day of their entry into the country via Jordan. The video was posted online and triggered a violent reaction, with arson and riots causing damages of at least NRs. 5 million. There seems to be a high level of consensus on the importance of reducing exploitation, with few politicians or commentators speaking against the aim, but typically migrants are a weak constituency for bringing about domestic change as they are out of the country for long periods of time (World Bank, 2011a).

There is a growing civil society presence on the issue. Domestic and international non-governmental organisations (NGOs) are increasingly mobilised on the protection of migrants. There is a strong domestic community on research and

[124] See: http://www.myrepublica.com/portal/index.php?action=news_details&news_id=63796

advocacy around these issues, and NGOs working on women's rights have been working to protect female migrants for some time. Other human rights groups are slowly taking up migrants' issues, illustrated by work in 2009 by the National Commission for Human Rights (NCHR).

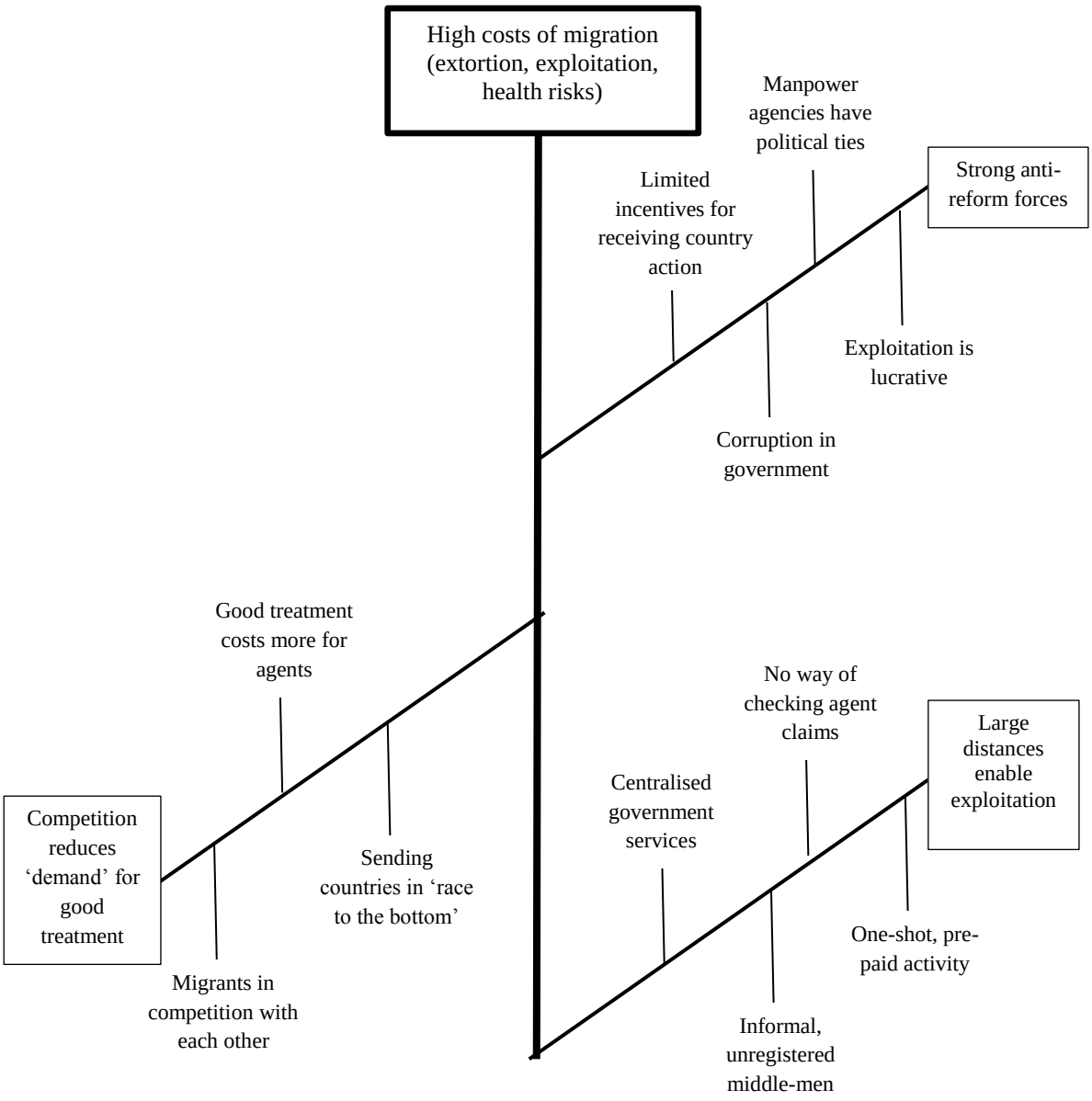
There is some assistance from international agencies, but this is yet to make an impact at scale. The ILO and the International Organization for Migration (IOM) have had a presence in Nepal for some time, and bilateral agencies such as Swiss Development Cooperation (SDC), and multilaterals such as the World Bank and the European Union (EU) are increasingly giving attention to the issue. However, thus far, although there are some efforts providing support for migrants at some stages, this is usually either project-based work that does not function at the scale necessary to truly address the problem, or engagement with government and ministries that sometimes leads to positive changes on paper but frequently is beset by systemic issues of low government capacity, insufficient domestic ownership of reforms, and rent-seeking behaviour. To date, there has been little effort to address systemic issues and the governance of migration.

Despite the prevailing incentives, recent years have shown an increasing government appetite to seriously address exploitation of migrants. The passing of the Foreign Employment Act by the Maoist-led government in 2008 must stand as an important step in the right direction, whether or not it is fully and effectively implemented yet. More recently, the Bhattarai-led government showed real will to tackle the issue by establishing a task force headed by one of the most credible voices from civil society, and implementing recommendations on how to reduce exploitation: replacing the head of DoFE, installing CCTV in DoFE's offices to monitor civil servants and shutting down a number of agencies, with others under investigation. A minister was even sacked – an extremely rare event in Nepal – reportedly as a result of obstructing the prime minister's directives for and reforms of DoFE.

There is a relatively strong knowledge base on the issue, albeit with important gaps. The strong civil society research community is a major asset, and both Nepali academics and international agencies have contributed to a broad and deep knowledge base, especially highlighting the nature of abuses and exploitation, their scale and their impact. The Centre for the Study of Labour and Mobility (CESLAM) has made important steps towards consolidating the knowledge base, and the Nepal Migration Yearbook is a valuable resource (NIDS and NCCR, 2012[125]. There is, in particular, a gap in knowledge about some of the key causes of exploitation, with very little known about migration through informal channels, the informal agents and the ways in which they work.

[125] However, there are problems with some crucial studies not being formally published.

Figure 30: Problem tree for high social and economic costs of migration



9.3 Opportunities for transformation

9.3.1 Unrealised benefits of migration & remittances

There are a number of missed opportunities, unrealised benefits and unmanaged positive effects of remittances and migration (also see Figure 31 below). Given the importance of migration and remittances relative to Nepal's population and economy, it is crucial to manage and marshal the flows for positive change in Nepal. If effectively harnessed, such a large stream of financial inflow could be a major driver of productive investment. Unfortunately, the dynamics of remittance flows to South Asia are complex and fragile (Seddon 2004), and there is insufficient knowledge on these dynamics and how to best manage them given the small number of countries that have such large flows proportional to their size. For this reason, it is also extremely difficult to estimate the value of the unrealised

benefits. However, there are a number of issues that represent key points for a policy agenda.

One popular argument is that there is insufficient skills development. A migrant's skill level has a strong influence on their earning potential, but evidence shows that the government's efforts to increase the earnings potential by improving migrants' skills are undermined by other labour sending countries keeping wages down to remain wage competitive (World Bank 2011). These dynamics appear to be confirmed by a recent study in Nepal by Social Science Baha (2013).

There is, however, insufficient attention paid to making the most of returning migrants and non-resident Nepalis, who could be an important developmental resource. Workers often return with qualitatively increased skill levels. Very little attention has been paid to the skills and experiences returning migrants bring home, and their potential to stimulate local economies through their knowledge and ideas and/or investment. Research has shown that migration, followed by a return to self-employment and creation of small businesses, can be catalytic in enterprise development and poverty reduction (ibid.).

More broadly, remittance flows do not appear to be contributing to productive investment. It is clear that the $4 billion per year in remittances is not properly leveraged to bring maximum value to the Nepali economy – for example, high remittances appear to have contributed to the formation of a real estate bubble (World Bank 2011). Although debate about the use of remittances in Nepal has tended to focus on spending patterns of families of migrants, this fixation is misplaced. Evidence shows that remittances tend to be spent on consumption rather than investment,[126] or on non-productive investment such as land speculation. However, these spending preferences are not the key issue:

- First, spending on education and health (shown to be high priority, World Bank 2011) is included by these commentators under consumption, whereas they are surely an investment (in human capital – unless we accept a very narrow definition.[127]

- Second, given that many households receiving remittance are poor, spending on food and shelter is to be expected – as is paying off loans taken to finance migration in the first place.

- Third, and possibly most importantly, the investment decisions of remittance-receiving families seem to reflect 'good sense', given prevailing trends in the economy, with demonstrated poor performance in productive sectors and a poor investment climate, owing to political uncertainty, turmoil and instability.[128]

- Fourth, although remittance-dependent countries do tend to become fixated on how to shape household spending decisions, forcing migrant households to save more and consume less is counter-productive and tends to reduce overall welfare (ibid.).

One real problem reducing the impact of remittances is insufficient services provided by banks, particularly insufficient access to credit and insufficient

[126] Although a recent study even questions this, finding that young migrant workers do not tend to spend on conspicuous consumption, instead going to meet daily needs, repay loans, and for education (Social Science Baha, 2013).
[127] These are also quite understandable given the deficiencies in public service delivery in these areas by the government.
[128] Putting money in land has given significantly better returns than any bank account or investment instrument.

innovation in the financial sector[129]. Rather than expecting households to make the link between savings and productive investments, encouragement could be given, or pressure applied, to banks to offer attractive and accessible products for remittance-receiving households. Only opened to the private sector in the mid-1980s, it has long been recognised that the Nepali financial sector is in need of reform (Adhikary *et. al.* 2007), and a number of studies (Carling 2004; Pant 2008; World Bank 2011) highlight the relevance of improved supervision. Remittances are seen as a missed opportunity for the financial sector (Ferrari, Jafrin *et. al*. 2007), and improved and innovative products and services need to be offered to remittance senders, such as savings deposits, home loans and health and life insurance (ILO 2008). Better links between MTOs and microfinance institutions could help. There is also insufficient access, with poor penetration of banks outside of Kathmandu.

There are other macro-level issues that are currently unmanaged. The beneficial impact of remittances for a domestic economy is dependent on human capital, strong economic institutions and a good investment environment (World Bank 2011), which are all missing to a great extent in Nepal. There are also strong effects on the labour market: the outflow of migrants creates acute localised shortages and unreliable supply of labour (Adhikari 2006), and real wage increases without increases in productivity (World Bank 2011). While in the short run this has advantages in terms of improved benefits for workers, it could be that further constraints are being placed on the competitiveness of Nepali industry. It creates a disincentive for businesses to develop the skills of their workers, for fear of them then leaving for more lucrative work abroad, and there are some suggestions that it has contributed to a kind of 'Dutch disease' in Nepal (although causality is hard to establish). Remittances lead to higher consumption and hence raise imports and appreciate the real exchange rate, while also shrinking domestic exports and manufacturing owing to labour market effects, and reduced incentives to invest in or produce tradable goods (ibid.).

These problems reduce productivity in the Nepali economy. They also damage inclusiveness with respect to mobility: if migrants and their families had access to better banking services, or faced an improved investment environment, there would be a greater chance of them being upwardly mobile due to the initial earnings from migration. There are relatively robust indications on the lack of productive investment, on problems with the banks, and some on migrant spending habits; and evidence from other high remittance-receiving countries is instructive and persuasive on a number of factors (for example on the need to capitalise on returnees). There needs to be more investigation of the multiple and complex interactions that link these.

The discussion below outlines the drivers and constraints around each of the key problems and opportunities listed in the previous section. The political economy dynamics are examined, looking at how structural factors, institutions, actor incentives and behaviour, and the flows of information and knowledge, explain the persistence of a problem, the main drivers of change around it, and the feasibility of promoting lasting change.[130]

Drivers and constraints of realising benefits from remittances

The unstable, interim, fragmented nature of Nepal's political situation reduces the government's focus on economic development, especially regarding issues with

[129] The sophistication of the financial sector is one of the key factors shaping the impact of remittances (World Bank, 2011a).
[130] This section is adapted from Jones and Basnett 2013.

long time horizons. Since the end of the conflict, and the signing of the Comprehensive Peace Accord (CPA), coalition politics and a low level of law and order have led to an extremely short average tenure for prime ministers (no more than one year), with ministerial turnover even more frequent. In this environment, the incentives for those holding high public office are geared towards short-term concerns, while political attention and the public debate has focused largely on contests over positions of power and the immediate 'winners' and 'losers' in each step of the peace process. The economy has to a great extent been a low priority for Nepal's politicians and political parties, and there are large practical obstacles to any attempt to robustly manage economic issues and the country's development with a long-term vision (Jones 2010).

This is a continuation of historical trends of poor economic management, a cycle to which migration and remittances now contribute. The World Bank (2011) argues that in Nepal, as elsewhere, migration and remittance may be having 'governance effects', perversely influencing the domestic policy environment. As the population increasingly sees their livelihoods and wellbeing to be secured by employment abroad, there is a lower tendency to hold one's own government to account for good policy. The government, with no pressing short-term political consequences, feels little pressure to take difficult, long-term programmes of domestic reform. This becomes a vicious cycle, as limited pressure to improve leads to poor performance of the economy and job creation, and hence more migration.

This assessment is supported by our interviews, historical evidence, and some illustrative examples. For example, government decisions made during the conflict to ease migration for foreign employment were taken in order to avert the dangers of having large numbers of young men in rural areas without decent prospects for employment and income, as this would be likely to swell the ranks of the insurgency. The political economy effects of remittances are complex, contradictory and not amenable to generalisations (Grabel 2008), and one caveat is needed to the World Bank thesis: there was never significant pressure for economic reform in the first place, nor was there a government of Nepal that was responsive to the demands of its people. A cursory knowledge of Nepali history shows that such economic development was quite far off the agenda of those in power, at least up until 1950, and government since then has still been far from responsive or accountable to citizens' demands (Whelpton, 2005). As such, current trends are a continuation of historical distance between the needs of Nepalis and the priorities of their government.

Many of the unmanaged effects of remittance inflows have short-term financial benefits for different groups, but the collection of these is opportunistic rather than systematic. For example, elites in Kathmandu have seen the value of their land and properties increase many times over in recent years as part of the real estate bubble fuelled by remittance flows (World Bank 2011). Poor penetration of banking services means that the majority of lending comes from the informal sector, including friends and family, but also loan sharks, who take significantly high rates of interest (Ferrari *et. al*. 2007). Some instances of government action attempting to improve the impact of remittances have also been treated by those implementing them as an opportunity for enrichment. The central bank issued 'remittance bonds', which failed to raise sufficient interest partly because of poor rates of return, low confidence in government (e.g. many investors received certificates more than five months after payment) and also alleged corruption in the form of high 'commissions' demanded in return for eventual delivery of the bonds.

Realising benefits from large-scale remittance is a policy area where government has limited control, although in present circumstances, this cannot be considered a

constraint on benefits being realised given the government's record on delivering services for the taxes and levies paid. Total remittances are extremely large, and the public debate has tended to focus on the aggregate numbers and the liquidity provided, discussing them along with other inflows such as foreign direct investment (FDI) and foreign aid. However, remittances are very different to these, as transfers are individually small and highly distributed. As private transfers, the uses they are put to are diverse and there are only limited options for how the government can influence what is done with them at the household level. The complexity and fragility of these transfers should be recognised and attempts made to enact strong, heavy-handed legislation are doomed to failure (Seddon 2004).

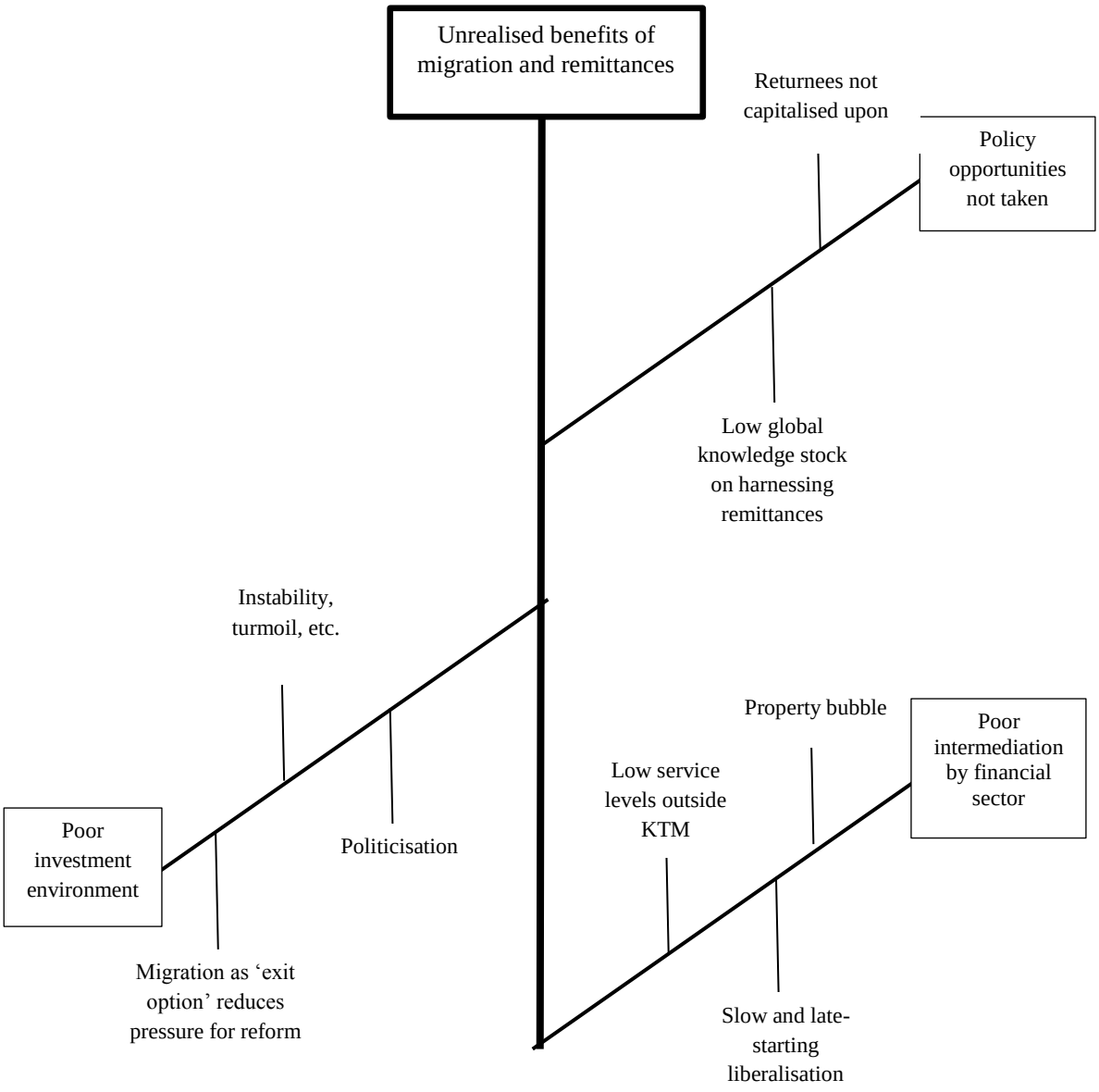
Moreover, there is limited knowledge on how best to harness remittances for long-term development. Only a small number of countries receive, or have received, remittances on as high a scale (relative to the domestic economy) as Nepal, and there are few 'success stories' among them. There have also been very few studies on macro-level impacts and how they can be managed (World Bank 2011). As such, there is not a wealth of experience, expertise or a 'policy agenda' proven to enable a country to properly harness remittances and tackle macro-level effects.

In lieu of concrete evidence, policy positions and arguments tend to reflect ideological tendencies, such as blaming the poor. The overriding focus of debates about how best to leverage remittances for development places the responsibility for the failure to do this on the remittance-receiving households, who are portrayed as imprudent and rash with spending decisions. This reflects a broad tendency for elites to blame the poor for their own fate and that of the economy more generally (Bebbington *et. al*. 2008). As argued in the previous section, this does not have a basis in evidence in Nepal. Other common arguments take a nationalistic tone, arguing that foreign employment should be restricted or banned in order to ensure Nepali workers contribute to their own country.

Constructive and evidence-informed perspectives are currently fragmented. There is increasing attention of civil society, academia and international agencies to understanding the links between migration and development. The main players in debate around the topic have relatively compartmentalised approaches to the issue. So, within the broader field of labour migration and remittances, each organisation sees an aspect that relates closely to its organisational position, but largely ignores the broader set of factors. For example, IOM approaches the issue from the perspective of 'safety' and 'management', UN Women looks at 'gender issues', ILO considers 'decent work', the World Bank has tended to focus on the remittance flows, and the NRB has addressed anti-money laundering (with the exception of the remittance bond) and so on. Without a substantive policy debate on the issue, and without an obvious platform for bringing these actors together, insight, ideas and impetus for action are hard to generate.

The basis and constituency for a broader movement are also lacking. There is little to no political leadership for improving the way migration and remittances benefit the long-term development of Nepal. 'Pro-migration' stances are difficult for current politicians to maintain, given the need to acknowledge one's own failings to create sufficient opportunities in Nepal, and the aforementioned challenges of short-termism and limited domestic pressure. In lieu of a strong voice by non-resident Nepalis (NRNs) and current and returning migrants, the fundamentals available to increase the pressure for action on the issue as a whole are not available.

Figure 31: Problem tree for unrealised benefits



Knowledge gaps: there is a need for further research on the following:

- Informal agents and the economics of labour agents and agencies.
- Investigation of the links between migration and domestic labour problems, including challenges for competitiveness of industry and incentives for skills development.
- Assessment of current credit services used, and gaps for products that would offer improved savings and loans for migrants.
- Research into the socio-economic impacts of migration on those left in Nepal

9.4 Programme options for labour migration & remittances

The first priority with relation to labour migration is to see ***a higher proportion of labour migrants travel to higher value destinations (such as The Gulf, Malaysia, etc.)***. This would constitute the transformation of the 'sector' from lower to higher value activities:

- Every year approximately 2 million Nepalis travel to India for seasonal work, and of the remaining 2 million travelling for more permanent work around 43 percent (867,000) go to India. Households with a migrant in India tend to receive NRs. 62,000 per year ($800) (World Bank 2011).

- Around 1.1 million Nepalis travel to 'higher value' destinations. The 867,000 in the Gulf send home an average of NRs. 163,000 ($2,120), 245,000 in Malaysia an average of NRs. 113,000 ($1,470), and the 186,000 in other developed countries send an average of NRs. 311,000 ($4,050) (ibid.). [131]

Each Nepali worker travelling to the 'higher value' destinations of Malaysia, The Gulf and other developed countries thus earns 84 percent, 165 percent or 406 percent more than by travelling to India respectively. If 10 percent of workers who would currently travel to India went to The Gulf instead, this would result in an additional $114m of remittances per year for Nepal.

In order to contribute to this priority, the programme objective needs to be ***making labour markets work for the poor***. Migrants to India are most likely to come from the bottom wealth quintile (three times as many from this quintile go to India compared to The Gulf), while those travelling to The Gulf and Malaysia are most likely to come from the quintile 60 to 80 percent (twice as many go to The Gulf compared to India in this quintile) (ibid.). Transforming the sector is thus likely to require more people from poorer backgrounds travelling to higher value destinations. There are currently major barriers for the poor to access these opportunities: the average cost of a placement in India is $70, while a job in The Gulf costs an average of $1,370, Malaysia $1,500, South Korea and Japan $9,600 and Europe $8,000.

The second priority is for ***remittances to better drive productive investment in Nepal***. Remittances are likely to be responsible for $6.3bn, over 33 percent of GDP (Jones and Basnett 2013), but overall their potential for promoting domestic development has not been harnessed. As per the problem tree on page this results from a poor investment environment, poor intermediation by the financial sector, and policy opportunities not being taken (primarily, the failure to support entrepreneurship by returnees). The three primary programme objectives are therefore:

- Improvements in financial products and intermediation

- Better support for SMEs and entrepreneurs

- An improved investment environment

[131] These figures are taken from the World Bank-sponsored Nepal Migration survey (NMS): they are higher than the official Government of Nepal statistics on migrant numbers but this is because the GoN figures do not include migration to India nor do they include migrants who travel through informal channels. The NMS is based on a sound sampling method and hence is considerably more reliable than the official figures.

These interventions are not in the migration and remittance 'sector' directly, but the relieving of these constraints elsewhere is likely to unleash the potential for remittances to be a driver of productive investment. This equates to a pathway to transformation whereby change within one sector contributes to wider productivity gains.

9.4.1 Making labour markets work for migrants

Drawing on the constraint and problem analysis above, the following processes and mechanisms are likely to lead to improvements in the functioning of the labour sector in Nepal:

- Reduce the informational and logistical 'gap' between migrants and their (prospective) jobs and employers.
- Shift business incentives away from seeking profit by exploiting migrants, towards securing profits by treating workers well.

This focuses primarily on improving the supply side of the manpower and recruitment sector in Nepal, and the problem is approached primarily as one of economic and business decision-making. The first of these will reduce information asymmetries, allowing migrants to have a better idea of the likely costs and benefits of specific jobs they are offered, and of the track record of the agent they are dealing with. It will also reduce the space for unnecessary and often exploitative intermediation by allowing workers to bypass local and regional middle-men. The intervention must work directly with businesses, their relative insulation from enforcement of the regulation means that change needs to come from within industry – hence the second point is also emphasised.

Between the two, they will enable market forces to better operate, and in turn, the better functioning of services provided by the manpower sector to workers, particularly those from poorer background. Competition combined with clearer information will drive agencies to offer improved services to potential migrants, including a reduction in misrepresentation and in fees charged.

The demand side (employers in receiving countries) is an important element in driving system outcomes. However, to a large extent, they are far beyond the control of DFID or any aid agency. A smaller component of the programme will focus on monitoring, publicity and diplomacy to influence change in migrant-receiving countries.

The Key assumptions are that the number of available opportunities in 'higher value' destinations will increase if a proportionate increase is seen in the availability of (semi-) skilled, motivated manpower. This also assumes that there exists at least an initial 'vanguard' of MAs willing to pursue self-regulation in their interest and in the interest of the sector as a whole, and also that potential migrants will take seriously the likely costs and benefits[132] sufficiently, and will choose between MAs on this basis.

Programme elements and partners

There are a number of entry points relevant for activating this theory of change. However, many of the underlying dynamics are opaque and subject to contextual influences. As such, this work should continue as a portfolio of flexible initiatives under one programme. Appropriate lead agencies for this programme should be explored, but the government Task Force on Foreign Employment seems to be the

[132] Including likelihood of injury, total fees and charges required, and realistic estimations of actual wages.

most appropriate starting point given its high profile, perceived low instance of rent-seeking and cross-sectoral remit. However, the management of the programme would need to be collaborative, giving major stakes to MAs and other actors expected to change behaviour.

The following elements are required:

1. *ICT and mobile phone-linked solutions*. These would be focused on improving information services for migrants and strengthening the reach and integrity of recruitment processes. Self-funding mechanisms would be set up, working with mobile phone operators to establish and carry the services, with MAs who would use remote registration to identify potential workers, and with the World Bank to pool resources and access their global expertise on ICT-based innovations for development.

2. *Self-regulation by manpower agencies*. A self-selecting group of agencies whose image and business depends on a professional reputation will drive a voluntary monitoring and certification scheme that is also tied to inducements (e.g. individual or organisational capacity building, marketing and branding benefits for participating agencies). MAs would be key partners and NAFEA could play a role, however due to the politicisation of the association they may not be the most appropriate primary partner.

3. *Research, monitoring and verification*. Periodic surveys will be carried out on the actual costs, working conditions and risks, as well as wages from various types of work in different countries to verify the existence of large demand letters, and to link malpractice to the chain of perpetrators involved. This would require working with civil society operative in destination countries (especially media and journalists), possibly through or in partnership with the ILO.

4. *Improving the enforcement of sanctions*. Various watchdogs and state institutions will be assisted in the follow-up of abuses. This is an essential part of the market development programme because it will ensure that there are real economic consequences of exploiting migrants. While DoFE and the FEPB are key partners, it will also be important to work with the NHRC, the revenue authority, and with justice institutions – some of this may be best pursued under DFID's upcoming 'justice for the poor' programme.

5. *Strengthening decentralised services for migrants*. In order to reduce reliance on middle-men, information services as well as registration and passport services should be provided across the country. Information centres could also allow potential migrants to check on veracity of agent claims and other information on costs and benefits. The primary partner would be DoFE, under MoLE, who would be required to run the offices, possibly with the assistance of civil society organisations working to support migrants.

6. *Advocacy in receiving countries.* Efforts will be made to influence receiving company behaviour through public campaigns, advocacy, lobbying and diplomacy in receiving countries and internationally. Key partners will be migrant rights groups, the media, and the ILO.

7. *Policy/institutional change*. As and where opportunities arise, efforts will be made to facilitate coalitions of change around key changes in the governance of migration and manpower agencies.

Links would need to be developed between the different elements, for example the phone-assisted recruitment service could be one of the benefits to induce

membership in the self-regulating agency group could, and that group could end up funding the monitoring activities once it reaches sufficient numbers. The monitoring and research efforts would feed into all other elements, such as enforcement and decentralised services. It is crucial that each of these elements is implemented at scale from the start or as early as possible, given the scale of migration and of the problem. Technical assistance will be required for 1, 2, 3, 4 and 7. Capital would be required as 'gap funding' for 1 and 2, and as core funding/budget support for 3, 4, 5.

9.4.2 Improvements in financial products and intermediation; Better support for SMEs and entrepreneurs; an improved investment environment

The following approach will be taken to each of the three objectives:

- Systemic problems in finance sector and business environment tackled
- Better skills in targeting products to migrant groups
- Direct financial incentives for broader service delivery

Given the large volume of remittances, it is assumed that there is considerable profit to be made by financial institutions and business services targeting migrants. As such, the primary tools will be about attempting to improve the functioning of these markets (business and financial services) at the systemic level, in order to enable better service provision. The second implication of this assumption is that direct assistance with helping private sector actors target migrant groups (which are often more complicated to reach) may be required (although given the likely profits that kind of knowledge should be a sound private investment, there may be low awareness or the required expertise may be too expensive for any one firm to bring in alone). Direct financial incentives for improved services will only be offered as and where the above two are not likely to be sufficient to catalyse change in the short term.

Programme elements

Each of these objectives could be pursued under a broadly-focused (rather than migrant-specific) programme, provided that the targeting of migrants was mainstreamed throughout. Each of these objectives could be best pursued working with Nepal Rastra Bank, companies in the financial and business services sector (and their relevant associations), and the World Bank.

The specific elements which would need to be included to contribute to the transformational objective would be:

1. *Improved access to loans from the formal sector*. Migrants pay for their placements predominantly with loans at an average of 35 percent interest from informal lenders. Improving access to formal sector loans (typically less than 15 percent) would reduce indebtedness and poverty traps and thus increase the productivity of the overall population, as well as generate profits for banks.

2. *Improved access and attractiveness of savings products.* If larger amounts of remittance inflows were deposited in bank accounts, this would enable banks to better mediate and increase productive investment. This might also require strengthening the overall performance and investment strategies of banks, which might, in turn, require tackling systemic issues such as the property bubble.

3. *Better services for young entrepreneurs and SMEs*. Capitalising on returnee migrants is crucial, and especially young migrants who are likely to be interested in setting up

businesses; this entrepreneurship in turn can drive improved wages and a more vibrant and productive private sector.

Technical assistance would be needed for 1, 2 and 3. Capital would be required as seed funding for 3, and potentially gap funding for 1, and 2.

9.5 Programme options matrix for labour migration

Constraint	Programme idea and type of support	Target & impact	Working with and/or through	Niche / other donor work	Approach / theory of change	Comments and key questions
High costs of migration	Making manpower markets work for the poor Largely TA, with 'gap funding' for mobile services and self-regulation, and budget support for monitoring, enforcement and decentralisation	Reduction in cost of placements for migrants to lead to a transformation of foreign employment sector to higher value work Working through: ICT and mobile phone services Self-regulation by manpower agencies Monitoring and verification Improving enforcement of sanctions Strengthening decentralised services Advocacy in receiving countries Policy and institutional change	With manpower agencies, GoN DoFE, revenue authority, mobile services through NCell/NTC, media partners, civil society actors Programme ideas endorsed by head of foreign employment task force; services previously discussed with NCell, high buy-in	Nothing of the sort Closest is awareness work with migrants that focuses on rights, and SDC work to build an internet registry with the government (stalled for the past year) Interest from the World Bank in partnering on this.	Reduce the informational and logistical 'gap' between migrants and their (prospective) jobs and employers. Shift business incentives away from seeking profit by exploiting migrants, towards securing profits by treating workers well.	Potentially extremely good value for money – e.g. £10m programme could hope (using very conservative estimates) to save $50m pa currently paid in illegal fees, and in turn allow the entry of many moor poor people into higher value employment Policy and institutional change section could be handled by CIG phase 2

	Access to justice for migrants Services provided with DFID support	Migrants have recourse to justice when mistreated; direct impact on inclusion (lower costs for poor and vulnerable), also incentive for agencies to become more responsible	With and through CSOs, also with legal institutions	A lot of A2J work, but gap on A2J for migrants	Strengthen exiting civil society presence	This should be mainstreamed into DFID Nepal and others' work on access to justice, to ensure migrant-specific services are provided
Unrealised benefits of migration and remittance	Support for returning migrant entrepreneurship DFID capital (seed funding), TA	Increased number of businesses started up by returnee migrants, improved success of those businesses – improved productivity in the economy Also, package to encourage returnees?	Work with existing (private sector) services for entrepreneurs, and with civil society providing these services to migrants Work with Ministry of Commerce and Industry (implementation of NTIS should target returning migrants)	UN Women project proven successful, although at what scale?	Systemic problems in finance sector and business environment tackled Better skills in targeting products to migrant groups Direct financial incentives for broader service delivery	This may be best undertaken with a facilitative approach, improving the spread and quality of existing services, helping reorganise actors rather than creating a 'new player' in the system This could be integrated into a wider programme of support to entrepreneurs, with a concern for migration mainstreamed – although some migrant-specific services (e.g. ID cards) would be needed

Improved access to loans and bank accounts for migrants	Improve access to and uptake of formal sector loans and saving accounts and hence price paid by migrants for loans (thus increasing the amount of productive investment)	With banks, NRB, microfinance, etc.	Absence of financial instruments for migrant workers. Most available lending schemes are general, and are not tailored to migrant worker. Consequently, they are unable to assess risks and provide competitive interests on loans.	Systemic problems in finance sector and business environment tackled Better skills in targeting products to migrant groups Direct financial incentives for broader service delivery	Again, migrant needs should be mainstreamed into a broader programme for access to credit. The causes of poor access to credit are poorly understood – further research would be needed in order to properly design an intervention
Strengthening rural investment climate	Improve land tenure system and rural infrastructure.	Ministry of Lands, and Ministry of Infrastructure	Most of the existing programmes on these two issues are largely horizontal in nature. This needs to be complemented with vertical and spatial targeted programmes for migrants to increase the impact of reform on land tenure and rural infrastructure.	Leveraging agents of change: From migrants to rural entrepreneurs Increased rural investments. Increased rural employment	Strengthening rural investment climate cross cuts with programmes on agriculture. The key issue is to start looking at migrants as potential rural investors, and addressing bottlenecks which are going to be location specific.

10 Leveraging Nepal's natural resources

10.1 Overview

This chapter outlines how Nepal's natural resources can bolster economic growth through their contributions to key sectors. Although minerals deposits are low and insufficient to move Nepal onto an extractive-based economy, Nepal is rich in renewable resources including soils, water, forests and natural beauty. This chapter looks in detail at two of these – forests and water – to explore how the government and other actors can make investments in these that generate economic growth. Critically, generating growth through these resources is likely to have a light carbon footprint, enabling Nepal to set ambitious carbon emissions targets and access carbon financing streams.

Nepal's economy depends on its natural resources (ADB, ICIMOD 2006).[133] This is most evident for hydropower, agriculture and forestry, but natural resources are also an important factor in Nepal's attractiveness as a tourism destination. Manufacturing, and to some extent services, also require water availability; and the cities where these are based increasingly face water shortages.

Nepal's greenhouse gas emissions are low. It released 0.14 tonnes of CO_2 per capita in 2010 – less than 10 percent of the average for Asia (IEA 2010).[134] The carbon intensity of its GDP is 0.4 kgCO_2/ USD[135] which is less than half of Asia's average of 1.06 kgCO_2/ USD (IEA 2010). Relying on natural resources offers the prospect for Nepal to remain on a low carbon pathway. Increasing household and overall national wealth will not require a matched increase in carbon emissions.

The potential to decouple growth from rising carbon emission is most obvious for hydropower:

- By increasing the amount of low-carbon electricity generated through hydropower, Nepal can remove a major constraint to growth across the economy[136] (i.e. the lack of regular electricity) and potentially reduce imports of electricity and carbon-rich fossil fuels from India.
- Providing electricity in rural areas will contribute to expanding the area of land under irrigation, and further diversify the rural economy, allowing poor households to become more integrated in the economy.
- In the long term, surplus energy from hydropower can be sold to India to generate foreign currency reserves and reverse Nepal's trade deficit.

[133] Excluding minerals, of which Nepal does not have large quantities.
[134] Excluding China.
[135] Measured at 2005 dollars.
[136] See section on energy on the transformative potential of the hydropower sector for the Nepali economy.

Nepal's forests also hold out promise for low carbon growth. Sustainable harvesting of timber and Non Timber Forest Products (NTFPs) offer localised benefits to neighbouring communities. Forests can potentially be leveraged to access flows of carbon finance aimed at preserving and increasing the stock of carbon locked in trees and soils.

However, remaining on a low-carbon growth path requires prudent management of Nepal's natural resources – its natural capital. While this stock of natural capital can be converted into other forms of capital, such as human, infrastructure, and financial reserves, these endowments can also be misused and depleted. As depletion is largely irreversible, it also represents an opportunity cost if chances to extract economic benefits are missed (Collier 2010).

This section analyses potential for leveraging water and forest resources for economic growth. Risks to the economy are also discussed briefly.

10.2 Water

4.1.1 Opportunities for economic transformation

Nepal has abundant water resources, with an annual surface water availability of approximately 225 billion m^3 (WECS 2011). The 6,000 rivers in the country can contribute to economic development through hydropower, irrigated agriculture and industry, as well as improve human capital through improving the domestic water supply.

Hydropower potential for low carbon growth

Nepal's electricity generation is heavily reliant on hydroelectric power, with 652 MW of a total of 706 MW (92percent) generated from hydro sources (GoN 2011a). The current use of hydropower in Nepal is a small fraction (1.7percent) of the estimated availability of 42,000MW if 114 new potentially viable projects are built (WECS 2011).

Different scales of hydropower offer growth prospects through different channels. Large scale installations that service cities and industrial zones offer the most potential for increasing power to a level that can remove existing constraints to development in the manufacturing and service sectors.

Small-scale hydropower projects offer great potential for rural electrification. At present, only 40percent of Nepalis have access to electricity[1] (HIDCL undated), and overall, electricity accounts for a small percentage of total energy use, with most households burning wood and biomass for cooking and heat. Building infrastructure that improves access to energy for rural households holds potential to reduce dependence on forests and diversify rural livelihoods (see below).

Hydropower is a low carbon source of energy, with emissions estimated at between 0.5-152 kg CO_{2eq}/MWh. This is in the same range as renewables: geothermal, biomass, wind and solar energy lifecycle emissions. While potential emissions from biomass decomposition in reservoirs, as most Nepalis hydropower installations are run of the river, greenhouse gas emissions from installation are low to modest (Kumar, Schei, *et. al.* 2011). Using this source, energy-intensive growth of the economy, based on domestic energy generation will have low associated carbon emissions.

However, at present, Nepal only uses 15 billion m^3 of the water resources available; a small fraction of the total.[137] This is partly because of the geographic distribution of water supply, and partly because there is significant variation in the seasonality of water flow.[138] However, improving water transportation, storage and irrigation infrastructure can overcome these challenges.

Agriculture stands much to gain from increased irrigation. Year round water supply enables farmers to produce more crops per season and avoid crop failures during drought years. In the *Terai*, tube wells that extract groundwater reserves offer significant potential for irrigation, while micro-irrigation and pond storage is more important in the hilly regions (ADS 2011).

Similarly, the power generation potential of hydrological resources for is under used. The current use of hydropower in Nepal is a low 1.7 percent of the estimated availability of 42,000MW (WECS 2011).[139] The potential to develop untapped water flows to expand hydropower as an industrial and domestic source of energy, and sell it to India presents Nepal with a major opportunity to promote widespread economic growth, while keeping carbon emissions per unit of GDP low.

Figure 32 presents a theory of change of some the major opportunities to leverage water resources and the complementary factors also needed. The starting points in this diagram, the inputs, are investments in leveraging these natural resources.[140] The outputs describe direct benefits attributable to these investments. Outcomes are higher level changes that outputs contribute to, and these in turn produce the desired impact. Major assumptions about the economic and political economy context are presented in the right hand column.

- Extending irrigation infrastructure allows farmers to increase their yields and reduce their losses during drought years. This contributes to higher agricultural production (provided farmers can access other inputs), raising rural incomes.

- Developing mini hydropower infrastructure provides rural households and businesses electricity, which contributes to higher farming and processing output in rural areas. This also reduces dependence on wood for fuel (see next section). Rural electrification can lead to a virtuous circle where increased output drives more investment, in turn spurring more production.

- Developing large dams and hydropower infrastructure can also generate electricity for rural areas, but also serve manufacturing industries and service sectors, addressing a major constraint to growth for these sectors.

- A positive outcome of rural electrification would be the potential to reduce the costs of irrigation use and expansion in new areas. At present, many farmers rely on expensive diesel pumps or forego irrigating during power

[137] 95% goes to agriculture and only 0.3% to industry

[138] Roughly 78% of the annual surface flow is concentrated in the four major rivers basins (the Koshi, Gandaki, Karnali and Mahakali) and 80% of rainfall occurs between June and September during the monsoon season. While melt waters from glaciers feed the four major river basins throughout the year, many rain fed rivers in the Southern *Terai* have reduced flows during the dry season.

[139] This commonly quoted figure depends on building of 114 new viable hydropower projects.

[140] An alternative approach to the ToC is to start with the quantum of natural resources available for exploitation as inputs and model economic growth outcomes While such an approach would be attractive if good data on local resource availability and conversion factors for natural resource growth were available these could not be sourced given the limited scope of this exercise. Rather, the approach of using investments as inputs highlights the different growth pathways that rely on the natural resource (in this case water).

losses which would occur less frequently with a regular power supply.[141] Meeting domestic energy needs means Nepal would no longer need to buy electricity from India, but could instead sell it, improving the balance of trade and, with it, wider macroeconomic conditions that determine how attractive Nepal is as an investment destination.

- The sum of these changes is more low-carbon growth and poverty reduction[142].

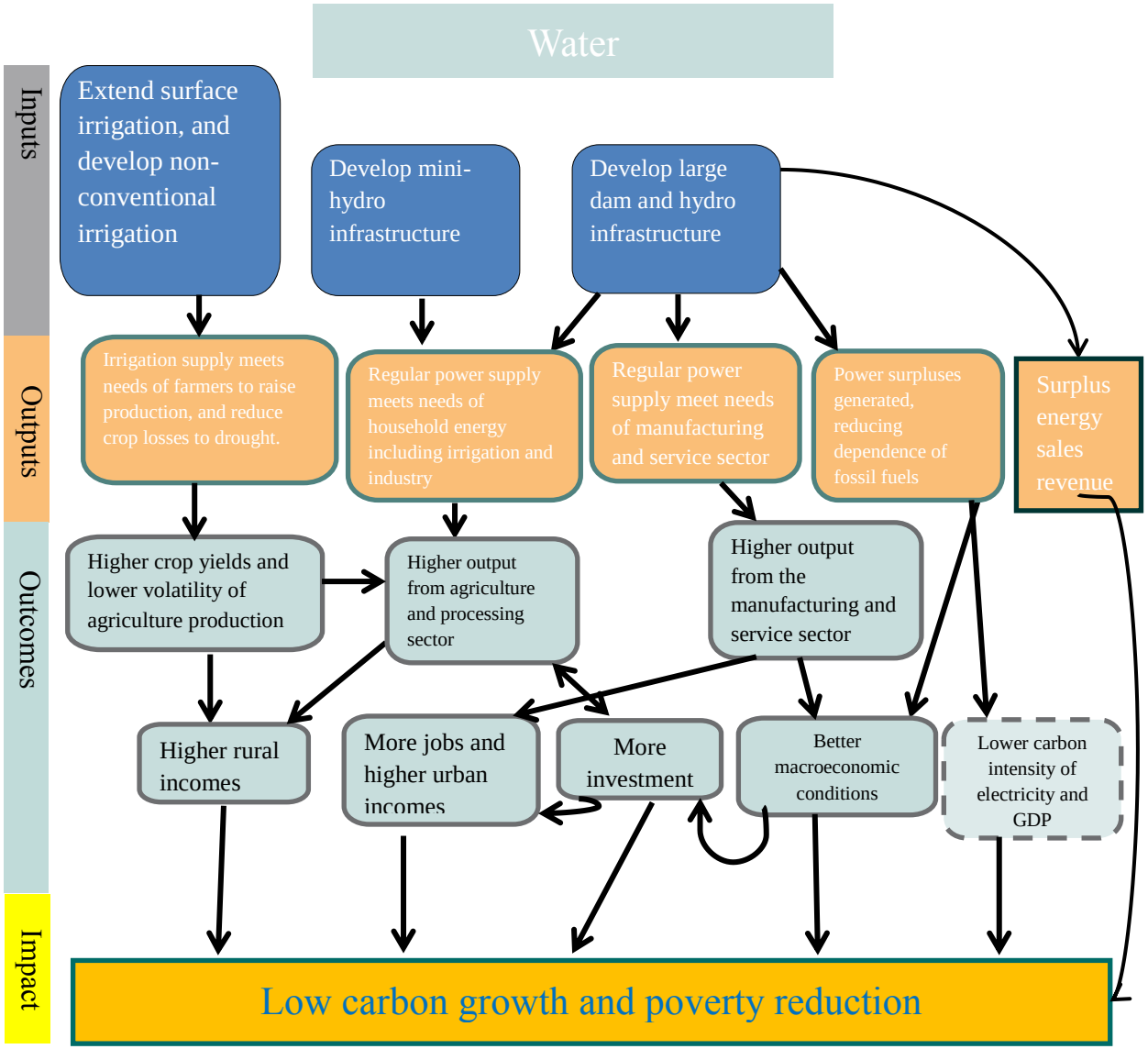
Although not highlighted in the diagram, there are several challenges and risks associated with developing hydropower and water infrastructure:

- At the river-basin level, trade-offs between different uses of water exist, and increasing water use for sector may compromise others. For example, the Melamchi Water Supply Project which aims to divert river water to supply Kathmandu will likely reduce access to irrigation for downstream users (Pant 2008). Conversely, without careful regulation, increasing availability of water for irrigation in peri-urban areas may put increased pressure on water sources. Where irrigation increases in upstream water basins, water pollution from farm effluents may negatively impact the quality of water for consumption in cities.

- Floods are a significant source of human and economic loss in Nepal (see Section 10.4 below). While installing infrastructure can potentially alleviate flooding, diverting water flows may also increase risks of flooding in previously drier areas.

[141] Some forms of irrigation (e.g. tube well systems) require significant amounts of energy to pump up water. No evidence was found suggesting trade-offs between extraction for irrigation and electricity generation, probably because water extraction for irrigation is low at present and water resources are abundant on a national scale.
[142] See: Steinhurst, Knight, *et. al.* 2012.

Figure 32: Water to economic transformation theory of change



Assumptions

Inputs to Outputs

- Irrigation infrastructure completed and maintained by Irrigation Department, LG, Water User Associations
- Hydro infrastructure developed and managed effectively by MoE, MoWR;
- Water flows predictable and stable.

Outputs to Outcomes

- Other necessary conditions for agriculture development present (RIC, inputs);
- Electricity transmission to users effectively managed (capacity, pricing etc.).
- Technologies can switch energy sources easily

Outcomes to Impacts

- Pro-poor distribution of benefits from jobs and income opportunities;
- Sound macro-economic management;
- Additional investment is channelled into low carbon technologies;
- Additional agricultural growth does not contribute to deforestation and higher methane emissions.

10.3 Forestry

4.2.1 Opportunities for economic transformation

Forests cover 3.6 million hectares – just less than 40 percent of Nepal's land area. They harbour significant biodiversity, including valuable tree species and 7000 flowering plants. Of Nepal's regions, the Siwaliks has the largest area of forests, followed by the High Mountains and Middle Hills. The *Terai* and High *Himals* have the lowest coverage with the *Terai* face high risks from increased deforestation (Profor 2013). Much of the forest estate is nominally owned by the state, although community forestry has been increasing over the past 20 years. Nepal's forests currently provide important "ecosystem services" (MEA 2005) that produce direct and indirect economic benefits. Table 14 summarises some of the important services forests provide and the economic benefits that flow from these.

Table 14: Ecosystem services & economic benefits from forests

Service categories	Services	Economic benefits
Provisioning services	Fuel wood: forests are a major source of domestic energy for Nepal's rural population; Fibre: Forests provide timber and biomass Food: Non-timber forest products (NTFPs), including herbs, nuts etc. Genetic Resources: Forests harbour biodiversity important for medicine.	Mainly restricted to household use; Revenues from sale of timber (domestically and abroad); Sales of NTFPs domestically and abroad by communities; Sales of medicinal and aromatic plants domestically and abroad
Cultural services	Aesthetic/natural beauty	Revenues from tourism (especially trekking)
Regulating services	Regulating climate through carbon capture and storage Regulating water flows in river catchments Water purification	Revenue flows from REDD, CDM A/R payments; Important for generating revenues from hydropower and irrigated agriculture

Climate finance

Although Nepal is not required to reduce its greenhouse gas emissions under the Kyoto Protocol, it can benefit from climate finance flows from doing so. To this end, Nepal is involved in UN and World Bank programmes that prepare Nepalis forest-related institutions to conform to international standards, and thereby be eligible for climate funds (Magarth *et. al*. 2013). Several policies aimed at mitigating and adapting to climate change have been developed to help Nepal meet these standards. The 2011 National Climate Policy promoted the use of clean energy, green technology, increased energy efficiency and enhancing local capacity for efficient management of natural resources (GoN 2011). At local government level, District Climate and Energy Plans are to be created in in all 75 district giving more local ownership of projects for energy development (GoN 2011).A National REDD+ strategy is expected soon, and the first carbon credits are expected in 2014[143].

[143] http://theredddesk.org/countries/nepal

Sources suggest that the livelihoods of 11-18 million people partly depend on the forests that cover 40 percent of land in Nepal (Shepard, Mitchell, et. al. 2013). Firewood is a very important source of fuel and of the total energy consumed in Nepal in 2008-2009, the largest share (78 percent) was fuel wood (CEDS 2010). Most wood extracted from forests is used for firewood (FAO 2009, cited in PROFOR 2013). Apart from firewood, forests in Nepal are a source of timber and non-timber forest products (NTFPs) including an important subcategory of Medicinal and Aromatic Plants (MAPs). According to official statistics, NTFP revenues accounted for US$600,000 in 2006. Since a large volume of transactions are unrecorded total value is expected to be higher than this (Magrath et. al. 2013; LPF 2009). In addition, forests provide direct financial benefits because they are an important element of tourism revenues. Finally forests provide economic benefits that are less easily quantified: regulating water flows, and capturing and storing carbon.[144]

The theory of change in Figure 33 presents the changes needed to realise the significant opportunities for economic benefits from forests.

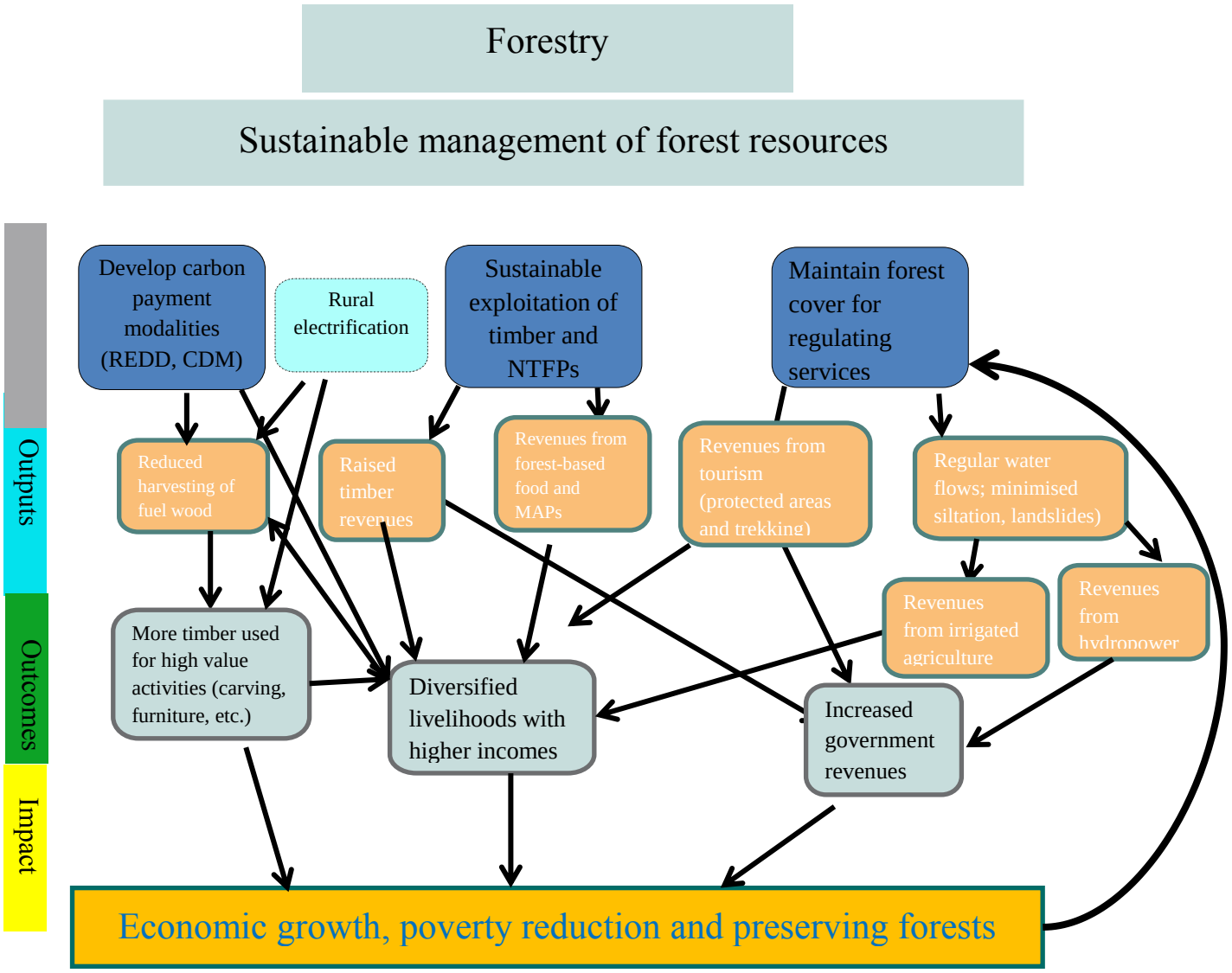
- Changing the main use of wood away from low towards high value economic activities, by reducing firewood extraction and receiving higher prices for timber through regulated trade and processing presents a major opportunity for raising earnings for households and government. Developing markets for NTFPs and increasing sustainable harvesting of these can further diversify livelihoods away from unsustainable practices.

- Revenue flows from carbon finance can also be developed on the premise of developing alternative sources of energy and livelihoods to reduce harvesting of firewood. The effectiveness of these approaches is likely to depend on if Nepal's community forestry institutions are entrusted to manage financial flows directly.

- Maintaining (and expanding) existing forest cover can also provide benefits from tourism and by regulating water flow necessary for irrigated agriculture and hydropower. Where revenues from these economic activities flow to government, well-chosen investments can further contribute to economic growth.

[144] While sources indicate that Nepal holds considerable potential to access carbon flows to its forest sector, the full extent benefits are still unknown as reference levels for carbon levels have not been established as of yet. The first carbon revenues are expected in 2014.

Figure 33: Forests to economic transformation theory of change



Assumptions

Inputs to Outputs

- Alternative sources of energy in rural areas are available (e.g. off/on grid electricity)
- REDD/ CDM payments flow to forest users and curb unsustainable activities, develop alternative livelihoods.
- Timber and NTFP harvesting is regulated and revenues flow to forest communities.
- Tourism industry remains high value.
- Conditions for agriculture and hydro sector exist.

Outputs to Outcomes

- Conditions for higher value forest-based industries exist.
- Revenue flows from carbon, timber, tourism flow to households.

Outcomes to Impacts

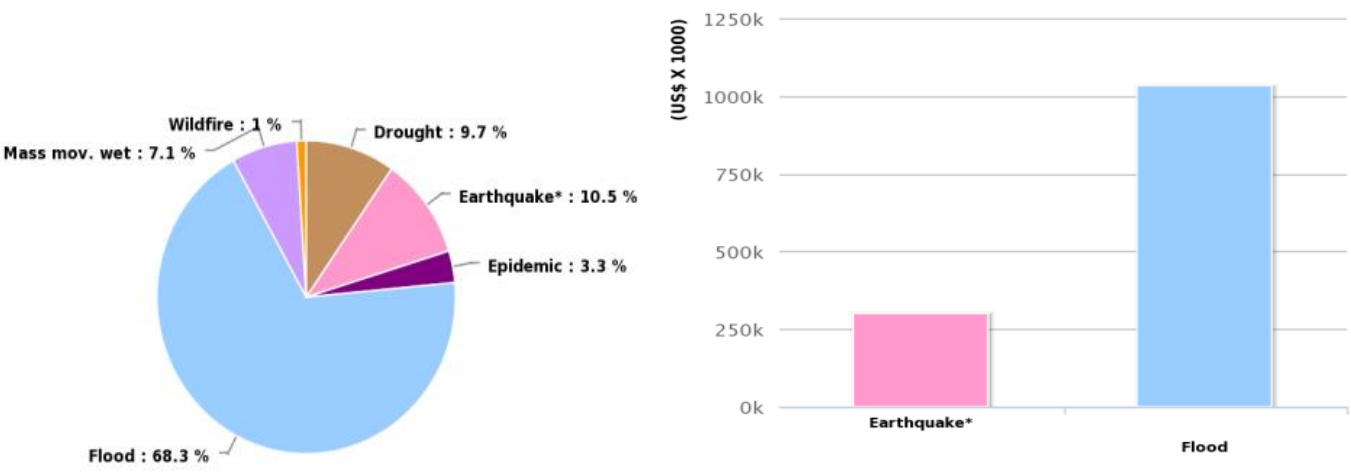
- Diversified incomes reduce pressure on deforestation
- Increased government revenue reinvested in growth promoting activities.

10.4 Climate change & risks to economic transformation in Nepal

While Nepal's natural resources offer potential for economic growth, they are also the source of considerable risk to the economy (CDKN 2013). Risks related to changes in water flows especially threaten to damage economic growth through natural disasters such as floods and droughts.

Nepal is one of the top five countries at risk from natural disasters. This is because a large portion of the population is vulnerable to both poverty and multiple hazards, including earthquakes, cyclones, droughts, extreme heat and floods (Shepard, Mitchell, *et. al.* 2013). Water-induced disasters, including floods, landslides and avalanches are the cause of 29-33 percent of deaths in Nepal, and are responsible for 43 to53 percent of property losses from all disasters (SEI undated, Khanal 2005 cited in Chalulaigain 2006). Seven of the ten most economic damaging disasters in Nepal since 1980 have been floods (Figure 34)

Figure 34: Estimated economic damages (RHS) & people affected (LHS) reported by disaster type (1980-2010)



Source: OFDA/CRED International Disaster Database on Preventionweb.net

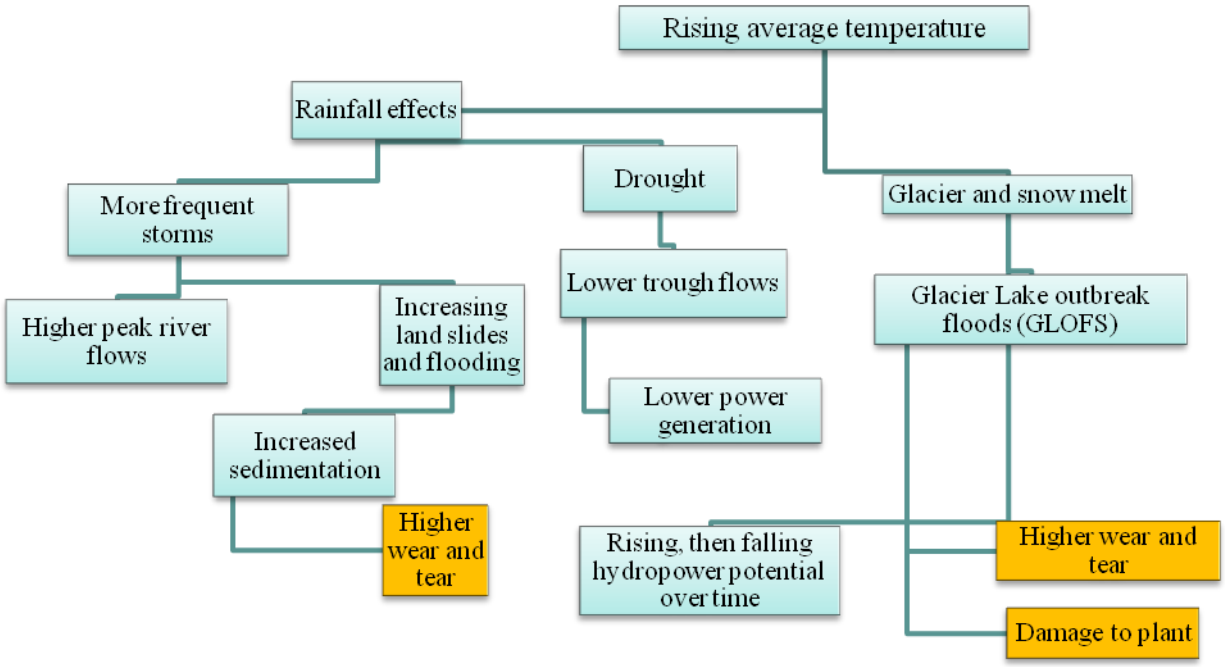
Climate change is expected to exacerbate the risk of some natural disasters, and can reduce the economic potential of hydropower (Figure 35).There is evidence that there are changes in Nepal's climate, with observed data showing that there has been an annual increase of annual temperatures by 0.04 and 0.06 degrees Celsius; however such increases have not been uniform across the country with greater increases in temperatures felt at higher altitudes (GoN 2010). General Circulation Models aimed at estimating the long-term effects of climate change show that mean annual temperature may increase by an average of 1.20 Celsius by 2030, 1.70 Celsius by 2050 and 3.0 Celsius by 2100, compared to a pre-2000 baseline. These projections show that there may be higher temperature increases during winter as compared to the monsoon seasons (GoN 2010).

There has been an observed increase in pre-monsoon rainfall in the country, concurrently the volume of monsoon precipitation itself has actually been declining in some areas of the country and increasing in other areas (Chaulagain 2006). Rainfall projections on the other hand show that there could be an increase in rainfall intensity in monsoon and post-monsoon periods, with decreases in rainfall

in other time periods. The likely impacts of these changes will be increased warming, especially at higher elevations which could lead to a reduction in snow and ice coverage.

In terms of the effect of climate change on the country, looking at agriculture, its effect can be divided between systems that are dependent on summer monsoons and those that are dependent on snow, ice and glacial melt. Agricultural systems dependent on melt-water will see an immediate increase in supply in water availability; however the lack of water storage capabilities will limit the potential use of such an increase. For agricultural systems that depend on summer monsoon rain, there are multiple scenarios that can occur (due to the pervasive uncertainty in the models used and a lack of available data). However, there is some consensus that in the short term, less precipitation is likely to occur due to a decrease in the number of rainy days. Increased variability in rainfall patterns will have negative effects on agricultural productivity. Changes in monsoon "periods" will mean that farmers will have to try to adapt to unpredictable rainfall patterns. The issue is further compounded by extreme poverty and high levels of malnutrition that will be exponentially affected by any slight variation in crop productivity resulting in potentially "disastrous" outcomes. Overall, as Nepal's economy is primarily based on agriculture, it is highly sensitive to any climate and natural resource availability changes.

Figure 35: Potential impacts of climate change on power generation & cost of hydropower (WECS 2012)



Other climate change impacts could include a greater frequency of extreme events, which would include a higher frequency of floods and droughts within the country (ICIMOD 2011). These, when compounded by the country's varied socio-political issues (especially the decade long civil war) would have a negative impact on the

country[145]. Moreover, the impacts of climate change will likely lead to a reduction in the effectiveness of Nepal's development initiatives as droughts will hamper food security as well as negatively affect the availability of water resources in the country[146]. As a result, the vulnerability of the poor and marginalised will increase in both rural and urban areas of Nepal (IDS, PAC, GCAP 2012). Increases in rain intensity could lead to greater levels of soil erosion, increasing the risk of flooding and landslide which may threaten human lives, water security and infrastructure.

[145] Transport infrastructure has already been negatively affected whereas increased rural to urban migration has caused increased abandonment of agricultural land, further compounding productivity issues

[146] http://www.gafspfund.org/sites/gafspfund.org/files/Documents/Nepal%204%20of%209%20Country%20Investment%20Plan.pdf

11 Programme options for structural transformation

11.1 Programme narrative

This section is written as a contribution to the design process for a new DFID programme provisionally titled *Facilitating Sustained Economic Growth and Structural Transformation in Nepal*. It draws upon several sources, but particularly upon the previous sections of this report; on DFID's own internal analyses; and on interviews conducted with representatives of political parties prior to the 2013 Constituent Assembly elections, as well as senior civil servants.

The assessment of constraints to growth is less upon factors of geography and topography, and more upon policy and institutional impediments that can be directly attributed to government actions or lack of actions over the last few decades. Hence the focus is upon the scope for reforms in economic policy and policy implementation that would contribute to the Government of Nepal's (GoN) own economic growth target for the next ten years, and its associated social and redistributive objectives. There is a broad consensus within Nepal's political leadership and its donor partners on the narrative of such a reform programme, and the linkage between different reform measures.

- First, priority is accorded to improving the business and investment environment to attract both foreign direct investment and incentivise domestic entrepreneurs.

- Second, an essential component of this is a substantial public investment programme (including public-private partnerships) in physical infrastructure - especially in a way that increases the availability and reliability of energy and transport and reduces their cost. A third, impediment is widely seen in the process of governance with the prevalence of both structural rigidities impacting upon both policy development and co-ordination; and also a culture that allows obstruction, and hence corruption, to flourish.

- Fourth, related to this governance constraint is the current weakness in macro-economic management and its implications, for example, for monitoring international trade competitiveness and financial market stability.

- A fifth factor is the broader issue of low returns to labour, weak labour productivity, and poor labour relations; and it is this final factor that serves

to link the overall impact of the identified growth constraints, a very low average household incomes and continuing high levels of income poverty.

This broad consensus on the need for pro-business change is producing some improvement in economic performance. For example, Nepal has moved up, if only marginally, in the 2014 *Doing Business Index*; and foreign direct investment (FDI) figures for 2012, released in October 2013, also show increased volumes, largely driven by Chinese investment especially in hotels and restaurants.

Yet FDI growth rates remain below the levels in Myanmar and Bangladesh, for example, with the Nepal-China Business Council citing political uncertainty and administrative complexity as inhibiting factors. Furthermore, overall business investment growth is heavily skewed towards land and property speculation, rather than productive enterprise and long term employment growth. There are, as yet, few signs of the desired transformation from low productivity household crop and livestock production (supplemented by remittances from low wage, unskilled labour migrants) into services, manufacturing and agro-processing.

11.2 Programme focus

11.2.1 Coherence and continuity

In order to assess ways in which donors, including DFID, can assist the GoN to move in that transformation direction, the wide range of constraints identified in the above sections can be aggregated into the five inter-linked factors outlined above. Drawing on these five areas of constraints together from the separate sector assessments, and linking these to current DFID and other donor initiatives, also helps to provide a coherent structure for a future programme.

Throughout the report, there are accounts of the importance of removing current inhibitions to **business growth** in the policy and regulatory system. The most direct obstacles are described in the regulatory barriers in energy that include anti-competitive measures. However, there are also barriers to business growth in inadequate market information systems in energy, agriculture and tourism.

The growth of business is also constrained by difficulties and costs in business registration: and there are insufficient incentives to capture the savings and investment potential of the large remittance flows from migrant labour. The challenge of promoting a more entrepreneurial culture in public/ private partnership arrangements is similarly evident in several local-level areas from irrigation management to tourist destination development.

The current DFID assistance in business development is primarily focussed upon support to the activities under direction of the Nepal Business Forum via grant assistance to the IFC's Advisory Services. These activities, also supported by NORAD, are designed to instigate a range of changes in, for example, trade facilitation, labour relations, and investment protection; and there is already a record of some progress in matters such as business licensing, customs efficiency and public procurement.

The importance of physical **infrastructure investment** also features prominently above. Energy generation and transmission is obviously of strategic importance for all forms of economic activity, with several forms of transport (road, rail and air) especially important for agro-processing and tourism growth.

The current DFID programme with the Centre for Inclusive Growth (CIG) has prioritised hydro-power development by providing technical assistance to the

Investment Board of Nepal (IBN) in the design of public-private partnerships, negotiations, due diligence and benefit-sharing. At the local level, CIG has also instigated business/local council partnership arrangements designed to facilitate tourist facility improvements.

There are several aspects of '**governance**' as a constraint covered in the report. One concerns the lack of clear and coherent strategy, especially with respect to energy and transport policies. This is partly due to inaction – for example, on the failure to assess energy demand and appropriate pricing, but also due to an apparent failure of co-ordination in economic policies across government with resultant implementation failures. However, implementation itself is not simply a matter of co-ordination. There are, for example, regulations governing anti-competitive business behaviour, but they have proved difficult to implement in the face of well-connected syndicates (in transport services, for example).

One consequence of such weak governance is the encouragement it provides for the imposition of unauthorised payments by business. It is this 'corruption' that is held by business surveys to constitute a major obstacle to investment. In IFC-managed *Stakeholder Perception Survey* in 2013, almost half of business respondents felt official corruption was a principal constraint (just behind political instability and energy supply) to growth. DFID has been supporting public service reform broadly, and that experience is likely to have relevance for the specific problems of policy analysis, co-ordination, implementation and delinquent behaviour that appear to be jeopardising economic growth strategies.

Related to both governance and the business environment is the issue of **macro-economic management.** Among the risks identified to economic growth is the high dependence upon remittances for the current account deficit. DFID is already engaged in measures to improve macro-economic management capacity within the Ministry of Finance, in support of a World Bank Development Policy Credit. It is also assisting in an IMF programme with the Central Bank to addressing the current weaknesses in bank regulation, and the attendant risks to business confidence and growth.

This report does not directly address domestic labour market issues, but raising **productivity and employment** levels are central to the analysis of tourism and agriculture and, of course, labour migration; where the high costs of placement diminish the benefits to wage earners. In the case of agriculture, labour shortages as a consequence of migration, have not served to drive up wages in a sector characterised by low productivity in both land and labour. These challenges in agriculture are being taken up by several other donors, including the Asian Development Bank.

Labour market instability is also widely considered (by Nepal political leaders as well as donors and business) to be a constraint on growth, with strike actions weakening service and manufacturing productivity. Such instability partly reflects poor employment conditions, income instability and limited application of labour regulations. The prevalence of wild cat strikes is also held to be a symptom of weak national trade union structures, and hence a lack of negotiated business-labour agreements. However, such industry-wide agreements would remain of limited effectiveness while an estimated 80percent of businesses are still in the unregulated informal sector.

The Nepal Business Forum is attempting to address such problems, not least through the extension of social security fund arrangements that reduce the

vulnerability of much of the work force. On productivity more broadly, DFID is supporting commodity market development initiatives to enhance international trade competitiveness in selected labour-intensive agricultural sub-sectors; and in its Access to Finance programme, the target is to create 60,000 new jobs through loans to small businesses in agriculture, forestry and tourism.

11.2.2 Impact, outcomes and outputs

Given this background of both constraints analysis and the current response, it then becomes possible to consider the outcomes that might be expected from a period of relatively substantial DFID assistance over at least five years, and how such outcomes could be assessed. Such outcomes can also be considered bearing in mind the need for flexibility in programme design that could allow some course adjustment as new opportunities for effective assistance are identified, or as additional prospects for leveraging other donor funding support are realised. This need for flexibility and adaptability is also necessary given the possibility of changes in the economic policy environment, and the environment of development assistance itself, as other donors take up complementary interventions that DFID could support.

Given this need for adaptability in programme design, the specification of uptake of measurable results can be unhelpful, but it is necessary in economic programmes to indicate the intended purpose of assistance in terms of anticipated changes in economic performance, and to indicate the broad trajectory of interventions. In order to progress this discussion into programme design, a provisional log frame-type structure is proposed with separate Outcomes proposed to contribute to the intended Impact.

The intended impact of the programme should be **economic transformation and growth**. If so, then it becomes important to demonstrate progress towards structural shifts in the economy with the share of manufacturing and services in relation to primary agricultural production (and within agricultural a shift into processing and value-addition). If this were to be a desired single overall impact, then three outcomes that would contribute to achieving such an impact can be proposed.

- **Business growth**: the identification and removal of barriers to international and domestic investment, including business registration, trade facilitation, government capacity in risk management and stabilisation, and necessary regulation to ensure investor confidence.

- **Infrastructure development:** the provision throughout the economy, and by means of public/private partnerships, of improved availability and reliability, at lower cost, to productive users, of the main determinants of growth in different sectors – particularly different sources of energy, land and air transport, and local utilities

- **Employment generation**: the provision of opportunities for increased levels of employment, both in new jobs and higher productivity and incomes in existing jobs – including improving the income returns to migrant labour and work seekers.

For each outcome, different quantitative indicators can be used that serve to supplement the broader impact measures. Hence, for business growth, private investment and business start-ups are appropriate; likewise, for physical infrastructure, capacity and utilisation measures can be used; and finally, for

employment, industry level data on employment, incomes and productivity can be used.

All of these measures can, in turn, be disaggregated into performance indicators for specific outputs decided upon within each outcome area.

Business growth:

- establishing energy market information as a stimulus for investment
- removing regulatory co-ordination failures in energy policy management
- developing business development services for agricultural producers
- improving destination management to stimulate tourism business development
- establishing national transport strategy for public/private investment
- providing business training for returning migrant workers

Infrastructure development:

- establishing a railway development fund
- promoting public/private investment in all sections/sizes of the energy market
- piloting producer/ user groups to establish and manage improved irrigation facilities
- developing facilities for market development in tourism

Employment generation:

- agricultural input supply improvements to enhance land and labour productivity
- public works programmes based upon properly planned transport investment
- migrant labour development to ensure more secure and better remunerated employment

For output initiatives such as those designed to enhance government capacity and promote a culture of reform, qualitative indicators are more instructive of progress. The sector programme ideas in the previous sections provide a substantial list of possible outputs.

11.3 Programme delivery

11.3.1 Approach

Assuming such an outline programme is accepted as a basis for detailed design work, this section assesses different options for delivery and management. The assessment is broadly based on the need to secure a high level of GoN engagement, with recognition that attempts to stimulate policy innovation are not always comfortably located in a government system that, in some respects, can act as a constraint upon reform.

Following a series of OECD-managed international conferences (or High Level Forums) on aid effectiveness and the importance of the aid relationship (*Busan Partnership for Effective Development Co-operation 2011* being the latest), donors are committed to principles of enhancing local ownership of the policies underpinning country-level development assistance. This is largely concerned with ensuring compatibility with national development plans or stated priorities, and partly to provide recipient governments with a mechanism for co-ordinating many different aid flows that typically stretch administrative resources.

In the case of Nepal, this administrative co-ordination concern is seen as particularly pressing as official development assistance (ODA) is provided by over 40 donors with 23percent of the current 500 ODA projects regarded by the Ministry of Finance's International Economic Co-ordination Division as 'off-budget'. Partly in response to Busan, the Ministry of Finance has drafted in August 2013 a new *Foreign Aid Policy* that broadly sets out the case for channelling ODA through public financial management and planning system. On aid modalities, the MoF claims that the creation of 'parallel project implementation units' (in the 'name of low country capacity') often distorts resource allocation and contradicts alignment with national policies.

Foreign Aid Policy is, however, a pragmatic document. The case for 'stand-alone' projects that are designed to pilot innovation is accepted, as long as there are clear plans for replication and sustainability. Technical assistance is also welcomed if national capacities are deployed and developed (with a 10 percent ceiling on international consulting services). Moreover, 'direct implementation' could be accepted in high priority sectors, especially where projects are the intended outcome.

The current principal DFID mechanism for economic reform is through a private consultancy firm contracted to DFID with formal GoN oversight. A continuation of such an arrangement would not necessarily run counter to MoF draft aid policy. This is because the technical assistance provided by the current arrangement has a strong national capacity building component and record of achievement. There is much in the current programme that can be deemed pilot in nature; and, most importantly, the impact measures are closely aligned to those promulgated by the MoF in *Foreign Aid Policy* (infrastructure, employment, productivity, business environment, and macro-economic stability).

Nonetheless, despite the benefits of the current arrangements, the new programme design clearly has to consider the wider, and changing, environment of aid provision; and the three delivery options discussed below are framed in the context of the internationally-agreed goals of national ownership and accountability, and the different ways these goals could be achieved. Furthermore, federalism, details notwithstanding, will require reorienting delivery mechanisms as it will increase the necessity, as well as opportunity, to work more closely with devolved parts of the government.

Programme design also has to take account of the importance of sustaining existing programmes that have established a substantive, and well-regarded, role in economic policy. It also needs to ensure that such separately administered programmes are brought together to ensure improved strategic oversight and co-ordination.

The first is the range of activities undertaken through the mechanism of the Centre for Inclusive Growth, which is effectively under the management of a DFID contractor as described above. These activities involve the provision of technical and advisory services to several important GoN institutions, particularly the Investment Board of Nepal (IBN), but also the Ministry of Finance, the Nepal Administrative Staff College, and Ministry of Local Development. In the case of the IBN a functioning support structure - termed the hydro cluster - has been central to developing public private initiatives in hydro-electric power generation and transmission.

In the case of the IBN, the support has focussed particularly upon the procedures that enable the Board to attract both private investors and international concessionary support. To capitalise on this institution building, an IBN Trust Fund proposal is being developed that would provide a channel for donor grant funds in support of IBN initiatives in infrastructure and services/utilities development.

The second programme requiring, and justifying, continued support involves the deployment of DFID regional funds, is the Nepal country component of the South Asia Enterprise Development Facility that supports the work of the Nepal Business Forum Secretariat, and a range of technical assistance interventions of the IFC Advisory Services

In terms of operating mandates there appear to be three major opportunities for DFID support:

- Through a facility for providing technical and advisory services across government departments and agencies, but principally focussed on continuing support for the hydro cluster.
- Through financial support for capital and associated technical assistance to the proposed IBN Trust Fund.
- Through financial support for technical assistance to the Nepal Business Forum and support activities provided, in part at least, through IFC advisory services.

11.3.2 Options for delivery

In light of the above proposed assistance framework, there are three possible alternative models for programme delivery, although all would require accountability to a steering committee that included Government of Nepal (GoN) and DFID representatives. Such accountability is not only important for monitoring purposes; in such a wide ranging programme of economic transformation, the overall strategic direction provided by a steering committee must also be in a position to adjust individual programme components to changing circumstances, and also ensure a high degree of coherence between such components. These strategic and co-ordination considerations suggest an integrated delivery approach through relatively centralised management. However,, in Nepal, there are limitations of adopting such an approach, (as explained below) and an alternative, less formally integrated approach, is proposed with safeguards to prevent the possibility of weak co-ordination and loss of strategic focus.

Government ownership model

This option, favoured by all Nepal political leaders and officials consulted, is not necessarily a wholesale transfer of funds into a budget for economic sector reform under the Ministry of Finance or the National Planning Commission.

It could involve several different components. The Ministry of Industry could be responsible for grants to the Nepal business forum and procure services from the IFC itself. The NIB could similarly receive financial support to assist in both the establishment of the Trust Fund, and to procure advisory and technical services, including those currently located in the hydro cluster.

Such grants would not cover all the other opportunities for DFID support elsewhere in the government system (Ministry of Finance, Ministry of Local Government, and Reserve Bank etc.), so there would be a need for a further facility possibly located in the National Planning Commission.

This ownership model would reduce the direct management charges of alternative models of procurement, but it would almost certainly involve higher administrative costs for DFID itself, as a result of likely challenges in monitoring expenditures and procurement systems across several government agencies. In addition, there are risks in the likelihood of discontinuities in ministerial structure and leadership as new political dispensations emerge from the current process of building representative government under some form of decentralised authority.

Hence, the benefits of integrated management and strategic coherence are unlikely to be achieved by adopting a form of sector support through government institutions in Nepal. In DFID programmes elsewhere in Africa and South Asia, it has been the health and education sectors that have benefitted from such sector-wide support; but there is much less clarity, and hence establishing useful outcomes, in defining economic policy management as a 'sector'. Even in focussing upon economic sub-sectors such as agriculture, efforts (in Africa for example) to integrate external assistance into government programmes have proved unrewarding.

Contracted services model

A contracted services model, on the other hand, does reduce the administrative burden on DFID and the overall experience of contracted services for large, multi-year programming is that the relatively high management costs are offset by gains in accountability and cost efficient procurement – as well as ensuring a coherence that could be difficult to sustain in a GoN model.

A further advantage in this particular economic growth and transformation programme is the flexibility such arrangements provide for rapid responses to previously unconsidered proposals, allowance for experimentation and selective prioritisation of activities as unanticipated obstacles and opportunities emerge.

Yet, to place such a large programme under contracted services would run counter to GoN development assistance guidelines, however much local private sector consultancy services were engaged[147]. There is also a risk of difficulties arising with those parts of government that might prove resistant to receiving such support.

The use of such a model would not, however, necessarily involve a single contractor. Bids could be invited from consortia with a demarcation of roles, by

[147] Bearing in mind that these guidelines provide for a limit of 10% of total programme costs being allocated to internationally-procured services

outcome or sector for example. This might, however, negate the benefits of a single contractor by increasing administrative costs to the donor.

One adaptation of the contacted services model that overcomes the problems of lack of government engagement is where those services are provided through a well-recognised national policy institute that has close links to a government ministry. In South Africa, for example, Trade and Industrial Strategies (TIPS) is a legally constituted not-for-profit company operating in close collaboration with the Department of Trade and Industry, a governance structure that reflects such collaboration and, at the same time, receiving substantial external donor support. In Nepal, the CIG has not established itself as a similar legal entity with a statutory governance structure and, unlike TIPS, is not regarded as a close adjunct of any government ministry.

Transforming CIG into a national policy institute does not appear to be a realistic option, in the short term at least; although, it should not be ruled out if there is strong support from within the Nepal government for such an initiative in the future.

Mixed portfolio model

Given the limitations of the two models discussed above, consideration must be given to drawing upon the strengths of each in a 'mixed portfolio'. Under a mixed portfolio model, the main components of the programme would be delegated to most appropriate form – bearing in mind both the benefits of flexibility provided by contracted services and the advantages of securing the direct role of government agencies.

For instance, in the case of Nepal Business Forum, support would be provided through IFC Advisory Services in Nepal with the contracting and reporting arrangements developed in consultation with the Ministry for Industry. In the case of IBN Trust Fund, a grant for providing both capital and a fund to procure technical assistance would be allocated to the IBN or its parent ministry.

This would leave a substantial part of the programme involving the hydropower cluster, other initiatives of the CIG, support to macro-economic management and financial regulation etc. without an institutional base within government. This could continue as a series of CIG activities, but CIG is not a legally established corporate body, and it would be more transparent to agree with GoN the nature and scope of services in support of the programme that would be submitted to competitive tender for the supply of advisory and technical services.

The administrative costs of such a mixed portfolio model are likely to be lower than the other models if the individual components can be successfully established with the implementing partners (IFC, IBN and a selected contractor). The benefits may also be at least as positive as other models, as such an arrangement would secure significant support within two important parts of government's economic policy making due to the provision of long-term support, while retaining the capacity to move relatively swiftly and flexibly in providing shorter-term support to other parts of government.

The limitation of such a model is the possibility of different components developing their own programmes and interests independently of one another. In order to mitigate this risk, it would be necessary to establish not simply a formal steering committee, but to provide that committee – and any sub-committees it formed – with a secretariat that produces analyses of progress, recommendations for the committee to act upon and, where necessary, proposals for financial

adjustments to the programme as a whole. It would be the task of the selected contractor to provide such analytical services.

The conclusion, therefore, is that this third mixed portfolio option represents the best possible means of delivering the outcomes of business growth, infrastructure development and employment generation described above, and in ensuring the different programme components reinforce one another.

12 Conclusion

This report analysed Nepal's economic performance and its impact on poverty reduction. The findings suggest that long term sustainable and inclusive development and poverty reduction is dependent on Nepal structurally transforming its economy by increasing productive capacity.

Market and coordination failure in Nepal inhibit economic development growth potential. Nepal undertook a number of economic policy reforms in the early 1990s. However, the reforms were misaligned and partial as they did not address issues of market and coordination failure; nor did they alleviate the under provision of essential public goods to increase productive capacity. The reform process was also critically undermined by the civil conflict. A broad consensus has now emerged – across political parties as well as in the private sector and civil society – that Nepal needs to focus on addressing binding constraints to growth in order to alleviate poverty and embark on sustainable and inclusive development.

The high cost of transportation and energy has undermined productive capacity in Nepal. A large part of the reason for such high costs relates to a supply-side issue – under provisioning of transport infrastructure and energy. A deeper analysis further reveals that pervasive coordination failure is one of the root causes for the under provisioning of transport infrastructure and energy. The report further identifies that weak public administration and management has contributed to the coordination failure.

Nepal is a poor country; hence, resources are scarce and public investment will have high opportunity costs due to competing priorities. As a result, Nepal will have to be selective and strategic in addressing constraints to growth. This report argues that Nepal requires an effective industrial policy to strategically address market and coordination failure, as well as efficiently manage resource allocation. An industrial policy, by improving policy coordination, will help provide a framework for increasing productive capacity and a guide for achieving structural economic transformation.

Notwithstanding the development challenges, this report has argued that Nepal can leverage its natural resources – water in particular – to transform its economy. Hydropower presents a real opportunity for Nepal to not only lower its cost of energy, which in turn could produce substantial benefits to the economy at large, but also switch track to a zero-carbon growth model. This report identifies factors that constrain such possibility, for example inappropriate regulatory framework, inadequate investment in transmission lines, and absence of framework for energy trade. Addressing these constraints can help Nepal better leverage the full potential of hydropower for economic growth and development.

The report analyses constraints to growth in five high growth potential sectors – energy, transport, agriculture, tourism and labour migration. A number of studies focusing on these sectors, reviewed in this report, have identified constraints to growth. The report conducts a deeper analysis of constraints at the sectoral level, and responds to what can be done to alleviate them. The report provides a menu of

programme options for addressing constraint to growth in energy, transport, agriculture, tourism and labour migration. As pointed out earlier, market and coordination failure as well as under provisioning public goods pervades all the sectors analysed. The report also discusses various options for designing programmes to address constraints to growth. The report argues that, in light of the challenges and opportunities, a mixed-portfolio approach would be most suited to efficiently deliver programmes as well as effectively address constraints to growth.

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Appendix: Donor Mapping

This appendix contains data on the existing and ongoing donor projects and programmes relating to the sectors considered in this report. The data is taken from the Government of Nepal Aid Management Portal operated by the Ministry of Finance.[148] While this is, therefore, official and reportedly comprehensive data on foreign aid in Nepal, there are likely to be inaccuracies in the data including projects which have finished or that are inactive that are still included in the lists, ongoing projects that have yet to be included (including bilateral and multilateral projects that have yet to be updated on the portal, and work by non-governmental organisations), and other inaccuracies. The sector assignment may also be inexact. However, each sector analysis has proceeded based on an understanding of existing donor work and possible gaps and niches, which was established based on discussions from the consultation.

[148] http://portal.mof.gov.np/

Table A1: Agriculture

Project title	Donors	Start date	End date	Commitment amount (USD)	Disbursement amount (USD)
Community Livestock Development Program (CLDP)	Asian Development Bank	Dec 01, 2005	na	20,000,000	20,331,291
Community-Managed Irrigated Agriculture (Sector) Project CMIASP	Organization of the Petroleum Exporting Countries, Asian Development Bank	Jun 30, 2006	na	27,000,000	13,995,262
Improving Livelihood for Poor Farmers and Disadvantaged Groups in the Eastern Development Region (JFPR Project No. 9101-NEP)	Japan Fund for Poverty Reduction, Asian Development Bank	Jul 19, 2007	na	1,000,000	782,632
Commercial Agriculture Development Project (CADP)	Asian Development Bank	Aug 05, 2007	na	18,000,000	14,866,894
ICIMOD core support	Norway	Aug 29, 2007	na	3,957,803	4,596,859

Integrated Water Resources Management Project (IWRMP)	International Development Association	Apr 23, 2008	na	64,911,042	44,712,039
Support to the National Integrated Pest Management Programme in Nepal	Food and Agriculture Organization	Oct 26, 2008	na	3,400,000	1,731,902
Crop Protection and Pesticide Development - National Integrated Pest Management Program (IPM) Phase II	Norway, South Asian Association For Regional Cooperation	Oct 26, 2008	na	0	0
Integrated Pest Management Phase II	Norway	Oct 26, 2008	na	3,799,713	4,453,951
Food Security Initiative in Nepal	European Union	Jan 11, 2009	na	1,952,591	1,965,520
Social Safety Nets Project	World Bank Trust Funds, International Development Association	Feb 01, 2009	Sep 29, 2014	68,694,722	51,170,413

Inclusive Development of the Economy (INCLUDE) Programme	Deutsche Gesellschaft für Internationale Zusammenarbeit	Feb 05, 2009	na	12,960,012	9,752,568
Home Garden Project Phase 3	Swiss Agency for Development and Cooperation	Mar 31, 2009	Jan 14, 2014	1,134,032	1,002,750
Support to Mitigate the Negative Effects of High Food Prices on Local Rural Populations in Ten Districts	Food and Agriculture Organization	Apr 30, 2009	na	11,813,800	0
Improving food security in communities vulnerable to food price volatility	European Union	Jul 11, 2009	na	1,973,500	1,519,054
HELP Food Security (Helping to Enhance Local Productivity for Food Security)	European Union, Practical Action	Jul 11, 2009	na	2,659,831	1,533,079
Technical Assistance Support for Leasehold Forest and Livestock Programme GCP/NEP/062	Finland	Aug 09, 2009	na	1,101,021	1,656,660

TA 7298: Himali Project	Asian Development Bank	Aug 22, 2009	na	1,510,000	1,013,699
Improving food security condition of socio-economically excluded Dalit communities in Far Western Nepal	European Union	Sep 11, 2009	na	1,573,427	1,085,550
Improvement of Livelihoods in Rural Areas (ILRA)	Deutsche Gesellschaft für Internationale Zusammenarbeit	Sep 30, 2009	na	6,624,288	5,967,138
Emergency Flood Damage Rehabilitation Project	Asian Development Bank	Oct 31, 2009	na	25,600,000	18,550,421
High Value Crops Programme (HVCP) - East	Stichting Nederlandse Vrijwilligers	Dec 31, 2009	na	204,238	69,240
Integrated Area Development Programme	World Vision International	May 31, 2010	na	23,081,916	16,913,462
Market Access for Small Farmers	Department for International Development	Jun 28, 2010	na	3,746,441	3,975,638

SAHAKARYA - agriculture	Canadian International Development Agency	Oct 31, 2010	na	823,287	823,287
High Value Agriculture Project (HVAP) in Hills and Mountains Areas	Stichting Nederlandse Vrijwilligers	Oct 31, 2010	na	743,660	368,996
Poverty Alleviation Programme	ActionAid International (AAI)	Nov 30, 2010	na	0	0
Combating Citrus Decline Problem in Nepal	Food and Agriculture Organization	Nov 30, 2010	na	303,000	508,240
Preparation of the Agricultural Development Strategy	Asian Development Bank	Dec 13, 2010	na	2,000,000	1,692,363

Vegetable Seed Project Phase 3	Department for International Development, Swiss Agency for Development and Cooperation	Dec 31, 2010	na	2,622,970	1,713,189
Hill Maize Research Project (HMRP) - Phase IV	Swiss Agency for Development and Cooperation, U.S. Agency for International Development	Jan 30, 2011	na	3,636,000	3,155,897
Sustainable Soil Management Program(SSMP), Phase IV	Swiss Agency for Development and Cooperation	Jan 30, 2011	na	7,235,142	5,396,823
Revitalization of Remote Villages through Community Forest Conservation	Japan International Cooperation Agency	Jan 31, 2011	na	776,933	334,390

Agriculture-Based Micro-Enterprise Development Project	Canadian International Development Agency	Mar 31, 2011	na	1,222,743	1,227,747
Enhancing Capacities for Climate Change Adaptation and Disaster Risk Management for Sustainable Livelihoods in the Agriculture Sector	United Nations Development Programme	Aug 30, 2011	na	103,890	241,385
Integrated Food Security Phase Classification (IPC)in Asia.	Food and Agriculture Organization	Oct 31, 2011	na	1,800,054	714,558
Agriculture and Nutrition Extension Project (ANE)	European Union	Dec 16, 2011	na	4,902,054	1,344,110
Integrated Disaster Risk Reduction, and Safe Migration Programmes in Nepal (Second phase)	Dan Church Aid	Dec 31, 2011	na	0	82,388
Agriculture and Nutrition Extension Project (ANEP)		Feb 29, 2012	na	0	0

TFD-10/NEP/004: Improving nutritional status of school children and community people through increased production and consumption of fruits and vegetables, Ruppakot-VDC-9, Tahanun	Food and Agriculture Organization	Mar 14, 2012	na	0	0
TFD-10/NEP/006 - Improving nutritional status of school children and community people through increased production and consumption of fruits and vegetables, Nirmal Pokhari VDC, Watd No. 1, Kaski	Food and Agriculture Organization	Mar 14, 2012	na	9,125	9,000
Fish Farming Development in Nepal	Norway	Apr 16, 2012	na	3,215,658	527,617
The Food Security Project for Underprivileged Farmers-2012(KR2)	Japan - KR2	Apr 28, 2012	na	3,106,550	2,634,088
TFD-11/NEP/002_ Improving nutritional status of children by demonstrating kitchen garden model in schools and its vicinity, Gorkha-1	Food and Agriculture Organization	May 24, 2012	na	4,980	0

Ginger Competitiveness Project: Enhancing Sanitary and Phytosanitary Capacity of Nepali Ginger Exports through Public Private Partnerships	World Trade Organization	Jul 17, 2012	na	0	0
Regional TA: Integrating the Right to Adequate Food and Good Governance in National Policies, Legislation and Institutions		Jul 28, 2012	na	0	0
Policy assistance for bio-secure agro-food supply chain enhanced market access and food security for the small holding rural sector	Food and Agriculture Organization	Sep 19, 2012	na	327,000	118,234
Kisankalagi Unnat Biu-Bijan Karyakram- Improved Seeds for Farmers Programme	International Fund for Agricultural Development	Dec 01, 2012	na	39,355,971	2,538,273
Project for Agriculture Commercialization and Trade (PACT)	International Development Association	Feb 12, 2013	na	60,000,000	6,321,043

Knowledge-based Integrated Sustainable Agriculture and Nutrition Project (KISAN)	U.S. Agency for International Development	Feb 13, 2013	na	20,414,809	6,628,793
Integrated Pest Management Collaborative Research Support program (IPM CRSP)	U.S. Agency for International Development	Feb 28, 2013	na	500,000	500,000
Climate Smart Agriculture	Stichting Nederlandse Vrijwilligers	Mar 31, 2013	na	600,639	13,087
Nepal Agriculture and Food Security Project	World Bank Trust Funds	Apr 29, 2013	na	46,500,000	0
Managing Risk through Economic Development	Margaret A. Cargill Foundation	Apr 30, 2013	na	23,199	23,199
Food security livelihood and climate change project	Save the Children	Jul 31, 2013	na	0	0
WFP Commodity values for Nepal (GIK)	Save the Children	Jul 31, 2013	na	0	0

Implementation Support to CPAP (ISCAP)		na	0	0
Support for Human Development Initiatives (SHDI)		na	0	0
Social Safety Nets Projects (SSNP)	International Development Association	na	59,340,000	0
Promotion of Quality Cocoon Production and Processing Project	Japan International Cooperation Agency	na	1,551,349	2,139,957
Test project Upgrade		na	0	0
Food Security Project for Underprivileged Farmers (KRII)	Japan International Cooperation Agency	na	5,249,906	6,308,290
Regional TA: Design and Implementation of Policy Approaches to Address Risk and Vulnerability of the Rural Poor at the Country Level	Food and Agriculture Organization	na	0	0

Urgent Food Security Assistance to Severely Food Insecure Rural Households in Karnali-Bheri Regions of Nepal	Food and Agriculture Organization	na	796,886	0
TA 7967- (REGIONAL): Innovations for More Food with Less Water		na	0	0
Raising Income of Small and Medium Farmers Project (RISMFP)	Stichting Nederlandse Vrijwilligers	na	513,490	134,900
Promotion of livelihood and sustainable food security, safe migration and participation in accountable governance	Dan Church Aid	na	0	0
Hill Maize Research Program	U.S. Agency for International Development	na	2,000,000	2,000,000
Nepal Economic, Agriculture and Trade Program (NEAT)	U.S. Agency for International Development	na	22,552,144	22,552,144

USAID/Nepal Flood Recovery Program	U.S. Agency for International Development	na	8,560,377	8,506,377
TFD-10/NEP/003: Improving nutritional status of children by demonstrating kitchen garden model in school and its vicinity - Jhirubas-4, Palpa	Food and Agriculture Organization	na	9,930	9,930
High Value Agriculture Project in Hill and Mountain Areas (HVAP)	International Fund for Agricultural Development	na	14,174,873	2,986,382
Raising Incomes of Small and Medium Farmers Project (RISMFP) - Crops Diversification	Asian Development Bank	na	20,100,000	2,495,268
Mountain Agribusiness and Livelihood Improvement (HIMALI) Project	Asian Development Bank	na	20,000,000	3,660,921

Table A2: Energy[149]

Project title	Donors	Start date	End date	Commitment amount (USD)	Disbursement amount (USD)
Load Dispatch Centre Extension	Kreditanstalt für Wiederaufbau	Dec 03, 1997	Na	23,949,501	25,007,187
Middle Marsyangdi Hydrolectric Project	Kreditanstalt für Wiederaufbau	Feb 22, 1999	Na	201,994,642	215,080,159
Biogas Support Program - Phase IV	International Development Association, Kreditanstalt für Wiederaufbau, Stichting Nederlandse Vrijwilligers, World Bank Trust Funds	Jun 30, 2003	Apr 29, 2012	24,516,962	21,506,467
Assistance for Feasibility Studies of Small and Medium Size Hydro Power Projects	Norway	Jan 15, 2004	Na	1,468,070	1,380,623
Power Development Project	International Development Association	Mar 24, 2004	Dec 30, 2012	170,575,340	113,117,302
Sapta Kosi High Dam Multi-Purpose Project	India	Jun 20, 2004	Na	6,447,065	0

[149] Data taken from aid portal projects listed under electricity, alternative energy, and hydro electricity.

Renewable energy project	European Union	Aug 16, 2004	Na	18,294,022	2,684,091
Hydro Lab Phase II	Norway	Aug 07, 2006	Na	1,029,029	1,030,476
Energy Sector Assistance Programme Phase II (ESAP II)	Norway, Denmark	Mar 14, 2007	Na	0	0
Energy Sector Assistance Programme Phase II (ESAP II)	Kreditanstalt für Wiederaufbau, Denmark, Norway, Department for International Development	Mar 14, 2007	Na	67,323,156	66,284,453
Micro Hydro Project (CDCF)	World Bank Trust Funds	Jun 29, 2007	Na	1,957,750	0
Khimti Neighbourhood Development Project - KIND	United Nations Development Programme, Norway	Jul 04, 2007	Na	3,975,551	3,796,135
Rural Energy Development Programme: REDP	United Nations Development Programme	Sep 17, 2007	Na	3,325,399	687,911
TA 4985-Nepal for Preparing the West Seti Hydroelectric Project	Asian Development Bank	Nov 15, 2007	Na	300,000	198,770
Distribution System Rehabilitation Project	World Bank Trust Funds	Mar 24, 2008	Dec 30, 2012	63,000,000	0
Rehabilitation of Devighat hydro Power plant	India	Apr 02, 2008	Na	4,000,000	1,789,177
Integrated Water Resources Management Project (IWRMP)	International Development Association	Apr 23, 2008	Na	64,911,042	44,712,039
TA 7176-NEP: Promoting Private Sector Participation in	Asian Development Bank	Nov 18, 2008	Na	150,000	125,744

the Power Sector					
Energising Development (EnDev) Nepal	Deutsche Gesellschaft für Internationale Zusammenarbeit	Dec 31, 2008	Na	2,174,938	1,397,365
Chameliya Hydro Electric Project	Economic Development Cooperation Fund Korea	May 06, 2009	Na	45,000,000	41,209,212
Technical support and dissemination of alternative fuel firewood and oil	Japan International Cooperation Agency	Jul 20, 2009	Na	180,091	195,850
Nepal Energy Efficiency Programme (NEEP)/Support to Energy efficiency	Deutsche Gesellschaft für Internationale Zusammenarbeit	Jan 31, 2010	Na	5,363,774	3,634,326
TA: Increasing Access to Energy in Rural Nepal	Asian Development Bank	Mar 04, 2010	Na	933,000	0
Climate and Carbon Funding in Renewable Energy Sector in Nepal	Stichting Nederlandse Vrijwilligers, Department for International Development	Mar 31, 2010	Jun 29, 2012	902,924	856,886
TA 7504-NEP Increasing Access to Energy in Rural Nepal	Asian Development Bank	Apr 07, 2010	Na	933,000	143,540
Energy Access and Efficiency Improvement Project (EAEIP)	Asian Development Bank	Jun 03, 2010	Na	67,683,104	16,002,217
Research and Development technical Assistance for effective Deployment of Distributed Wind Systems	Asian Development Bank	Jun 16, 2010	Na	3,870,000	0
TA7590-NEP: Preparing Hydropower Development for Energy Crisis	Asian Development Bank	Sep 27, 2010	Na	2,000,000	1,836,486

Detailed Engineering Study for the Upper Seti Hydropower Project	Ministry of Energy, Asian Development Bank	Sep 30, 2010	Na	2,950,000	1,887,481
Micro Hydro Power Debt Fund	Deutsche Gesellschaft für Internationale Zusammenarbeit	Nov 01, 2010	Na	694,348	259,546
TA7666-NEP: Energy Access and Efficiency Improvement Project	Asian Development Bank	Nov 25, 2010	Na	600,000	416,480
Pathlaiya 132kv Substation Project	World Bank Trust Funds	Nov 27, 2010	Na	0	0
TA7628-NEP: Energy Sector Capacity Building	Asian Development Bank	Dec 05, 2010	Na	600,000	483,041
Butwal-Kohalpur 132kv Second Circuit Transmission Line Project	Asian Development Bank	Dec 31, 2010	Na	13,780,000	0
Support to Decentralising Renewable Energy (in Nepal)	Stichting Nederlandse Vrijwilligers	Dec 31, 2010	Na	237,677	80,577
Upper Trishuli 3A Hydroelectric Project	China	Feb 27, 2011	Na	129,241,702	35,145,936
Renewable Energy for Rural Livelihood(RERL)	United Nations Development Programme	Mar 31, 2011	Na	0	667,883
Renewable Energy for Rural Livelihoods (RERL)	United Nations Development Programme	Apr 30, 2011	Na	2,295,172	2,051,543
Community Based Flood & Glacial Lake Outburst Risk Reduction	Global Environment Facility	Aug 31, 2011	Na	63,500	59,652

Power plant extension Salleri Chialsa electricity company (SCECO) – Single Phase	Swiss Agency for Development and Cooperation	Aug 31, 2011	Na	619,502	617,592
Kabeli Transmission Project	International Development Association	Sep 20, 2011	Na	36,752,658	4,685,964
Nepal - India Electricity Transmission and Trade Project	International Development Association	Sep 28, 2011	Na	97,241,407	0
Local capacity Development Facility (LCDF)	Stichting Nederlandse Vrijwilligers	Dec 31, 2011	Na	1,071,094	44,355
Electricity Transmission Expansion and Supply Improvement Project (ETESIP)	Asian Development Bank, Norway	Mar 22, 2012	na	100,921,062	5,174,610
National Rural and Renewable Energy Programme(NRREP)	Denmark, Norway	Jul 17, 2012		63,990,509	7,764,934
Clean Start Program	United Nations Capital Development Fund	Aug 27, 2012		1,300,000	0
Improve Cooking Stove Programme (ICSP)	Stichting Nederlandse Vrijwilligers	Dec 31, 2012		414,363	169,412
Tanahu Hydropower Project	Nepal Electricitiy Authority, Asian Development Bank, Japan International Cooperation Agency, European Investment Bank	Mar 12, 2013	Aug 30, 2013	475,000,000	0
Budhi Ganga Hydropower Project	Kuwait fund for Arab Economic development	Mar 21, 2013		18,000,000	0
Kali Gandaki A Hydropower Plant Rehabilitation Project	International Development Association	Jul 07, 2013		27,260,000	0

Five Districts Electrification Project (NEA)	India	0	0
Chameliya hydroelectric Project		0	0
Energy Access and Efficiency Improvement Project (EAEIP)-GRANT	Asian Development Bank	4,500,000	0
Power Development Project (Additional Financing)	International Development Association	0	0
Chapali 132kv Substation Project	Asian Development Bank	7,800,000	0
Dumre - Damauli - Marsyandi 132 kv Transmission Line Project	Asian Development Bank	16,620,000	0
Dhalkebar Bhittamod 400kv Transmission Line Project	India	13,200,000	0
Power Factor Improvement Project (Installation of Capacitor Banks)	Asian Development Bank	2,200,000	0
Khimti-Dhalkebar 220kV Transmission Line Project	World Bank Trust Funds	0	0
Micro Hydropower Debt Fund/Energising Development	Deutsche Gesellschaft für Internationale Zusammenarbeit	0	0
Disbursements for India turn key projects	India	0	13,113,547
Budgetary Support (China)	China	20,000,000	0

Enhancing and Improving access to energy services through development of public-private partnerships	The United Nations Economic and Social Commission for Asia and the Pacific	160,000	0
Koshi Corridor 220KV Transmission Line	India Exim Bank	90,000,000	0
Panchthar Substation & Rural Electrification Project	India	300,000	0
Chilime-Trishuli 220kv TL project; Trisuli 3B 220kv Substation Hub project; Dhunche Substation under capacity augmentation of substation project	European Investment Bank, Kreditanstalt für Wiederaufbau	0	0
Rahughat Hydropower Project	India	98,000,000	4,292,030
Bharatpur-Madi 33kv Sub Transmission Line & Rural Electrification Project	India, DRF UK	1,500,000	0
Nepal-India Cross border Transmission Projects.	India	13,200,000	0
Project Preparatory facility for Energy (PPFE)	Asian Development Bank	21,000,000	0

Table A3: Economic transport[150]

Project title	Donors	Start date	End date	Commitment amount (USD)	Disbursement amount (USD)
Capacity Building in Road Feasibility Study and Construction and Contract Management	Asian Development Bank	Aug 09, 2006		300,000	293,006
Road Connectivity Sector I Project	Organization of the Petroleum Exporting Countries, Asian Development Bank	Nov 19, 2006		65,000,000	57,927,381
Road Improvement Project	India, India Exim Bank	Sep 13, 2007		50,000,000	38,905,958
Syaprubesi Rasuwagadhi Road Project	China	Dec 16, 2007		32,544,379	8,509,453
Road Sector Development Project	International Development Association	Mar 31, 2008		117,031,439	150,017,781
Improvement of Kathmandu-Bhaktapur Road Project	Japan International Cooperation Agency	Sep 30, 2008		26,243,451	30,649,377
Emergency Flood Damage Rehabilitation Project	Asian Development Bank	Oct 31, 2009		25,600,000	18,550,421
Bishesor Prasad Koirala Highway (Sindhuli Road Section III) [Nepalthok-Khurkot Segment]	Japan, Japan International Cooperation Agency	Nov 15, 2009		114,990,369	73,562,009

[150] Includes projects listed under 'road transportation' and 'air transportation'.

Development of Railway Infrastructure Project	India	Feb 15, 2010	0	0
TA 7411-NEP: Road Connectivity Project	Asian Development Bank	Mar 02, 2010	600,000	550,059
District Roads Support Program (DRSP) Phase IV	Swiss Agency for Development and Cooperation	Jul 16, 2010	23,284,793	22,451,296
Trial Bridge Sub Sector Programme III	Swiss Agency for Development and Cooperation	Dec 31, 2010	10,287,194	10,281,650
Kathmandu Sustainable Urban Transport Project	Asian Development Bank, Global Environment Facility	Jan 25, 2011	22,520,000	3,059,923
Rehabilitation of Critical Trail Bridges	Swiss Agency for Development and Cooperation	Jan 15, 2013	544,722	544,959
Additional Financing Road Sector Development Project	International Development Association		0	0
Disbursements for India turn key projects	India		0	13,113,547
Acquisition of 3 Turbo-Prop (MA 60) and 5 STOL (Y12E) Aircraft from AVIC International Holding Corporation of China to Nepal Airlines Corporation.	China		0	0
Improvement of Kathmandu Ring Road in Nepal	China		0	0
Kanti LokPath Road Project			0	0
Road Improvement Project II	India, India Exim Bank		63,050,000	0

Technical Assistance for financing the Preparation of a Feasibility Study and Preliminary Engineering Designs for the Sitapaila-Dharke Road Project	Kuwait fund for Arab Economic development			0	0
Nepal Bridges Improvement and Maintenance Programme	International Development Association			60,000,000	0
SASEC Road Connectivity Project	Asian Development Bank			75,000,000	0
Transport Project Preparatory Facility Nepal	Asian Development Bank			12,000,000	1,871,104
Sub Regional Transport Enhancement Project	Asian Development Bank			49,000,000	11,808,648
Air Transport Capacity Enhancement Project	Asian Development Bank			75,127,061	9,511,364

Table A4: Tourism

Project title	Donors	Start date	End date	Commitment amount (USD)	Disbursement amount (USD)
Nepalese - German Manuscript Cataloguing Project	German Nepal Help Association	Aug 01, 2002	Aug 14, 2017	2,241,901	0
Great Himalayan Trail Development Programme	Department for International Development	Jan 14, 2010		3,785,538	3,924,451
Great Himalayan Trail Development Project (GHTDP)	Stichting Nederlandse Vrijwilligers	May 31, 2010		0	0
High Impact Tourism Training for Jobs and Income	Stichting Nederlandse Vrijwilligers	Dec 31, 2010		667,546	418,552

(HITT) Programme					
Master Plan for the Lumbini World Peace City Preservation and Development	Korea International Cooperation Agency	Jan 19, 2012		2,000,000	1,662,287
South Asia Tourism Infrastructure Development Project	Asian Development Bank, OPEC Fund for International Development, Organization of the Petroleum Exporting Countries			39,831,108	1,665,139

Table A5: Labour migration[151]

Project title	Donors	Start date	End date	Commitment amount (USD)	Disbursement amount (USD)
Empowering Women Migrant Workers through Effective Policy Response	United Nations Development Fund for Women	Jul 31, 2010		12,446,214	9,463,137
Skill development and employment for the informal sector in Nepal	European Union	Dec 31, 2010		2,008,301	1,177,212
Safer Migration Project Phase I	Swiss Agency for Development and Cooperation	Jan 31, 2011		1,273,074	1,024,385
Sustaining the gains of foreign labour migration through the protection of migrant workers' rights	United Nations Development Fund for Women	Aug 02, 2011		29,412	24,666

[151] This features projects listed under 'labour' in the aid portal, with the non-migration related projects filtered out.

Sustaining the gains of foreign labour migration through the protection of migrant workers' rights-People Forum	United Nations Development Fund for Women	Aug 31, 2011	594,327	503,279
Development of a Booklet and Video on Sustaining the Gains of Foreign Labour Migration through the Protection of Migrant Workers' Rights	United Nations Development Fund for Women	Apr 30, 2013	7,780	7,780
Economic empowerment of women through effective policy response programme with focus on foreign labour migration (MOLE)	United Nations Development Fund for Women	Jun 21, 2013	54,359	32,615
Promoting the Effective Governance of Labour Migration from South Asia through Actions on Labour Market Information, Protection during Recruitment and Employment, Skills, and Development Impact	European Union, International Labour Organization	Jun 30, 2013	1,281,500	550,000
ILO-DFID Partnership Programme on Fair Recruitment and Decent Work for Women Migrant Workers in South Asia and the Middle East	Department for International Development	Jul 14, 2013	1,997,840	781,734
Safer Migration Project (SaMi), Phase II	Swiss Agency for Development and Cooperation	Jul 16, 2013	9,739,978	1,625,135
Final Evaluation of the programme on "Sustaining the Gains of Foreign Labour Migration through the Protection of Migrant Workers' Rights"	United Nations Development Fund for Women	Sep 10, 2013	10,878	10,878
Promotion of livelihood and sustainable food security, safe migration and participation in accountable governance	Dan Church Aid		0	0

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