Study on the poverty impact of changing the graduation threshold in the Generalised System of Preferences (GSP) trade scheme

Component Three: Evaluating poverty impacts

Kate Bird (Overseas Development Institute) and Kate Higgins (The North-South Institute)

with Aniket Bhushan, Daniel Poon, Umut Riza Ozkan and John-Harmen Valk (The North-South Institute)

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1. Introduction

This report forms part of a wider project examining the impact of the EU’s reform of its Generalised System of Preferences (GSP). The first part of the study (Stevens and Kennan, 2011) examined which countries would be graduated out of the EU’s GSP due to the change in the graduation thresholds. The second part of the study (Keane and te Velde, 2011) examined the trade impact of GSP graduation, identifying key products and their price elasticities and the products and countries that would be affected. This part of the study explores the possible poverty and distributional effects of GSP graduation.

When a country is graduated out of the GSP it will face an increase in tariffs applied within the EU market for those of its exports for which it is no longer eligible for GSP preferences. The price increase which may result could lead to a reduction of EU imports of that product from the graduating countries and a switch to those products produced in non-graduates, whose relative prices decrease. This paper explores the possible distributional effects of this change in tariffs on graduates as well as non-graduates.

In the remainder of this section we provide a background to this study and explain its objectives. In Section 2, we outline a conceptual framework for understanding the links between trade, growth and poverty, introduce the mechanisms by which changes in trade are transmitted through an economy and society and outline some of the factors that we have considered in the country-specific product case studies presented in this paper. In Section 3, we review the experience of previous macro shocks and the distributional effects that they have had, and extract lessons for understanding the possible impact on countries of graduation from the GSP regime. Section 4 presents a number of product and country specific case studies which outline the possible well-being, employment and distributional effects that GSP graduation may have on graduate countries and countries that may see their exports to the EU increase as a result of competitor graduation. Section 5 concludes.

1.1 Background to the study

The provisions adopted by General Agreement on Tariffs and Trade (GATT) members in 1979 that underpin the Generalised System of Preference (GSP) schemes offered by most developed countries explicitly recognises the challenges that developing countries face in globalised markets. Trade preferences have been devised to partially counteract this and to assist developing countries diversify their exports and move their exports up the value chain, through the production of more technologically sophisticated goods. Protection may also enable developing nations to remain competitive in labour-intensive goods, with potentially important consequences for poverty reduction. Together, the effects of trade preferences may generate growth in international trade.

The evidence on the impact of the GSP on developing country exports, and employment opportunities, suggests that for some countries the schemes have been very valuable. The potential benefits of the EU GSP for recipients depends on the preference margin available, as well as supply capacity (given the origin rules in force) and whether or not the EU is an important market for the exports concerned. The EU’s scheme, for example, has no impact on the almost two-thirds of the exports from GSP beneficiaries that are of goods facing a Most-Favoured-Nation (MFN) tariff of zero. Even where a preference margin over MFN rates is available, the GSP’s net value may be reduced because there exist free trade agreements (FTA) covering the same goods.

Impact studies of GSP regimes, including the EUs, consistently find that the more significant impacts on trade are found for countries that export under other types of FTAs rather than GSP. For these
reasons, and because many beneficiaries also have access to other EU trade regimes, Stevens and Kennan (2011) argue that the GSP is best seen as a development safety net. It ensures, as a minimum, that all developing countries have more favourable access to the EU than do those (mainly developed) states that trade only on MFN terms.

The EU’s current GSP expires in December 2011. It is not yet known what the new regime will look like, but it is highly probable that there will be an extension of the existing regime until 2012 whilst the details of a new regime are agreed.

There are concerns over the predictability and stability of GSP, and calls for increased clarity and certainty over eligibility criteria and graduating criteria, as this would provide traders and investors with the security they need in order to make business decisions. For instance, no rules are currently set at the multilateral level on graduation criteria or thresholds. This means that there is no clear external constraint on the EU’s freedom of manoeuvre when designing the new GSP and countries currently benefiting from the GSP scheme are vulnerable to the EU making unilateral decisions. For example, anecdotal reports suggest that countries such as India fear being graduated from the EU’s (revised) GSP scheme because they are being pressurised to sign FTAs and some sub-Saharan African countries that have chosen not to enter into an EPA with the EU are seeking assurances regarding the continued value of the GSP.

Graduation removes the benefits of the GSP for broad product groups in the case of countries that supply more than a given share of EU imports. The number of countries that are ‘graduated out’ and the number of product groups involved is determined by the graduation thresholds set out in GSP regulations. Graduation can produce some combination of four potential effects:

1. It may have no effect on the volume of imports from the graduated country (which remains competitive even when paying MFN tariffs);
2. It may result in a fall in imports by the EU, as domestic suppliers become more competitive with imports from the graduated country;
3. It may result in a fall in imports from the graduated state and an equivalent increase in imports from countries that trade with the EU on MFN or FTA terms; or
4. It may result in a fall in imports from the graduated state and an equivalent increase in imports from other GSP beneficiaries.

Only in the case of effect (4) will there be a potential transfer of benefits from some current GSP beneficiary countries to other GSP beneficiary countries. This may benefit poor people in the country with newly expanded exports, though the scale of the net benefit would need to be assessed (losses from the graduating country set against benefits in the country with newly expanded exports). In the case of effect (3) the poverty effect of the change will depend on which countries benefit – the beneficiaries could be OECD states or dynamic emerging economies. In the case of effects 1 and 2 the impact on poverty reduction in developing countries is entirely negative: there are no benefits for some developing countries to offset the losses for the graduated states.

1.2. Objective and components of the study

1.2.1. The broader study

The objective of the study is to determine the graduation threshold which could have the maximum positive impact on poverty. It will focus on examining the poverty impacts that may result from reduced exports from countries that have graduated as a result of changed GSP graduation
thresholds. It will also explore the implications for poverty resulting from increases in exports from other developing countries resulting from trade diversion effects.

The fundamental aim of the study is to judge whether there is any merit in the CECs claim that the effect of graduation will be to promote and not retard development, because it will allow poorer countries to increase their exports by giving them a tariff advantage over the graduates which, by definition, have demonstrated that they are very competitive.

The Terms of Reference (ToR) identify the following questions to be answered in the study:

1. What will be the poverty impact of graduation, at the sectoral level, for countries which would lose GSP preferences if the graduation threshold were to be lowered to (a) 12.5%, (b) 10% and (c) 7.5%?
2. For a), b) and c) above what will be the poverty impact on those LDCs and low income/low middle income countries competing in these sectors if competitors were graduated by lowering the graduation threshold?
3. What should the graduation threshold be in order to maximise the poverty impact of GSP?

The study will address these questions using a mixed methodology that combines qualitative and quantitative analysis in three components:

1. Identifying the newly graduated countries and product groups under each threshold;
2. Assessing the potential for trade diversion; and
3. Evaluating the poverty impacts.

1.2.2. Component 3

The objective of component 3 is to evaluate the poverty impacts of changing the graduation threshold of the EU’s GSP trade scheme. This component will identify the potential poverty impacts of changing the GSP graduation threshold in graduating countries and developing countries (including LDCs and low income/low middle income countries) which may benefit from trade diversion.

2. Trade, growth and poverty: developing a conceptual framework

2.1. A contradictory literature on trade, growth and poverty

There is a significant body of literature examining the relationship between trade, growth and poverty. The weight of evidence suggests that greater trade openness is an important element in explaining growth, and has been a central component of successful development. Few countries have grown over the long term without experiencing a large expansion in trade – the fastest-growing countries have expanded their shares of the global market for goods. In addition, most developing countries with rapid poverty reduction have sustained high economic growth.

There is less clarity, however, on how trade liberalisation, growth and poverty interact. Some evidence suggests that trade openness triggers growth, and we know that growth is a central driver of poverty reduction. This finding is supported by several cross-country studies. Although the
evidence has been challenged, on both methodological\textsuperscript{3} and empirical\textsuperscript{4} grounds. Further, there is evidence to suggest that economic integration into the world economy can be the result of successful and inclusive growth and development, rather than a prerequisite for it.\textsuperscript{5} In addition, even when countries have better access to international markets (through tariff reductions, or changes in GSP preferences, for example), behind the border constraints may prevent the country from fully capturing the benefits. Further, while at an aggregate level there appears to be a strong relationship between trade openness and growth, trade liberalisation will create ‘winners’ and ‘losers’: it will benefit some while in the short term adversely affecting others. This can limit the poverty reduction impact of trade, and may further entrench existing inequalities.

\textbf{2.2. Preconditions for positive linkages between trade and poverty}

Booth and Kweka (2004) argue that there are three preconditions for positive linkages between trade and poverty. These are:

1. That international opportunities for trade exists, and these are adequately transmitted to producers and traders by price signals and other processes under the control of policy makers in the country.

2. That internal barriers to production and exchange of tradeables are of moderate scale, so there is reasonably wide distribution of the factors of production, there are minimal physical and administrative blockages to trade and business, and that intermediate markets are competitive resulting in limited trading margins and profitable production (including output, input and credit markets).

3. That poor people are able to participate in production of tradeable goods or services (or share indirectly in the economic benefits from tradeables’ production), given the production structure of the country, and the kinds of commodities are tradeable under prevailing conditions.

In the context of the GSP, the first two preconditions outlined above relate to a potential beneficiary country’s ability to take advantage of the increased export space resulting from the graduation of competitors. The third precondition relates to the ability of poor people to engage with and benefit from the increased export space.

\textbf{2.2.1 Taking advantage of new trade opportunities}

A country’s ability to take advantage of increased export space relates to the export competitiveness of the sector and product in question. The World Bank (2011) proposes that there are three pillars of export competitiveness:

1. The incentive framework;
2. Services and inputs; and
3. Overcoming market and government failures.

These pillars are outlined in Box 1.

\textsuperscript{3} For example, Lübker et al., 2002.
\textsuperscript{4} For example, Rodríguez and Rodrik, 1999; Rodrik, 2000; 2001; 2007.
\textsuperscript{5} For example Chang, 2007; Rodríguez and Rodrik, 1999; Rodrik, 2007.
Box 1: Pillars of export competitiveness

**Incentive framework:** A fundamental requirement for export competitiveness is a sound incentive framework, which ensures that domestic resources are channelled to areas where they have the best comparative advantage. Such an incentive framework should ensure that land, labour, capital and technology are moving to: (a) sectors in which the country has a long-term capacity to compete, (b) to the most productive firms within sectors. Conventionally, the policy biases against exports have been estimated through tariff rates and quantitative restrictions. Added to these are the trade-restrictiveness imposed by presence of import-export monopolies and various administrative restraints. The real exchange rate is also relevant, as misalignment can be detrimental to export growth. Business taxes on investment also affect export orientation through its impact on investment decisions. Marginal effective tax rate (METR) on capital is a summary measure of the effective rate of tax imposed on the rate of return generated. The tax regime can impose biases against labour-intensive investments and against the small and medium enterprises.

**Services and inputs:** It is critical that firms have access to efficiently-produced backbone services and inputs. Countries where firms have to pay more than their competitors for energy, telecommunications, customs services, transport, logistics, and business registration and operations, will find it hard to compete in the global markets. Export performance depends also on institutional quality such as access to well developed communication infrastructure, business environment for enforcement of contracts, and overall economic freedom. Other critical services are those related to education and training that are necessary to ensure supply of the type of labour required by the more productive expanding sectors in the economy and to foster a process by which value is increasingly added to the products and services produced in the country.

**Overcoming government and market failures:** A range of market and government failures that tend to afflict countries as they seek to expand exports and growth. In many cases these constraints to competitiveness require specific interventions and institutions. These are likely to include export and investment promotion agencies, standards bodies, agencies to support innovation and clustering. In mitigating government failures and weak capacity for policy formulation and implementation effective mechanisms can be to establish an empowered and dedicated trade and competitiveness policy unit within government, export processing zones and duty refund schemes. It is important that these initiatives are brought together within a strategy for competitiveness rather than as a series of ad hoc interventions. In isolation these agencies tend to be rather weak and ineffective.

*Source: World Bank (2011)*

2.2.2. Transmitting new opportunities to poor households

To understand if poor households are able to participate in and benefit from increased export space, we need to identify how changes in trade policy – and in this case changes in the EU GSP threshold – will transmit through the economy to the household. This can be mapped by developing a thorough understanding of the structure of the society and the economy in which changes will take place, followed by an analysis of the transmission channels by which change will flow through that society and economy. Primary channels are those directly activated by the change in trade (e.g. international demand for product x increases). Secondary channels are activated as a result of behavioural changes (e.g. greater demand leads to increased economic activity (employment) and an enlarged revenue base for government (taxes)). The OECD (2007) summarises the main transmission channels as:

- **Prices:** Changes in consumption and production prices, wages, salaries and interest rates.
- **Employment:** All aspects of formal and informal employment, including self-employment and employment in household enterprises. Other aspects include security, status and workloads and gender issues.
- **Taxes and transfers:** Public and private transfers and taxation, including targeted transfers, subsidies, taxes, levies, remittances, etc.
- **Access to goods and services:** People’s access to public and private goods and services; may involve removal of barriers or improving the quality of goods and services available.
• **Authority**: Issues related to formal and informal institutions, organisations, relationships and power structures; include entitlements, obligations, incentives and sanctions. This also examines the effect on people of changing political, legal, social or cultural factors.

• **Assets**: Access to, or control of, assets, including physical, natural, human, social and financial assets.

**Prices**: This channel primarily relates to the prices of goods and services (Lustig and Walton, 2009; McCulloch et al., 2001). The extent to which changes in the price of goods and services affect households will depend on a range of factors, including the integration of markets over time and space, the world price, exchange rates, domestic taxes, transportation and storage costs, and where they exist, centralised marketing boards or cooperatives.

The direct impact of price changes on poverty depends on whether poor households are net consumers or net producers of the good or service. A decrease in price will benefit net consumers and harm net producers. An increase in price will benefit net producers and harm net consumers (Turner et al., 2008). Price variability may also be a product of trade openness and liberalisation. The increased exposure of domestic markets to international price fluctuations, and the elimination of institutions or domestic markets that smooth domestic prices, will mean that producers and consumers will be more vulnerable to international price fluctuations (Winters et al., 2004). This will affect poor households, and they will respond by taking action to reduce risk exposure. For example, increased vulnerability to price fluctuations may lead poor farmers to diversify, at times to suboptimal crops, to reduce risk (Bird and Vandemoortele, 2009).

**Employment**: Changes in trade can enterprise profits and both wages and employment. For example, better access to international market may increase production, and the demand for unskilled and semi-skilled labour, tightening the labour market and driving up wages (Turner et al., 2008). Equally, trade shocks which lead to reduced demand for a country’s products can lead to loss of trade volume and value, reduced enterprise profit and a squeeze on both wages and employment. Increases and decreases can be felt directly in the value chain of a particular product and also more widely in the economy through backward and forward linkages and second round effects.

**Taxes and transfers**: Changes in the volume and value of trade can influence government revenues either positively (increased volume and value) or negatively (decreased). The degree to which changes in trade impact on government revenue depends on the extent to which a value chain is within the formal sector, the efficiency of tax administration and the tax regime. However, it is important to note here that while trade reforms can affect government revenue, they do so less adversely and less frequently than popularly imagined. This is largely because trade volumes and collection rates tend to increase as tariff exemptions are removed or tariffs fall. Further, the extent to which increases, or decreases, in government revenue derived from trade affect poor people is ultimately a political decision (Winters et al., 2004), but there is certainly potential for revenue derived from increased exports to contribute to government spending on economic and social infrastructure.

Private transfers are an important mechanism by which extended families and social networks smooth income and consumption. These traditional safety nets can, for instance, enable migrant workers to support families who have remained behind or can allow family members who have more income to support those who have less (for instance older parents). They can be in the form of regular payments or irregular transfers to pay for lumpy investments like school fees or a new tin roof. When workers lose their jobs or their incomes falls they may find it impossible to maintain the
regularity or level of payments that they have previously made, with negative consequences for recipients and for the social standing (and social capital) of the provider.

**Access to goods and services**: Volatility in tax revenue can impact on governments’ ability to plan, particularly where they do not have reserves or an ability or willingness to borrow to smooth government budgets. Where tax revenue takes a downturn, this can also have negative consequences for government budgets. They both can influence public service provision and any social transfers. These can have both short and long-term consequences. For example: a failure to maintain a road may mean that it gets to the point where it has to be completely reconstructed (at greater cost) than simply mended; a dip in education spending may contribute to children receiving an inadequate education, with implications for their life-long earnings and (if sufficiently widespread) the ability of the country to grow and develop. Equally, increases in tax revenue and a smoothing of tax take can increase government’s ability to plan and their room for manoeuvre – with potential consequences for improved service provision and levels of investment.

**Authority**: This channel relates to formal and informal institutions, organisations, relationships and power structures. It covers the entitlements, obligations, incentives and sanctions that individuals, groups and institutions face and includes, for example, laws governing land rights, civil service codes of conduct and behavioural norms in specific population groups. This channel examines the effects on people of changes in political, legal, social or cultural factors. Changes transmitted through this channel can be felt in terms of changes in levels of empowerment, equity and inclusion. It also has implications for changes in the behaviour of economic agents, with consequences for growth and distribution (OECD, 2007).

**Assets**: Building a strong asset base is strongly correlated with poverty exits. Locked together with capabilities, assets can enable individuals and households to diversify, invest, move up the value chain and improve their level of well-being. Assets also serve a powerful protective function in the case of a shock (for example: loss of employment, drop in wages) whether it is an economic or livelihood shock felt by many or a household-level shock (e.g. death of a bread-winner). Five assets are commonly identified:

i) physical (buildings, tools, equipment, livestock, access to infrastructure, etc.);
ii) natural (land, water, forest, natural resources, etc.);
iii) human (labour supply, education, skills, knowledge, health, nutritional status, etc.);
iv) social (networks, groups, relationships); and
v) financial (savings, access to credit, pension or similar guaranteed income flow, etc.).

Where changes in trade lead to an increase or decrease the value of, and return to, any of these assets they will affect household livelihood options in ways which may impact on their welfare. Trade shocks that require households to draw down on their assets can impact on welfare, with potentially long-term consequences.

This is summarised in Figure 1, below.
2.3. A conceptual framework for understanding potential poverty impacts of changing the GSP graduation threshold

How can we understand and assess the potential poverty impacts of changing the GSP graduation threshold in graduating countries and potential beneficiary countries?

For graduating countries, we need to understand:

1. Where the product fits within the economy;
2. What the impact of loss of GSP preferences as a result of graduation will be; and
3. How this will be transmitted to households.

For beneficiary countries (which for the purposes of this study is restricted to LDCs, LICS and LMICS), we need to understand:

1. Where the product fits within the economy;
2. If and how the country will be able to exploit expanded export space resulting from changing GSP preferences; and
3. How this will be transmitted to households.

The product that is graduating should be the entry point for the analysis.

Based on the literature review above, we can identify key factors that should inform an assessment of poverty impact for both graduating and potential beneficiary countries. These are outlined in Table 1.
Table 1: Factors to consider in an assessment of poverty impact of changing GSP thresholds

<table>
<thead>
<tr>
<th>Graduating country</th>
</tr>
</thead>
<tbody>
<tr>
<td>Where does product x fit within the economy?</td>
</tr>
<tr>
<td>- Where do the product, and its sector, fit within the economy (proportion of GDP, proportion of exports, proportion of employment, type of employment)?</td>
</tr>
<tr>
<td>- Which groups are involved in the production of the product (as investors, business owners, producers, consumers, workers)? What is the socio-economic composition (e.g. gender, income group, ethnic group) of these different groups?</td>
</tr>
<tr>
<td>- Where is the product produced (geographic location, nature of the location (i.e. production hub, lagging region))?</td>
</tr>
<tr>
<td>What will be the impact of the loss of GSP preferences in product x?</td>
</tr>
<tr>
<td>- Changes in export revenue?</td>
</tr>
<tr>
<td>- Changes in share of GDP derived from key sector</td>
</tr>
<tr>
<td>- Number of enterprises in key sector (losses?)</td>
</tr>
<tr>
<td>- Changes in employment in key sector?</td>
</tr>
<tr>
<td>- Changes in income in key sector?</td>
</tr>
<tr>
<td>- Changes in asset holding by households (differentiated by sub-sector and income group)?</td>
</tr>
<tr>
<td>- Impacts on up- and down-stream sectors?</td>
</tr>
<tr>
<td>How will the loss of GSP preferences as result of graduation in product x be transmitted to households?</td>
</tr>
<tr>
<td>Prices:</td>
</tr>
<tr>
<td>- Will prices increase or decrease?</td>
</tr>
<tr>
<td>- Who are the different groups that will be affected?</td>
</tr>
<tr>
<td>- How will they be affected? E.g. as net producers, net consumers?</td>
</tr>
<tr>
<td>- What are the plausible poverty impacts?</td>
</tr>
<tr>
<td>Employment:</td>
</tr>
<tr>
<td>- Will employment increase or decrease?</td>
</tr>
<tr>
<td>- Who are the different groups that will be affected? E.g. business owners, producers, workers (informal and formal)?</td>
</tr>
<tr>
<td>- How will they be affected? i.e. Decreased profits, wages, employment?</td>
</tr>
<tr>
<td>- What are the plausible poverty impacts?</td>
</tr>
<tr>
<td>Taxes and transfers:</td>
</tr>
<tr>
<td>- Will government tax take increase or decrease?</td>
</tr>
<tr>
<td>- Will tax take be volatile?</td>
</tr>
<tr>
<td>- How will changes affect public investment and service provision?</td>
</tr>
<tr>
<td>- How will changes in public investment and service provision affect different social and economic groups?</td>
</tr>
<tr>
<td>- Will private transfers increase or decrease?</td>
</tr>
<tr>
<td>- How will changes in the size and frequency of private transfers affect recipients (poverty/ well-being) and providers (social capital, status)?</td>
</tr>
<tr>
<td>Access to goods and services:</td>
</tr>
<tr>
<td>- Will investment and the availability of goods and services increase or decrease?</td>
</tr>
<tr>
<td>- Who are the different groups that will be affected?</td>
</tr>
<tr>
<td>- In what way will they be affected?</td>
</tr>
<tr>
<td>- What are the plausible poverty impacts? (differentiated by ethno-linguistic group, wealth group, gender)</td>
</tr>
<tr>
<td>Authority:</td>
</tr>
<tr>
<td>- Will the performance of formal and informal institutions change as a result of changes in trade?</td>
</tr>
<tr>
<td>- If so, in what way?</td>
</tr>
<tr>
<td>- How will any changes affect different social and economic groups (e.g. ethno-linguistic groups, wealth groups, women and men)</td>
</tr>
</tbody>
</table>
### Assets:
- Will people’s ability to access/ control assets increase or decrease?
- What implications will this have for poverty, vulnerability and well-being (differentiated by ethno-linguistic group, wealth group, gender)

### Beneficiary country

**Where does product $x$ fit within the economy?**
- Where do the product, and its sector, fit within the economy (proportion of GDP, proportion of exports proportion of employment, type of employment)?
- Who is involved with the product (investors, business owners, producers, consumers, workers)? What is the socio-economic composition (e.g. gender, income group, ethnic group) of these different groups?
- Where is the product produced (geographic location, nature of the location (i.e. production hub, lagging region)?

**How will the country exploit expanded export space resulting from changing GSP preferences in product $x$?**

**Incentive framework**
- Does the existing incentive framework enable producers to respond to expanded export space? i.e. favourable tax framework, streamlined administrative processes?

**Services and inputs**
- Are services and inputs such as energy, telecommunications, customs services, transport, logistics, and business registration and operations competitive enough to enable expanded market space to be exploited?
- Is institutional quality sufficient?
- Are education and training services sufficient to ensure supply of the type of labour required?

**Overcoming government and market failures**
- Do export and investment promotion agencies, standards bodies, agencies to support innovation and clustering exist and can they support the exploitation of expanded market space?
- Does the sector have a competitiveness strategy, and dedicated resources to support the strategy, to support an efficient and coordinated response to expanded export space?

**How will gains from expanded export space in product $x$ be transmitted to households?**

**Prices:**
- Will prices increase or decrease?
  - Who are the different groups that will be affected?
  - How will they be affected? E.g. as net producers, net consumers?
  - What are the plausible poverty impacts?

**Employment:**
- Will employment increase or decrease?
  - Who are the different groups that will be affected? E.g. business owners, producers, workers (informal and formal)?
  - How will they be affected? i.e. Decreased profits, wages, employment?
  - What are the plausible poverty impacts?

**Taxes and transfers:**
- Will government tax take increase or decrease?
  - Will tax take be volatile?
  - How will changes affect public investment and service provision?
  - How will changes in public investment and service provision affect different social and economic groups?
  - Will private transfers increase or decrease?
  - How will changes in the size and frequency of private transfers affect recipients (poverty/ well-being) and providers (social capital, status)?

**Access to goods and services:**
- Will investment and the availability of goods and services increase or decrease?
  - Who are the different groups that will be affected?
  - In what way will they be affected?
  - What are the plausible poverty impacts? (differentiated by ethno-linguistic group, wealth group, gender)
### 3. The distributional impacts of trade, commodity and other macro shocks

In order to understand how a shock will be transmitted through an economy and society it is important to understand nature of the shock (above), the transmission mechanisms and how they are function in a particular context (see section xx above, for more on transmission mechanisms), the capacity of different groups to cope with shocks (current levels of poverty and vulnerability including “initial conditions” of different categories of households), plus the structure and resilience of the economy (including economic fundamentals), and governmental or policy response capacity.

See Figure 2, below.

**Figure 2:**

![Diagram showing the distributional impacts of trade, commodity and other macro shocks](image)
3.1. Understanding shocks and coping

In order to explore the impact that shocks or negative events can have on economies, sectors, households and individuals, we need to understand the nature of the shock and the ability of the economy, households and individuals to cope with the shock. Shocks can be idiosyncratic (experienced by an enterprise, individual or household) or covariate (experienced by many enterprises in a sector or area or many households in a community or country) (Lustig, 2000). Examples of idiosyncratic shocks include sudden unemployment, illness or the death of a breadwinner, while examples of covariate shocks include drought, conflict and macroeconomic crisis. Idiosyncratic shocks can be insured against to a certain degree through reciprocal (and other) arrangements within a kinship network or community, but this is more difficult in the case of more widespread or covariate shocks (Bird and Higgins, 2011) and macroeconomic crises, for instance, are poorly dealt with by self-insurance, informal insurance or market based smoothening (credit) (Skoufias, 2003).

Shocks may be sequenced or compounded, where enterprises, individuals or households experience one unrelated negative event after another (sequenced shocks) or where a negative event triggers a series of bad things to happen (compound shocks) and covariant shocks may overlay ‘conventional’ life-cycle, livelihood and other idiosyncratic shocks (Bird, Higgins and McKay, 2011).

3.1.1 Coping strategies

Individuals and households respond to shocks by drawing down sequentially on their assets to develop coping strategies. They make decisions relating to investments, consumption, work and leisure, selecting the best possible mix of livelihood options that will maintain current and future well-being for themselves and their households (Bird and Prowse, 2009).

People have been shown to adopt coping strategies in a predictable sequence to trade-off short-term consumption needs against longer-term economic viability. Those with limited long-run costs tend to be adopted first. Once households and individuals have exhausted their less damaging options, they tend to progress to forms of adverse coping and then to survival strategies.

A household’s initial conditions (household assets and characteristics including dependency ratios, educational status of household members, their social networks and capabilities and agency) influence a household’s vulnerability to shocks and the forms of coping open to it (Bird and Higgins, 2011). A lack of assets, both private and collective, drives poor people into deeper and more intractable poverty after a shock and the level of landholdings and education of the household head influence the impact that a shock has on household consumption levels (Quisumbing, 2007b). Those with few material, financial, natural or social assets are vulnerable to relatively minor shocks, especially if sequenced closely together or unpredictable. Without assets to form the basis of effective coping strategies and resilience, people can experience catastrophic declines into...

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6 Idiosyncratic shocks are uncorrelated across individuals in a group, or across sub-groups (Ronald Mendoza, 2009). (Ronald Mendoza, 2009) and others further classify shocks as having low frequency with severe welfare effects (catastrophic) and high frequency with low welfare effects (non-catastrophic).

7 For example, if aggregate demand and employment falls as a result of a shock, membership of an occupational association will be of little help where the majority of members are from the same sub-sector and also negatively affected. For more, particularly on covariate shocks, see (Skoufias, 2003).

8 The degree of resilience an individual commands, defined as ‘the manifestation of positive adaptation despite significant life adversity’ (Luthar, 2003: xxix), will also influence the impact of the shock on well-being.
persistent poverty and, more to the point, face increased morbidity and reduced life expectancy. Poor people without reserves may progress through forms of coping from preferred modes of adaptive behaviour through to sustainable coping and eventually to adverse coping which may support short-term survival while undermining wellbeing in the medium to long-term. In addition, some shocks may themselves erode household’s ability to cope and covariate shocks may see incomes (including those from informal arrangements) and the value of assets held by poor people fall, making them less effective components a coping strategy (Skoufias, 2003).

Education contributes to a person’s capabilities and can serve a protective function in the face of shocks. For example, Quisumbing (2008b) shows that schooling provides important protection against chronic poverty in the context of a modernising Bangladeshi economy where non-farm enterprises have become more important. Research by Bird et al (2010) in Northern Uganda explores how a form of covariant shock (conflict) affects long run and intergenerationally transmitted poverty and the role that education plays in supporting resilience during conflict. Education is found to be a ‘portable’ asset that serves a protective function, helping people stay out of poverty during conflict and supporting post-conflict recovery. This is because individuals with a higher level of education have the know-how to interact with authorities and are better able to draw on social networks, diversify livelihood strategies and migrate. This suggests that the impact of livelihood changes as a result of changes to the GSP will have a differentiated effect, with the least educated less able to escape any negative consequences.

3.1.2 The impact of shocks

Evidence from around the world shows that shocks can have a long-run effect. Their impact will depend partly on the nature of the shock; the availability (ex ante) of insurance, credit or social protection; the (ex post) policy response, and the resilience of enterprises, individuals and households. Their resilience is strongly influenced by their asset holdings and capabilities (often described as the initial conditions of the household)⁹. Those with more assets and capabilities have greater levels of resilience, limiting the need for the adoption of adverse coping strategies (Bird and Higgins, 2011) and thus the long-term damage inflicted by specific shocks.

Adverse coping can entail the liquidation of crucial productive assets, the reduction of consumption in ways that have potentially irreversible welfare effects (eating smaller amounts of less nutritious food, avoiding essential medical expenditures, withdrawing children from school) or the adoption of behaviour that undermines trust and social standing (theft and begging, engagement in commercial sex work, abandoning children with their grandparents) (Bird and Prowse, 2008). It can see households and individuals reach and pass crucial ‘tipping points’ as they liquidate productive assets, over-exploit social and political capital and reduce food security and investments in human capital to the point that individual and household capitals and capabilities become so low that recovery to previous levels of well-being are likely to be slow and difficult or even impossible (Bird, Higgins and McKay, 2011). Better endowed households are likely to be more resilient and more able to avoid adverse coping and so maintain food security and continue to invest in health and education (Bird and Higgins, 2011), suggesting that, for them, the impact of the shock will be relatively short-lived.

Even a transitory shock can result in declines in consumption and well-being that can have a catastrophic impact. This is particularly true where the effect is on children at a crucial point in their

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⁹ We assume here that the resilience of enterprises, sectors and sub-sectors follows similar patterns and is determined by similar factors (asset holdings, capabilities, selection of coping strategies) as that of individuals and households.
life course, as the negative impacts of the shock can generate ‘irreversibilities’, or damage that cannot be reversed (Bird and Higgins, 2011). These can range from stunting and wasting from poor nutrition through to lost years of schooling. The erosion of assets through adverse forms of coping is also important as it can lead to downward mobility and, once a certain threshold has been reach, with poverty traps, risk aversion, vulnerability and a future inability to cope with shocks and contingencies (Bird, 2007). It can also be linked to the breakdown of the family unit and can limit the future wealth of the younger generation by eroding inheritable assets (Bird and Higgins, 2011). Households with less land or fewer assets also tend to have more working children (Ali, 2006; Bhargava, 2003).

Looking at a form of covariant shock we see that droughts, even when short, can have a surprisingly long-run effect. Poor households may resist selling assets to smooth consumption and instead cut consumption to dangerously low levels rather than sell assets when prices have collapsed (Dercon, 1999; Kazianga and Udry, 2005). In Burkina Faso during the 1980s a drought (covariate shock) was overlaid by idiosyncratic income variation. There was also no evidence either of within-village consumption smoothening or risk sharing and households were found to have intentionally reduced consumption in order to conserve livestock through the drought period (Kazianga and Udry, 2005). In Zimbabwe, a study of the 1994-95 drought found further evidence of consumption collapse. It was so severe that the body mass index of children aged 12-24 months during the drought was adversely affected. Children from wealthy households recovered but children from poorer households did not: they suffered a permanent loss in height, human capital formation and potential earnings (Hoddinott, 2006). An earlier study, looking at the effects of drought and conflict in Zimbabwe, found that this also had long lasting negative consequences (Alderman et al., 2002). Children who were between 6 months to 6 years during the shocks had poor height for age relative to the well-nourished reference population. Roughly 1 in 4 children were found to be stunted and this had negative consequences for their education attainment. Children who were well-nourished when under 5 were 4.6cm taller in adolescence, started school earlier (by 2-7 months) and stayed in school longer (0.7 years). Children who were malnourished were found to have lower lifetime earnings (by 7-12%, probably more, as stunting can be linked with the early onset of chronic diseases and premature mortality) (ibid.). This is despite the drought being a ‘conventional’ singular shock. Although it is covariant in nature, risk-sharing and insurance mechanism had been honed through generations, meaning that it is the type of covariant shock that one might expect poor communities to be resilient to. The research findings suggest that resilience is limited. The implications for this study are important, as trade-related shocks may be more poorly insured against and impacts might be even more substantial.

Large systemic macroeconomic crises (for example the two examples outlined below in Latin America and East Asia) may generate short or medium term shocks but because they undermine government fiscal reserves\textsuperscript{10} and can trigger a reduction in public service provision and capital investment while simultaneously erode the asset holdings and investments (human capital and other) of affected households they have long run damaging implications, pushing households into poverty and creating the conditions for that poverty to become chronic and intergenerational and also having negative consequences for national growth and development over the long term.

\textsuperscript{10} During such macroeconomic crises, fiscal costs commonly rise either as a result of government intervention to stem the effects of the crisis or due to declining tax revenue. Added pressure can accumulate via international channels (if, for instance, external borrowing requirements increase, or debt has to be restructured), and if liquidity conditions tighten (Ronald Mendoza, 2009).
3.2. Reviewing the experience of previous macro shocks

In this section we review the experience of three previous macro (covariant) shocks that are known to have had major regional or global effects and their distributional effects: the Asian Financial Crisis 1997-98; the Latin American Debt Crisis and the Global Financial Crisis. We then identify lessons from these experiences which may be applied to a review of the possible impact of graduation from the GSP regime.

3.2.1. The East Asian Financial Crisis, 1997-98

The Asian economic crisis has often been described as a ‘financial sector’ crisis (which led to a currency crisis) and not a crisis induced by trade liberalisation per se. Economic regimes in the region went from being relatively rigid and restrictive to rapidly opening up — beginning in the 1980s and gathering pace especially in the late 80s and early 90s.11 However, structural imbalances were present in many East Asian countries by the late 1990s; Malaysia, Thailand and Indonesia, for example, were running large current account deficits in the range of 4 to 5 per cent of GDP. The additional fact that these imbalances were being financed by foreign investments primarily in speculative sectors (such as construction and real estate), led to a further blurring of differences between trade and financial liberalisation. The combined effect of trade and financial liberalisation was found to be greater financial market volatility, increased frequency of exposure to external shocks and the increased transmission of vulnerability across borders, and rapid changes in labour markets and employment. When the crisis came it led to a contraction in real GDP growth in all countries in the region (by 13.7% in Indonesia, 9.4% in Thailand, 6.7% in Malaysia, 5.8% in Korea, and 0.5% in Philippines) (World Development Indicators, as cited in Table 2 of Bhushan and Blouin, 2009). The initial impact of the crisis triggered negative economic growth or a contraction of the economy and a spate of public and private sector bankruptcies followed. Real wages collapsed (in Korea by 10%, in Thailand by 6%, in Malaysia by 10% and in the Philippines by 2%) (World Bank, 1999), inflation rose12 (World Bank, 1999) and unemployment rose13, with official figures masking an increase in vulnerable employment. Where wage flexibility was higher, for instance in Indonesia, rise in unemployment was less severe but the drop in real wages was high (34 per cent in Indonesia) and was coupled with a significant shift to underemployment and informal employment (Gough, 2001: 183).

East Asia and poverty reduction

East Asia stands out among developing economies as an example of successful poverty reduction via greater integration into the global economy and by the mid 1990s – 2000s the percentage of population living on less than US$1/day had fallen to less than 2% for Korea, Malaysia and Thailand

11 While the weight of existing evidence generally supports the view that trade liberalisation and openness increase economic insecurity (e.g., Rodrik, 1997; Rodrik, 1998; Garrett, 1998; Burgoon, 2001; Hayes et al., 2002; Boix, 2002; Gunther and Van der Hoeven, 2004), there is little consensus on this point (see Bourguignon and Goh, 2003 for a review of studies challenging this linkage). There is greater consensus in the research literature that financial liberalisation and the movement of capital are more important determinants of economic instability than trade openness per se (Cornia, 2001; Scheve and Slaughter, 2004; van der Hoeven and Lübker, 2005). Trade liberalisation, however, is usually accompanied by increased openness to foreign capital and liberalization of financial markets and services.

12 Inflation rose by nearly 7% in Korea, 7% in Thailand, 82% in Indonesia, 5.5% in Malaysia and 10% in Philippines, as measured by the CPI increased)

13 Unemployment rose in 1998 in Korea from 2.1% to 8.7%; in Thailand from 0.9% to 5.4%; in Indonesia 5.1% to 7.0%; in Malaysia from 2.6 to 3.9% and Philippines from 7.7 to 11.8% (Gough, 2001: 183).
and stood at around 14.8% for Philippines and 7.5% for Indonesia (UNDP, 2007/08 in Bhushan and Blouin, 2009). This was accompanied by progress in all aspects of human development (as tracked by the HDI) (ibid.) and life expectancy rose significantly across the region between 1970-75 and 2000-05\textsuperscript{14}.

At the same time the East Asian crisis provides a good illustration of how a large though short-lived macro-economic shock originating in the financial sector can lead to significant long-term impacts. It illustrated the link between greater external openness of economies and their increased vulnerability to positive and negative external shocks and therefore potential economic insecurity.

One of the key features of the crisis was that it highlights the combined effect of relatively low expenditures on social protection\textsuperscript{15} and having a high degree of openness to foreign capital (especially in high employment-growth sectors like manufacturing and construction) and by the mid-1990s East Asia was particularly vulnerable to economic shocks (Bhushan and Blouin, 2009).

Another feature of the East Asian crisis was that it showed the implications of having a population where a high proportion of non-poor households were living very close to the poverty line real household incomes fell due to contraction of wages and as a result household final consumption expenditure contracted (by 6.2% in Indonesia, 10.2% in Malaysia and 11.5% in Thailand) (Hopkins, 2006) propelling many into poverty\textsuperscript{16}, with negative consequences for their nutrition, housing and health (Bhushan and Blouin, 2009). At the same time, tax revenues declined in the region, leading to governments to scale back on social programmes and both health and education expenditure was cut. This further undermined household well-being. An illustration of this is the impact of the crisis on health (Hopkins, 2006):

\begin{itemize}
  \item Infant mortality rose by at least 1.4 per cent in Indonesia in just one year.
  \item Childhood anaemia and maternal malnutrition increased (also in Indonesia)
  \item The price of prescription drugs increased dramatically (just as people’s purchasing power and savings were eroded and the government’s ability to respond was stifled)
  \item DTP immunisation rates declined in Malaysia
  \item Increase in underweight children in Thailand
\end{itemize}

The coping strategies employed by households also had health implications with households increasing their consumption of nutritionally inferior food, delaying seeking care (when sick) or switching to cheaper forms of care (including using public rather than private care facilities) (Hopkins, 2006).

\textsuperscript{14} Korea from 62.6yrs to 77yrs; in Malaysia from 63 to 73yrs; Thailand 60 to 68yrs; Philippines 58 to 70yrs; Indonesia 49 to 68yrs. Infant mortality (per 1000) improve from 43 to 5 for Korea, 46 to 10 for Malaysia, 74 to 18 Thailand, 56 to 25 Philippines, and 104 to 28 for Indonesia (Human Development Report Statistical Database, 2007/08 as cited in Table 1 of Bhushan and Blouin, 2009).

\textsuperscript{15} In 1990, East Asia spent on average 1 per cent of total government expenditure on social protection and welfare, compared to 12.7 per cent in Organisation for Economic Co-operation and Development (OECD) countries, 3.6 per cent in Latin America and 2.2 per cent in South Asia (World Bank, 1999, p.7). The openness of these economies is a further striking feature. In 1997, the value of trade as a percentage of gross domestic product (GDP) was 90 per cent in Malaysia, 45 per cent in Korea, and 30 per cent in the Philippines and Thailand. The ratio of foreign direct investment (FDI) to GDP in the same year was 290 per cent in Malaysia, 117 per cent in Korea, 102 per cent in Thailand, 69 per cent in Indonesia and 55 per cent in the Philippines (World Bank, 1999, p.12).

\textsuperscript{16} Poverty increased by 10 per cent in Korea, 1.6 per cent in Thailand, 8.8 per cent in Indonesia and 3 per cent in Malaysia (based on movements across national poverty lines). For comparison, headcount poverty percentage point change for Indonesia was about 7.6 points (1996-98); for Korea 4.7 points; for Malaysia 2.2 points; and Thailand 3.1 points (Ronald Mendoza, 2009).
There was also a decline in school retention rates. Health and nutritional intake and education are some of the main channels by which macro shocks can generate intergenerational consequences, particularly when children and young people are affected (Ronald Mendoza, 2009). In 1998, the dropout rate of boys in Indonesia rose by 5.7%, while the drop-out rate of children between the ages of 7-12 doubled from 6% to 12% (Harper et al., 2009). In the Philippines, enrolment in secondary school dropped by 7.2% in 1998, with labour force participation among 10-14 year olds rising from 9.6% in October 1997 to 10.6% in October 1998 and among 15-17 year olds from 21.2% to 23.2% (Lim, 2000a). This suggests that the East Asian crisis will have created long run impacts despite its relatively short-lived nature.

Following the crisis, evidence suggests that there was an increase of 10-15% of the number of street children in Thailand, while in South Korea one in seven women – including girls – was involved in sex work (Harper et al., 2009). Female employment rose in Indonesia and the Philippines as male unemployment increased during the crisis, with evidence from the Philippines showing that young women were joining the work force instead of entering high school (Sabarwal, Sinha, & Buvinic, 2011). The rise in female employment and concomitant rise in male unemployment during the crisis represented a reversal of the growth in the second half of the 1980s that favoured male employment over female (Lim, 2000b). The increase in women’s employment could have detrimental impacts on the women, as they retained drudgery intensive home-based work, and on their children, particularly where alternative forms of good quality affordable child care were unavailable).

In Vietnam, many workers entered the informal sector during the crisis in an attempt to compensate for a reduction in earnings. The informal sector provided limited earning potential, however, as it was marred by low productivity (Dat, 2002). The crisis was felt in the informal sector mainly in the form of lower wages rather than open unemployment (Knowles, Pernia, & Racelis, 1999).

### 3.2.2. Latin American macro-economic crises

The Latin American debt crisis occurred in the early 1980s (starting in the 1970s for some countries), when Latin American countries became unable to repay international loans, borrowed largely during the 1960s and 1970s to finance infrastructure programmes and industrialisation. Defaults in the region caused a drop in confidence and loans that would have been refinanced when they became due, suddenly needed to be repaid in full. Loans were restructured under strict conditions and countries were forced to obtain support from the IMF. As a result of the crisis, incomes dropped, growth stagnated and unemployment rose and inflation limited household purchasing power. Linked with this, there were over 40 episodes of macroeconomic instability in Latin America where GDP fell by 4 percent or more between 1980 and 1998. This section outlines what the implications of this instability have been.

With the exception of wars, macroeconomic crises have been the most important driver of large increases in income poverty in the region (Lustig, 2000). Poverty in Latin America rose from 41% to 46% between 1980 and 1990, and from 14% to 22% for those living in extreme poverty (Teichman, 2001). They were also often accompanied by rising income inequality\(^ {17} \) and subsequent growth has not tended to act as an equaliser. In addition, the austerity measures adopted by governments in response to crises have tended to curb social transfers and deepen poverty. The Latin American debt crisis reveals a female ‘added-worker’ effect. Women’s participation in the labour force increased in Lima, Peru during the crisis in the early 1980s, as it did in Chile during the 1974-75 crisis, in Costa Rica in 1982, and in Mexico during the Peso Crisis. In Argentina during the mid-1990s, women’s

\(^ {17} \) Inequality rose at crisis onset in 5 out of 8 episodes, while it was higher after the onset of crisis in 15 out of 20 episodes (Lustig, 2000).
labour force participation was also countercyclical (Sabarwal, Sinha, & Buvinic, 2011). Again, these examples could put pressure on women and undermine the quality of child care.

Looking at the impact of the debt crisis on various Latin American countries, we see a range of impacts on wealth and well-being. As a result of nutritional deficiencies, infant and preschool mortality in Latin America rose in the 1980s, a reversal of the previous decade (Lustig, 2010). After the crisis, although infant mortality rates continued to fall, they fell at a slower rate post-crisis and other health indicators, more sensitive to consumption or income downturns, worsened (Chile, Mexico, Argentina, Venezuela) (Behrman, 1999). Education (school attendance and literacy) was negatively affected in Mexico after 1982. Studies suggest that enrolment in Mexico would have been 11% higher in 1991 if the economy had grown during the 1980s at half the rate of the 1970s instead of the zero growth that was experienced during the debt crisis (Lustig, 2010). More widely across the region, improvements in education slowed so average increases in years of schooling for 18 Latin American countries slowed from 1.9 years during the 1950s-1970s to 1.2 in the 1970s and 1980s. More specifically, improvements in schooling attainment declined for cohorts born between 1960 and 1970 (those who entered the school system between 1975 and 1986), which roughly coincides with the debt crisis (Behrman, 1999).

Box 2: Country specific impact of the Latin American debt crisis

**Argentina** (1995): The crisis in Argentina resulted in recession, a drop in wages and consumption, increased poverty and inequality. Specifically, GDP per capita fell by 4.2% and private per capita consumption fell by 6.4%. Inequality increased (urban GINI rose from 0.36 in 1994 to 0.38 in 1996). Urban unemployment grew (from 11.5% to 17.5% during 1994-95) and average real wages fell (by 1.1% in 1995). Not surprisingly, poverty grew (‘moderate’ poverty increased from 16.9% in 1993 to 24.8% in 1995) and food security worsened (per capita daily protein intake declined sharply in 1995, although it increased again in 1996). Primary education enrolment growth also declined, from 2.2% in 1993 to 0.8% in 1996 (Lustig, 2010). However, social spending rose, both as a share of total expenditure and GDP, as did education and health spending (by very small amounts 0.3% to 0.1% GDP).

**Dominican Republic** (1990): A similar picture emerges in the Dominican Republic, where GDP per capita fell by 7.6% and urban real wages declined (by 3% in 1991). Private per capita consumption fell by 13.9% as poverty and inequality increased, with the poverty headcount increasing from 36% (1989) to 40% (1992). Social spending overall, as share of total expenditure and GDP both fell sharply. Spending on health and education contracted (about 0.2% and 0.1% GDP). Food security declined with per capita protein intake contracting sharply during the crisis year but bouncing back the following year. The picture was worse for children and the number of infants suffering from chronic malnutrition increased sharply over the 5 year period around the crisis. Primarily school enrolment also declined.

**Jamaica** (1985): In Jamaica, GDP per capita fell by 6.2% (1985) and poverty increased. Interestingly the unemployment rate fell and primary school enrolment rose slightly although spending on education declined dramatically, as did spending on health (though less so). Daily per cap intake of protein again declined and then increased again rapidly in the post crisis year.

**Mexico** (1982) and (1995): In Mexico per capita GDP contracted 6.3% and private per capita consumption fell by 7.4% (1983). In 1995, GDP per capita fell by 8.1% and per capita consumption fell by 11.5%. Real wages fell in the 1980s crisis by between 36% and 46%, depending on the sector and unemployment rose by 2.1% points. Both moderate poverty and extreme poverty rose following the crisis in the 1980s. Inequality increased and between 1984 and 1989 the national GINI rose from 0.43 to 0.47. Real wages contracted again in 1995, this time by 13.1%. Unemployment increased by 2.6% and extreme poverty increased dramatically. Infant mortality continued to decline but at slower pace in 1980s around the crisis. Infant mortality from anaemia increased in the 1990s crisis. School enrolment rates fell in the 1990s crisis – growth in primary enrolment fell

18 Children are often withdrawn from school as a form of household coping following a shock (e.g. in South India, Jacoby (Skoufias, 1997)) and this may explain the reduced improvements in education performance.
from 0.44% in 1994 to 0.09% in 1995 (Lustig, 2010) – and continuing in school declined in the 80s, while dropout rates in rural areas rose substantially.

**Venezuela** (1994): GDP per capita contracted by 4.6% and private per cap consumption by 8.3% (1994). Income GINI rose from 0.45 to 0.50 between 1992 and 1994. Moderate and extreme poverty both rose (extreme poverty quite substantially). Real wages fell by as much as 15.7% in the crisis year and continued to fall even the following year. Unemployment rose. Social expenditure as share in GDP fell, but education spending rose. Primary enrolment rates nevertheless declined. Food security worsened with per capita daily protein intake contracting sharply.

**Other LAC:** Brazil 1% poverty headcount increase (1989-90); Peru in 1980s infant mortality increased 2.5% during crisis; in **Mexico** in the 1990s the mortality of children and older people increased above expected levels. In response to the peso crisis in **Mexico**, households reduced spending on semi-durables in order to maintain basic food level. Non-essentials like clothing, glassware, bedding and entertainment were cut in order to dedicate a higher share of the budget to food. This may simply have been coping behaviour but may also have represented a more permanent shift to a new equilibrium level as householders may have perceived the downturn as a ‘the new normal’ and a permanent phenomena (McKenzie, 2006). Evidence suggests that coping strategies in Mexico tend to involve reducing consumption of goods that represents longer run investment in human capital. This makes them more vulnerable in the future.

**Mexico** (2010): GDP contracted by 7% in 2009 and the poverty rate rose by 4% between 2008 and 2010. Results from a simulation exercise show an increase in the poverty headcount and severity. Income shocks are greater for middle and lower income groups, with the poorest quintile seeing their (per capita) income fall by 8% compared to the fall of 5% experienced by other groups.

Source: Mendoza, 2009 (unless otherwise specified).

### 3.2.3. The Global Financial Crisis

The Global Financial Crisis began in 2008 as a liquidity shortfall in the US banking system and was linked to the collapse of the US housing bubble and the widespread exposure of banks to risks associated with sub-prime lending. The crisis damaged confidence in the global banking system and triggered a domino effect in the Iceland, Ireland, the UK and other European markets with a collapse in stock market values, house prices and bank confidence, the failure of many businesses and increased unemployment. A number of governments bailed out banks and activated fiscal stimulus programmes. Economies worldwide slowed, with many tipping into recession in 2008 as credit tightened and international trade declined. It is considered by many to be the worst financial crisis since the 1930s.

Comprehensive data on the effects of the crisis are not readily available, some evidence of the effects is beginning to emerge. Evidence on several key transmission channels – taxes and transfers; prices; employment; and access to goods and services – reveal the effects of the financial crisis on poverty in developing countries.

Some developing economies that had been growing strongly countries saw significant slowdowns due to reduced trade, commodity prices, investment and remittances. For example, Cambodia was expected to grow at more than 10% in 2007 and fell to nearly zero in 2009; and Kenya saw its growth half from 7% in 2007 to around 3-4% in 2009. Falls in growth can be attributed to reduced trade, commodity prices, investment and remittances.

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19 Most literature on this topic was written in 2009 in the midst of the global financial crisis. As a result, this literature contains projections as opposed to actual post-crisis data. More analysis on the actual poverty impact of the global financial crisis is needed now that almost two years has passed since the outbreak of the crisis.
The financial crisis has had a marked effect on remittances. In many low-income countries, remittance flows grew significantly in the years leading up to 2008. Remittance flows around the world reached a record $251 billion in 2007, but have fallen in many countries since (te Velde, 2009) with negative consequences for numbers of poor households (e.g. 230,000 more in Ghana) (ibid.). In Ethiopia, for example, remittance levels in 2008 were 14 times those in 1998, whereas in Bolivia they grew 6 times between 2004 and 2007. However, the second half of 2008 and the beginning of 2009 marked a reversal of that trend, with growth rates of remittances halting or declining. In Bolivia, for example, remittances declined by 8% in the first three quarters of 2009 compared to the same period in the previous year. Bangladesh is one country in which remittance levels continued to grow during the peak of the financial crisis, albeit at a rate lower than previously. In many countries, the downturn in levels of remittances began to reverse in the second quarter of 2009, although the rate of growth differed significantly between countries with Zambia and Bangladesh showing substantial increases (te Velde et al, 2010: vii and 19).

Volatility in commodity prices also affected developing countries. Rapid increases in a number of commodity prices followed the collapse in the housing bubble (2007). The price of oil nearly tripled from US$50 to US$147 from early 2007 to 2008, before plunging as the financial crisis began to take hold in late 2008. Copper prices increased at around the same time (US$1,600 in 1999, increasing only gradually through 2006 and 2007 until peaking at US$7,040 in 2008). Other commodities fell in value. As a result of the drop in the wholesale market price for cut flowers in the Netherlands, Ethiopia exported only 47% of the $280 million in cut flowers which had been projected for 2008-2009. This meant that some producers were unable to meet debt obligations to the Development Bank of Ethiopia. Uganda experienced a drop in coffee export earnings with the 20% drop in global coffee prices between the third quarter of 2008 and that of 2009. The value of exports from Mozambique fell by 37% between January and September of 2009 compared to the same period the previous year, resulting mostly from the drop in aluminium prices. Kenyan tea exports in the first half of 2009 dropped to their lowest levels in 5 years but this was due to producers reducing fertiliser use in 2008-2009 because of its high cost. This reduction in tea exports has had a particular poverty impact because the sector is composed predominately of small-scale growers. Interestingly, with the decrease in commodity prices, the value of imports fell in some countries during the time of the financial crisis. In Bangladesh, for example, food imports began to fall in October 2008 and reached a low in June of 2009 (te Velde et al, 2010: 9-16).

Employment is yet another transmission channel through which the financial crisis affected developing countries. Employment effects were particularly evident in the garment and mining sectors. In Bangladesh, 25,000-30,000 garment workers lost their jobs in the last eight months of 2009, while over one-third of garment workers in Cambodia lost their jobs from September 2009 and the first few months of 2010. The drop in prices of copper led to thousands of jobs being lost in the DRC; over 70% of mining jobs in Katanga province were lost between December 2008 and April 2009. Given that mining in DRC is largely undertaken by micro-enterprises and individual workers, drops in international mineral prices have drastic effects not only on the economy but on household welfare (te Velde et al, 2010: vii and 14).

An Inclusive Cities study has detailed the impact of the financial crisis on three sectors of employment in the informal economy. Waste pickers experienced a sharp drop in demand and selling prices, and were extremely sensitive to the effect of international prices on their sector.

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21 Historical Copper Prices. Dow-futures.net. http://dow-futures.net/commodity/historical-copper-prices-history.html (downloaded 17.08.11)
Home-based workers producing for export markets also suffered from a significant drop in orders, and those producing for domestic markets faced increased competition and the resulting necessity to lower prices to remain competitive. Street vendors also experienced increased competition, as this sector attracted large numbers of people looking to supplement income or compensate for lost jobs. Of respondents to the study, 60% identified women as the new entrants into the informal economy in response to the global financial crisis. The reason for the disproportionate number of women entering the informal sector is thought to be because women are concentrated in sectors particularly vulnerable to macro shocks, such as export manufacturing (Horn, 2009). In the Philippines, more than half of the 40,000 jobs lost by March 2009 as a result of the financial crisis were those in export processing zones, where 80% of the workforce are women. Likewise, in Sri Lanka and Cambodia, nearly 30,000 – mainly female – garment industry jobs were lost by that time (Emmett, 2009).

Regarding access to goods and services, the poorest households in Egypt, Sudan, and Yemen (upwards of 18% in this country) have removed children from school because of rising food prices that have led to the inability to pay school fees. Evidence from Egypt suggests that those children pulled from school are entering low-paying jobs, which presents the possibility for exploitation or abuse. In Jordan, dropout rates have not increased, but families have transferred their children from private schools to more affordable government-run schools (Jones et al., 2009).

Micro-simulations to study poverty and distributional effects of the crisis, undertaken by the World Bank, suggest that the crisis will be particularly troubling for those at the middle of the income distribution in Bangladesh, Mexico, and the Philippines, as well as those at the bottom on the income distribution in Mexico. As a result, the crisis is likely to lead to increased poverty in the three countries – by 1.2% in Bangladesh, 1.5% in the Philippines, and 4% in Mexico. However, the impact of the crisis is due to reduced income rather increased unemployment, translating into an increase in numbers of the working poor, who are largely concentrated in urban areas and are more skilled than many of the chronically poor (Habib et al., 2010). Similarly, an analysis of recent data, undertaken by the World Bank, reveals that the financial crisis has also had an impact on employment in middle-income countries. While the number of jobs continued to grow, incomes dropped through a reduction in working hours and a shift away from higher-paying industrial jobs (Khanna et al, 2010).

3.3. Relevance of historic macro crises for understanding the likely impacts of changes in GSP

This review of historical experience suggests that covariate shocks can have a profound impact on household income, household consumption (including food security) and investments in household goods and human capital. They can trigger increases in poverty and inequality which are hard to reverse and where the scale of the covariate shock is sufficient, they can also impact on fiscal balance and therefore investments in health, education and other forms of social spending. Combined, these effects can extend the impact of the shock beyond imposing short-run reductions in well-being and increase the risk that the impact will be long-lived, generating chronic and intergenerational poverty.

This may provide lessons for countries graduating from the GSP scheme, particularly where the impacts are significant or where rigidities in the economies are such that adaptation is likely to be sluggish (e.g. India where the caste system reduces flexibility in labour markets).
4. Findings: the distributional effects of graduation from the GSP

4.1. Focal products

Component 2 identified cases where graduation is most likely to result in trade shifts towards non-graduates including LDCs and LICs, which are also major suppliers to the EU market. Component 2 recommended that component 3 focus on the products outlined in the table below, and the countries which are highlighted.

Table 2: Recommended products and countries of focus for component 3

<table>
<thead>
<tr>
<th>Product</th>
<th>Losses graduates (€m)</th>
<th>Gains non-graduates (€m)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total</td>
<td>Graduate Share</td>
<td>Total</td>
</tr>
<tr>
<td>3061350</td>
<td>-65</td>
<td>Argentina</td>
<td>-34</td>
</tr>
<tr>
<td>Frozen shrimp</td>
<td></td>
<td>Vietnam</td>
<td>-25</td>
</tr>
<tr>
<td></td>
<td></td>
<td>China</td>
<td>-6</td>
</tr>
<tr>
<td></td>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>41079910</td>
<td>-1.4</td>
<td>India</td>
<td>-0.6</td>
</tr>
<tr>
<td>Leather</td>
<td></td>
<td>Brazil</td>
<td>-0.5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Russia</td>
<td>-0.3</td>
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<tr>
<td>20055900</td>
<td>-0.2</td>
<td>China</td>
<td></td>
</tr>
<tr>
<td>Unshelled beans</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4.2. Leather

A focal product recommended by component 2 is leather – 41079910. The box below outlines the specificities of this product.

| 41079910 | Leather “incl. parchment-dressed leather” of the portions, strips or sheets of hides and skins of bovine “incl. buffalo” animals, further prepared after tanning or crusting, without hair on (excl. unsplit full grains leather, grain splits leather, chamois leather, patent leather and patent laminated leather, and metallised leather) |

4.2.1. The leather global value chain

The component 2 report (Keane and te Velde, 2011) reviewed the literature on the leather global value chain. Key findings from this review for the purpose of this component 3 study are:

- The leather production-consumption chain has three processing stages. The first is the recovery of hides and skins from slaughter houses. Leather tanning and finishing is the second stage that involves relatively capital-intensive operations while the third stage, the
production of leather products, is a more labour intensive activity. The world leather supply chain is globally dispersed with these stages concentrated in particular countries or regions. So Latin America focuses on the first stage (the production of cattle and the subsequent export of fresh leather and China, Vietnam and Indonesia specialise in the second and increasingly third stage, importing raw materials from Latin America and exporting finished leather goods, such as footwear.\(^{23}\)

- Latin American leather producers face competition from China which may confine them more strongly in the upstream stages of leather production, rather than the higher value downstream activities. Leather producers in South Asia and Africa are likely to have a similar experience. India is a major supplier of leather to the EU market. Bangladesh is the only major LDC supplier, but both are overshadowed by Latin American producers.
- Increasingly tight European regulations during the 1990s led to improved environmental controls in the industry and, for example, the introduction of an eco-labelling scheme in India for finished leather in 2000. The Indian government introduced measures to enable tanneries to adapt but the changes have nevertheless disadvantaged smaller enterprises which are less able to cope with the tighter regulations or establish strong contractual linkages with buyers. India’s loss of preferences may lead to a further shake-up in the supply chain.
- The leather market is stratified by quality and price with countries such as Norway, Turkey and Pakistan supplying the highest value parchment leather to the EU market. Likely GSP graduates of this product (India, Russia and Brazil) are the lowest cost suppliers. This means that although their graduation may increase prices for their products in Europe, they may still remain the lowest costs suppliers. Depending on the degree of price sensitivity, a price increase could help producers such as Bangladesh which faces competition within this market.

Price and competition in the leather market

Key findings from the component 2 report (Keane and te Velde, 2011) in relation to price and competition are:

- Bangladesh is the only major LDC supplier of “leather, inc. parchment dressed” (CN41079910), and has a fairly high share of the EU market (over 15%). Between 2002 and 2010, its unit value and market share declined. Pakistan is the only main supplier of “grain split leather” (CN41079210) to the EU market that will not graduate from the GSP scheme. It appears to be a niche supplier, as it maintained its market share between 2002 and 2010, has relatively low market share and is the highest unit value supplier.
- Russia’s market share has grown more rapidly than its competitors (2002-10) and is the lowest cost producer. Brazil is the EU’s major supplier (30% market share) but is not the cheapest, suggesting a fairly low degree of substitution between the products from graduate countries (Brazil, India, Russia) and non-graduates Pakistan and Bangladesh.

\(^{23}\) China more than doubled its imports of tanned leather between 1995 and 2006. This is related to the development of the footwear, garments and other leather industries in that country and the increasing demand for raw materials for these manufactures (Lopez, 2008).
4.2.2. India

Key points

- Losses to Indian leather exports to the EU resulting from the proposed GSP graduation process have been estimated by the component 2 study at €0.6m. This estimate would imply a 6.1% decrease in EU imports of Indian leather and a less than 0.1% decrease in total Indian leather exports.

- Many enterprises in the leather sector remain small and may not be able to weather this change through borrowing.

- Given low margins, inelastic wages and high labour intensity, it is likely that even the small predicted losses and changes in the profitability of leather enterprises will be passed swiftly on to workers through retrenchment, with implications for poverty.

- We do know that employment opportunities in other industries have been drawing labour away from the leather sector, suggesting some workers have options and could cope with this shock. The low caste workers (chammars) and women who work in high concentrations in the Indian leather sector may not have the job mobility enjoyed by others, leaving them more vulnerable to the consequences of job losses.

- Balancing this negative picture is the fact that the large domestic market has been growing more rapidly than the export market, supported by the India’s increasing purchasing power of the expanding middle class. This suggests that a loss of market share in Europe might be compensated for by growth in the domestic market.

- It is not clear what environmental implications India’s graduation from the GSP will have. Treating and correctly disposing of effluent and other wastes is costly and it is plausible that some leather tanners and others in the sector will seek to trim costs, in the face of a price squeeze following the loss of preferences, by a return to illegal dumping of wastes. If this was to occur it could have severe environmental (and health) consequences.

Overview: economy, society and poverty

Economy

The Indian economy has changed hugely in the last 20 years, following a process of economic liberalisation that began in 1991, after a balance of payments crisis. Increased market openness has been accompanied by India’s growing power as a trading partner24, and with an estimated population of 1.2 billion and a growing middle class, India also has a substantial internal market.

The Indian economy is growing rapidly (8% per annum, UN Stats website) and inflation is down to around 8% (July 2011) after a high of over 16% in early 2011 (Trading Economics25) and GDP per capita has risen to US$1,07526. The structure of the economy has changed and the service sector is

24 India’s leading exports (by value) are in petroleum products (16.9%), gems and jewellery (14.7%), vehicles and parts (4.4%) and machinery (4%) (Department of Commerce, 2011) and trade growth has been led by exports of “modern” services24 and less by goods exports (Ghani and Anand, 2009).
26 2009 figures. Unadjusted, the GDP per capita was US$1,075 in 2009.
now dominant and growing rapidly\(^{27}\). A proportion of Indian exports are moving rapidly up the value chain, as illustrated by the increased importance of the services sector. Information and Communications Technologies are increasingly important, with India hosting call centres for companies around the world and the growth of IT and software related industries. However, this is occurring alongside other sectors in which capital investment and labour productivity rates remain low.

**Impact of previous macro shocks**

The global financial crisis was felt in India, with a decline in growth (6.7\% in 2008-09, down from an average of 8.8\% over the previous 5 years) (Bajpai, 2010). Credit availability and confidence in the banking and financial markets fell and capital became more expensive as inter-banks lending rates climbed (ibid.). Stock and real estate values fell and companies in the IT and financial sectors downsized, cut costs and froze recruitment for a time. More widely, demand for labour fell and there were large-scale job losses in some sectors particularly those with high exposure to global markets (e.g. civil aviation; textiles; leather; gems and jewellery) (Pimple, no date). Reverse migration increased, as did un- and under-employment alongside a downward pressure on wages. SMEs were particularly hard hit as the informal economy expanded to absorb the newly unemployed and competition within the sector increased. This all had implications for poverty and well-being (Pimple, no date).

The immediate effect of the crisis was felt in urban areas but had a knock-on effect in rural areas. Job losses in export manufacturing affected rural-to-urban migrants and reduced the remittances sent to their rural families (Pimple, no date). Workers who were not able to find new urban jobs sought rural work (ibid.), driving down wage rates and total household incomes fell. The most marginalised and vulnerable populations were migrants, informal sector workers and the youth as they were at least 3 times more likely to be unemployed. Women were also more likely to lose their jobs and children were affected with increased drop-out from school and a rise in the use of child labour (Pimple, no date). Inequality increased.

This provides some insight into the effect that covariant shocks might have on the Indian economy and society.

**Society, poverty and inequality**

India’s success in terms of economic growth has occurred alongside growing income inequality income\(^{28}\), and inequalities in access to services and well-being. High levels of poverty remain, with 41.6\% living in poverty\(^{29}\). The key drivers of poverty in India are reported to be in the ineffectiveness of state institutions, inadequate infrastructure and poor basic health, education and other service provision (World Bank, 2000: 34). Discrimination based on gender, caste, and religion are also powerful drivers\(^{30}\) as are un- and under-employment (with high population growth contributing to the latter) (Kapur Mehta et al., 2011). Poverty is strongly concentrated amongst particular livelihood groups (particularly amongst rural dwellers and especially casual rural labourers) and geographic

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\(^{27}\) In 2010, the service sector contributed 64.9\% of the GDP, while the agricultural sector contributed 14.6\% and the industrial sector 20.5\% (Reserve Bank of India, 2010: 178). This pattern looks set to continue, as the growth has been similarly concentrated (services (over 60%), followed by industry (just under 30%) and lastly, agriculture (around 10%)) (Ghani and Anand, 2009).

\(^{28}\) The GINI Coefficient for India was 36.8 in 2010 (UNDP, 2010: 154). In 2005, it was 32. 5 (UNDP: 2005: 272), and it was 37.8 in 2001 (UNDP, 2001: 184).


areas, with high levels of poverty in Uttar Pradesh, Uttarakhand, Bihar, Jharkhand, Madhya Pradesh, Chattisgarh, West Bengal, Maharashtra, and Orissa (Department of Rural Development of India, 2008: 2). In West Bengal and Maharashtra, high levels of poverty alongside considerable wealth.

India is ethnically diverse and has a complex caste system, and caste discrimination is correlated with poverty status and contributes to labour market rigidities which mean that if some people lose their work (e.g. leather workers), they may find it difficult to find alternative work.

**Contextualising leather in the Indian economy**

India is the third largest leather producer in the world and the sector is of great importance to the Indian economy. It is valued at over US$5 billion (or around 0.3-0.5% of GDP) (Delloite, 2009), produces exports of $3.5 billion (2011) (Hazarika, 2011) and is amongst India’s top ten export earners (ranked at 8 by the latest comparative figures) (Indo-Italian Chamber of Commerce and Industry, 2008). During the 2000s leather exports grew at a compounded annual rate of around 8.6% and generated around 1.4% of India’s exports (Asia Pro-Eco, nd). However, other exports are growing more rapidly and the share of leather in India’s overall exports is declining.

Although India remains one of the most important suppliers in the global leather supply chain, providing over 10% of international supply, it faces competition from China, Bangladesh and Pakistan and newer/smaller players from East Asia, Eastern and Southern Europe (Delloite, 2009; Hazarika, 2011). Over 65% of Indian leather exports head to Europe (Indo-Italian Chamber of Commerce and Industry, 2008) and it meets European demands for highly differentiated products (customisation) at lower volumes, in contrast to the US market which favours higher volumes and lower product differentiation, where China is dominant (Delloite, 2009).

The large domestic market has been growing more rapidly than the export market, supported by the India’s increasing purchasing power of the expanding middle class (Delloite, 2009; Indo-Italian Chamber of Commerce and Industry, 2008) and India has set itself an ambitious export target of $8.5bn by 2014, aiming to double exports over 3-4yrs (Hazarika, 2011).

Leather is a highly labour-intensive sector with relatively inelastic wages. Between 2.5 and 3 million people are employed in the Indian leather sector. There are substantial concentrations of certain religious and more importantly caste groups in the leather sector, with labour drawn almost exclusively from the lowest castes and sub-castes. One of the lowest status groups amongst the ‘untouchables’ or dalits are the chammars, or literally leather workers. Women comprise about 30% of the workforce and have a dominant role in assembly line production (e.g. in leather footwear, India’s top leather export product).

There are about 2,200 tanneries in India, of which 2,100 are classified as small scale units, and there are over 8,000 leather product manufacturing units (Asia Pro-Eco). The leather sector in India was ‘reserved’ as a ‘small scale industry’ until 2002. This provided benefits from the state in terms of

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31 Poor people were highly concentrated in these states, with 76.2% of India’s rural poor lived in these states in 2004-05.

32 About 90% of the workforce in the mechanised sector in South India consists of women (Indo-Italian Chamber of Commerce and Industry, 2008).

33 Other estimates place the total number of small scale units at around 42,000, accounting for 75% of total production (Export Import Bank of India, 2006). Yet other estimates (more recent) place the small scale production share ranging from 70-87%.
directed credit but also contributed to fragmentation, restricted capital investment and prohibited Foreign Direct Investment. These policy restrictions also apparently encouraged the interlocking of markets and many manufactures sought backward linkages and invested in tanneries, while some tanners became product manufacturers. In the early 1990s export of raw or semi-finished leather was banned and priority was given to the export of value added goods. This has encouraged Indian exporters to move up the leather value chain. The sector has been completely liberalised (2000s) and this has led to corporate interest and investment is beginning to trickle into the sector (Delloite, 2009). Despite this, the sector is still dominated by small-scale and cottage industry-based production and ownership is primarily private, household or in the form of small businesses.

Production and employment

Employment and production structure

Elements of the leather supply chain are spread quite widely across India. However the most important node is the southern state of Tamil Nadu which accounts for the vast majority of tanneries, and produced hides and skins. Tamil Nadu accounts for 40% of India’s leather exports, and has some of the best incentive package in place. West Bengal and Uttar Pradesh are also important tanning hubs. Leather goods parks are being developed in Calcutta, Nellore, and a component park is under development in Agra (Asia Pro-Eco, nd). Uttar Pradesh has strong raw material base and Karnataka has emerged as a source for cattle; other regions such as NOIDA (outside Delhi), Mumbai and others are also increasing in importance.

Comparative advantages

As the largest livestock owning country in the world (FAO, 2010), India’s access to one of the key raw materials for leather making provides a comparative advantage. Another source of advantage is the low wages in the sector, which are some of the lowest (if not the lowest) in the world (less than half of China’s) (Delloite, 2009).

The sector has proven its ability in building business-to-business links (especially in Europe), suggesting that Indian leather has a number of non-price related competitive advantages (Indo-Italian Chamber of Commerce and Industry, 2008). In addition, institutional support to the leather sector in India is amongst the best in the world with at least 12 dedicated industry associations and foundations, and five ‘leather parks’ (either in operation or under development) (Asia Pro-Eco, nd).

The Government of India provides financial assistance to the sector, to up-grade, modernise and

34 Which arguable has not been a success as even though leather is identified as a lending sector access to credit remains a constraint.
35 This appears to have built rigidities into the sector and Indian exporters struggle to compete with the Chinese, despite a huge labour-cost advantage.
36 According to the Indo-Italian Chamber of Commerce and Industry, 2008 this pattern has not been seen anywhere else, especially tanners investing in manufacturing.
37 Limited in the sense that this does not seem to be the most important factor as production for instance in China is much higher and raw inputs are imported. In fact even in India’s case hides etc, though to a lesser extent, are starting to be imported, particularly from Africa. There are also obvious restrictions on cow slaughtering (being a primarily Hindu country and cows considered sacred). Majority of input is buffalo, goat and other. A large amount of slaughter is done informally/illegal thus affecting quality.
38 E.g. research institutes and associations such as the Central Leather Research Institute (CLRI) which is the largest leather institute in the world, the Council for Leather Exporters (CLE); as well as the Footwear Design and Development Institute (FDDI) (Asia Pro-Eco, nd).
39 A comprehensive scheme, the “Integrated Development of Leather Sector” (IDLS), has been supported by the Department of Industrial Policy and Promotion (DIPP) since 2002 and will continue until 2012. It provides a 30% subsidy for plant and machinery for small scale industries, 20% for larger units (up to a ceiling amount). In addition the typical duty remission, neutralization and drawback schemes are also available Indo-Italian
enhance the competitiveness of all sub-segments from tanneries, footwear, footwear components, saddler and leather goods to garments (Asia Pro Eco, nd).

**Constraints facing the sector**

Low utilisation of manufacturing capacity means high unit overhead costs and the patchy penetration of technology into the sector may place the Indian leather sector at a disadvantage. The shortage of skilled manpower to meet rapid industrialisation and transformation of sector (following de-reservation in 2002), and high turnover rates also impose challenges. However the biggest challenges facing the sector are: very high port clearance/customs times; poor infrastructure (specifically power, 8.4% sales are estimated lost to power outages compared to only 2% in China); and low (internal) transportation speeds (avg. 30km/h compared to 60km/h in Europe). Also, in China, the cluster approach has been effective, where information is shared on issues such as planning and product and customer information. In contrast, fierce internal competition in India makes the establishment of a cluster approach impossible.

**Changing the graduation threshold in GSP trade scheme: poverty implications**

**Drawing on component 2 findings**

The component 2 report estimates that the average value (2008-10) of Indian leather exports (41079910) to the EU was €9.9m, comprising 14.8% of EU imports of this product. The losses to Indian leather exports to the EU resulting from the proposed GSP graduation process have been estimated by the component 2 study at €0.6m. Assuming that India could no longer maintain its market share of EU leather imports, this estimate would imply a 6.1% decrease in EU imports of Indian leather. In 2011, total Indian leather exports amounted to €2.43bn (US$3.5bn) (Hazarika, 2011). A €0.6m loss would constitute a tiny (less than 0.1%) decrease in total Indian leather exports. Such a loss of European market share could have negative consequences by combining with other negative effects facing the sector.

**Impact on households through transmission mechanisms**

The effects of any reduction in export value and volume will transmit through the economy through a range of transmission channels (see Section 2.2.2).

**Price:** Leather is a low margin sector. This means that even small shocks (currency, interest rates) can have a major impact on enterprises profitability and viability. Studies have shown, for instance, that during the immediate pre-crisis period the Indian Rupee was appreciating faster than the currencies of key competitors. This had a dramatic impact on margins in the leather sector (Confederation of Indian Industry, 2007). It is also plausible that a contraction of the leather sector, even though small, will have an up-stream impact on livestock keepers, who could see incomes for raw hides fall.

**Employment:** The leather sector is an important employer, particularly of women and the lowest of the lower castes (chammars), providing between 2.5 and 3 million jobs. Wages are inelastic, and much of the competitive edge is due to the low-cost labour. However, work in the sector has provided an important route out of poverty, especially in the Southern states where leather is an important industrial sector. Any employment loss that occurs is likely to have negative

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Chamber of Commerce and Industry, 2008. In addition, various states offer support to industrialisation, with Tamil Nadu offering the best incentives package amongst industrialized Indian states.

40 Workers are attracted into other sectors – e.g. in Tamil Nadu, a major leather hub, into electronics manufacturing.

41 This is at the exchange rate 1 EUR = 1.44274 USD.
consequences. It is also likely to be geographically differentiated, hurting some states more than others, particularly affecting Uttar Pradesh, Madhya Pradesh, West Bengal and Maharashtra—which are important nodes in the leather supply chain but also some of the poorest states in the country.

**Macro-economic impact:** As a major foreign exchange earner, a reduction in the value of leather exports could have an effect on India’s forex position.

**Taxes and transfers:** The Indian government offered a relief package for the leather sector in response to the downturn following the global financial crisis (capital grants, tax relief etc) valued at Rs.4 billion in the tenth leather plan and Rs.9.13 billion in the eleventh leather plan (Ali, 2011). This was in addition to funds already committed to modernisation, capacity building and infrastructure investment. This support helped cushion the sector, which fared better than regional competitors (Pakistan, Bangladesh) during the crisis. Looking ahead, it is likely that the government will seek to compensate the sector for any loss of GSP preferences, through tax remissions and other transfers. If perceptible impacts are experienced and they are localised (with, for example, tanning being harder hit than other nodes of the supply chain), state governments may have to step in.

**Poverty and well-being effects:** It is plausible that the loss of preferential access to European markets will place a price squeeze on Indian leather and that both the volume and value of leather exports will reduce, at least temporarily. Although the reduction is predicted to be small, it may result in job losses (given inelastic wages in the sector), with implications for poverty.

**Environmental effects:** Leather tanning and linked manufacturing processes have a high environmental impact. Pollution is created at every stage of leather production (pre-tanning, tanning, processing, cutting and manufacture). Heavily polluting chemicals are used in the tanning processes which can result in both water and air pollution and the industry releases a huge amount of toxic effluent (from solid waste in the early stages to liquid and semi-liquid) as well as a highly unpleasant odour throughout the process.

Advanced technologies can reduce pollution dramatically, but investment in technology must be coupled with improved regulation and inspection if pollution is to be reduced. In Kanpur, a city of 3 million people on the banks of the river Ganges and the self-proclaimed “Leather City of World”, pollution levels were so high that the pollution control board closed 49 high-polluting tanneries in July 2009 (of a total of 404) (Times of India, 2009). However, this picture is beginning to change and unlike Bangladesh, more than 95% of Indian tanneries are now supported by pollution control devices. There are 19 common effluent treatment plants and 130 individual effluent treatment plants. Government capital grants meet 75% of the investment in treatment plants and the sector has also signed on to ‘zero liquid discharge norms’—which are some of the highest environmental standards globally for this sector.

It is not clear what environmental implications India’s graduation from the GSP will have. Treating and correctly disposing of effluent and other wastes is costly and it is plausible that some leather tanners and others in the sector will seek to trim costs in the face of a price squeeze, following the

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42 If a 0.1% loss in exports resulted in a 0.1% loss in employment in leather manufacturing alone, this would translate into 2,500-3,000 people losing their jobs.

43 For example, the main tanneries’ effluent disposal unit was dumping 22 tonnes of chromium-laden solid waste in the open every day in 2003 (Sharma, 2003).

44 This may be in response to WTO demands as well as past bans imposed on India by key importers, notably Germany. The State Pollution Control Board is now legally empowered to control environmental standards (such as zero liquid discharge).
loss of preferences, by a return to illegal dumping of wastes. This would have severe environmental (and health) consequences, if it were to occur.

4.2.3. Bangladesh

<table>
<thead>
<tr>
<th>Key points</th>
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<tbody>
<tr>
<td>• Gains to Bangladeshi leather exports to the EU resulting from the proposed GSP graduation process have been estimated by the component 2 study at €0.3m. This estimate would imply a <strong>2.9% increase in EU imports of Bangladeshi leather and a less than 0.09% increase in total Bangladeshi leather exports.</strong></td>
</tr>
<tr>
<td>• Although the potential export gain is small, it is likely to <strong>generate additional employment.</strong> This will lead to household income increases for the newly employed, and related improvements in wellbeing. If newly employed workers are migrants, one might expect to see an increase in informal transfers in the form of remittances. While we cannot estimate the number of new jobs likely to be created, we can conclude this it is highly likely that they will be low quality jobs and result in the increase in the use of child labour.</td>
</tr>
<tr>
<td>• We are unable to estimate the number of new jobs likely to be created, but we can conclude this it is highly likely that they will be low quality jobs and result in an increase in the use of child labour.</td>
</tr>
<tr>
<td>• The gains for Bangladesh are <strong>too small to have an important impact on tax take,</strong> although a small increase might be predicted. This will be <strong>too small to translate into an increase in public investment or service provision.</strong></td>
</tr>
<tr>
<td>• <strong>Pollution from the leather industry is a serious problem.</strong> It is possible that an expansion of the sector would worsen this (and the net effect of a decline in production in India and an increase in Bangladesh would have negative environmental consequences, as environmental controls are much looser in Bangladesh).</td>
</tr>
</tbody>
</table>

**Overview: economy, society and poverty**

**Economy**
Bangladesh has experienced macro-economic stability recently. GDP per capita in Bangladesh is estimated to be US$638\(^{45}\) (2010), inflation has stayed below double digits for almost two decades, and both public and external debt levels are “fairly comfortable” (World Bank\(^{46}\)). Saving and investment rates, currently at about 24%, are relatively high compared with other countries at similar income levels and the pace of human development, has surpassed that of most low income countries (LDCs) (ibid.). The economy has grown at the rate of 6-7% p.a. over the past few years\(^{47}\).

Remittances from Bangladeshis working overseas, mainly in the Middle East, are the major source of foreign exchange earnings and exports of garments and textiles are the other major forex sources. Ship building and cane cultivation have become important sources of economic growth. Trade is relatively important to the Bangladeshi economy\(^{48}\) and in 2010, 16.3% of Bangladesh’s GDP was

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\(^{45}\) World Economic Outlook Database-April 2011, International Monetary Fund. Downloaded 22.08.11.

\(^{46}\) World Bank. Growth in Bangladesh. Downloaded 22.08.11.

\(^{47}\) Although this was only 5.8% in 2010 (agriculture, 4.7%; services 6.4%; industry 6%) (Bangladesh Bank, 2010a: 3).

\(^{48}\) Bangladesh’s main exports are readymade garments, frozen food (mainly shrimp), raw jute, jute goods (excluding carpets), leather, tea and fertiliser (Bangladesh Bank, 2010a). Between 2009 and 2010 exports from the jute sector expanded rapidly (raw jute by 32.5%, jute goods by 64.5%), as did the leather (26.9%), footwear (11.6%), petroleum products (62.3%), engineering products (54.6%) and fabrics (Bangladesh Bank,
derived from exports (Bangladesh Bank, 2010a: 103). Services generated 49.9% of GDP, with agriculture contributing 20.2% and industry 29.9% (ibid.: 17).

Although elements of the Bangladeshi economy are moving up the value chain, many export sectors are still low-skill labour intensive and relatively low value. Unemployment is high, and the informal sector absorbs a high proportion of the un- and under-employed, suggesting that a high number of new jobs would have to be created before market tightening led to an increase in wages.

Macro shocks
The Bangladeshi economy managed to maintain a steady growth rate despite the global financial crisis, with 5.8% growth in 2009-2010 against 5.7% growth in 2008-2009. The country did, however, experience some slowdown in the growth of exports and investments: export growth was 4.1 % in 2009-2010 compared to 10.3% in 2008-2009 (Bangladesh Bank, 2010b: 4).

Between March 2009 and March 2010, at least 170,000 people lost their jobs in Bangladesh. Of these, around 100,000 were in export-oriented sectors (World Food Programme, 2010) and remittance earners, daily workers and shrimp farmers were the most badly affected groups. According to the World Food Programme (2010), households adapted to the financial crises by seeking additional work opportunities, especially for women and children as casual workers.

In response to the crisis, the government introduced a stimulus package for sectors which were particularly affected. It also extended the social safety net for poor and vulnerable people and introduced additional input subsidies and other measures to support agricultural and industrial activities (Bank of Bangladesh, 2010b: 7).

Society, poverty and inequality
Nearly half of the Bangladeshi population (49.6%) are poor (below the international poverty line of US$1.25 per day in 2005). Around 31% of the rural population are chronically poor and have experienced low consumption, hunger and under-nutrition, lack of access to basic health services, illiteracy and other deprivations for over a decade or more (Sen and Hulme, 2004). About 24% of the total population live in extreme income-poverty and around 19% of rural households are not able to afford three full meals a day, with around 10% subsisting on two meals or less for a number of months every year (ibid.).

The key drivers of poverty are reported to be high population growth, low wages, natural disasters, high income inequality, unequal distribution of land and productive assets, a lack of education and skilled workers, a lack of administrative accountability, limited access to public goods and services, a lack of sufficient infrastructure, chronic irregularity of work, large family structure, death of chief wage-earner, incapability of chief wage-earner through accident, illness, and old age, insufficient food reserves and a lack of participation in local government decision-making (Mony and Maruf, 2006).

However, Bangladesh has relatively low levels of income inequality, with a Gini Coefficient of 31.0 in 2010 (UNDP, 2010: 150) down from 31.8 in 2005 (UNDP: 2005: 272) and 37 in 2001 (UNDP, 2001: 184). Bangladesh is relatively homogeneous, with around 98% of the population being ethnic Bengali and the vast majority being Muslim. Minority groups are discriminated against and there

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2010a: 98). Some exports declined (tea by 53.7%, fertilizer by 64.1 %, and frozen shrimps and fish by 4 %) (ibid.).


50 The tribal minorities live mostly in the Chittagong Hill Tracts and in the regions of Mymensingh, Sylhet and Rajshahi.
has been violence directed at the Christian and Hindu minorities. Although the majority of poor people are engaged in agriculture, the high population density of Bangladesh means that livelihood diversification into off-farm enterprises and the informal sector is easier than in some other countries in the region.

**Contextualising leather in the Bangladeshi economy**

Leather is an important sector in Bangladesh and grew by an average of 10-15% during the 1990s and around 20% during the 2000s. It earns around 2% of total exports (2008) with a value of US$500m per annum (Ethirajan, 2010). The garments, shrimp and leather sectors combined earn 85% of Bangladesh exports (Dhaka Chamber of Commerce and Industry, 2005: 3).

The EU is the most important destination for Bangladeshi leather, receiving 11.5% of total leather exports (US$430m, including footwear) (Bangladesh Bank, 2010a:98). Up to 98% of leather produced in Bangladesh is exported although lower grades and reused waste is used for domestic consumption (footwear) (Zahur, 2004).

Government policy aims to enable the sector to increase quality and meet international standards. However, around 40% of annual hide procurement occurs during the religious festival of Eid al Adha when millions of cattle are slaughtered. This leads to considerable waste, as traditional methods can affect hide quality. Similar seasonal gluts are also found in other Muslim countries in the region (e.g. Pakistan).

**Production and employment**

The production of leather in Bangladesh is highly concentrated with a handful of large enterprises (with political connections) dominating the export sector and benefiting from government support. There are three categories of producer, large industries, small/medium size industries and commercial exporters.

- **Large industries** with bonded warehouses pay no import duties or VAT. They are not eligible for duty draw-back and have to export virtually 100% of output. There are 6-7 large producers, estimated to be responsible for around 60% of Bangladesh’s total leather output.
- **Small/medium size industries** pay import duties and/or VAT on chemical and other items at differing rates. These industries take duty draw-back at pre-fixed rates after each consignment is exported.
- **Commercial exporters** are engaged in the export of crust leather and finished leather on a contract basis. All their production inputs are from local suppliers. They also claim duty draw-back (Zahur, 2004).

There were 4,411 enterprises in the Bangladeshi leather sector (2001-03), which directly employs around 70,000 workers (at tanneries), along with millions more through backward and forward linkages into the wider economy, such as farmers, dairy owners, traders and others directly and indirectly dependant on the cattle industry (Ethirajan, 2010). Around three quarters of leather sector

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51. Duty drawback is the reversal of taxes paid on the inputs used in manufacturing.

52. Semi-tanned wet-blue leather undergoes a final tanning process to produce crust leather. Crust leather has physical properties that are valued, such as size, thickness, fullness, looseness of grain. It is ready for the finishing stage.

enterprises employ fewer than 20 people and these small enterprises employ over half of the workers in the sector.

Tannery working conditions in Bangladesh are widely considered some of the worst in the world (SOS-Arsenic, 2008; Saleemul Huq, 2001; Ensing, 2009)\(^54\). The use of child labour is prevalent (Ensing, 2009), with most children working in small-scale and informal enterprises which make relatively low quality products and produce predominantly for the local market. Large-scale enterprises, producing better quality export-oriented products tend to employ relatively few children. However, distinctions are not that clear-cut since the bigger factories also outsource much of their work to smaller factories and home-based workers. According to the Bangladesh Institute of Labour Studies, in 2000 there were approximately 1000 child workers between the ages of 7 and 14 in various sections of the tannery industry. The ILO-IPEC estimates that in 2007 260 children were employed in leather tanneries in Bangladesh, with 3,040 working in shoe industries, and 320 working elsewhere with leather products (Ensing, 2009: 8).

**Potential for exploiting expanded export space**

**Incentive framework:** The current incentive framework enables producers to respond to the expanded export space through a favourable tax framework. However, the administration of Bangladesh’s import and export processes is notoriously complex (and corrupt). Looking more widely, the Government of Bangladesh has identified the leather industry as one of the highest priority sectors for its growth potential and its contribution to export diversification and employment generation. It has provided tax incentives (primarily to the large scale, purely exported oriented segment) and has supported change in the sector, primarily in encouraging a shift in exports from wet blue (raw) material to higher value-added and processed leather. It has achieved this by removing export subsidies in the 1990s and by banning certain exports. Government also supports plans for a Leather Industry City, in Savar (Dhaka) to enable the establishment of mega clusters and reduce environmental pollution.

**Services and inputs:** The leather sector in Bangladesh faces significant challenges in importing essential inputs, including chemicals, equipment and accessories. The shortage of skilled workers and inadequate infrastructure including the provision of electricity, gas and water are major challenges for the sector. An inefficient banking system, the lack of modern port facilities and congestion also has negative consequences for leather exporters, with exporters complaining about customs delays, high duties and complex procedures. (Sharif, 2003). Bribery and corruption also create problems.\(^55\)

**Changing the graduation threshold in GSP trade scheme: poverty implications**

**Drawing on component 2 findings**

The component 2 report estimates that the average value (2008-10) of Bangladeshi leather exports (41079910) to the EU was €10.2m, comprising 15.3% of EU imports of this product. The gains to Bangladeshi leather exports to the EU resulting from the proposed GSP graduation process have been estimated by the component 2 study at €0.3m. This estimate would imply a 2.9% increase in EU imports of Bangladeshi leather. In 2008, total Bangladeshi leather exports amounted to

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54 The authors have not been able to identify a comparative analysis of labour conditions in the leather sectors of Bangladesh and India and are therefore unable to conclude that labour conditions are better or worse in India or Bangladesh.

55 With the exception of Afghanistan, Bangladesh along with Pakistan has the poorest corruption score in the South Asian region, as measured by the Corruption Perceptions Index, 2009.
Assuming that the potential increase in export space to the EU is not filled by trade diversion, a €0.3m gain would constitute a 0.09% increase in total Bangladeshi leather exports. This is a very small increase.

**Impact on households through transmission mechanisms**

Given its export orientation, Bangladesh’s leather sector is vulnerable to global shocks, and was hit hard by the global economic downturn with export volumes dropping 19-22% and around 30% of hide and leather remaining unsold at the height of the economic crisis. Prices of raw hides and finished leather are volatile and raw hide prices fell from US$1.50 per sq foot (the previous year, i.e. 2008) to 90 cents (2009). Just as the sector was beginning to recover from the economic crisis it was hit with yet another crisis in the form of an Anthrax outbreak in August 2010. The sector lost nearly 25% of revenue or over US$100m in potential exports in one month due to the anthrax crisis (Ethirajan, 2010). In addition the government lacks the fiscal capacity to respond effectively to external shocks, in contrast to regional competitors such as India. This sensitivity to price and volumes of exports suggests that Bangladesh might see benefits from substantial trade diversion as a result of India, Russia and Brazil graduating from the GSP scheme. However, trade diversion to Bangladesh is predicted to be small (valued at US$0.3m) (Keane and te Velde, 2011). This is too small to make a noticeable impact on important indicators: number of enterprises in the sector; employment by the sector; contribution to GDP; impacts on up and downstream sectors.

**Prices:** Although gains are predicted to be small, Bangladeshi exporters of “parchment dressed” leather might see an easing of competition with Indian exporters and, if they are able to command higher prices (i.e. closer to the pre-crisis level) and increase export volumes, higher profits (Brazil and Russia are however expected to remain more price competitive). Where competition is based on quality rather than price, it is unlikely that Bangladesh would gain as Indian leather exporters have been moving up the value chain.

**Employment:** Although Bangladesh’s gain through trade diversion will be small it is likely that this will generate additional employment. It is not clear which sizes of enterprises or groups of employees will benefit most from these gains. However, the leather industry in Bangladesh relies on low wages in order to secure a price advantage. Unskilled labour is oversupplied, especially in the informal segments and it is possible that any employment gains will be in the informal sector. This may see increases in child labour, especially in the small and medium enterprises. However, medium and higher skill sets (particularly management skills) are in short supply and this squeeze may drive up wages.

Bangladesh has some of the worst leather sector labour conditions in the world and increased employment (with worsening work conditions) will see more people drawn into poor quality employment.

**Taxes and transfers:** A small increase in tax take might be predicted, however the presence of a large informal sector in the Bangladeshi leather industry will limit this. This gain will be too small to be likely to generate an increase in public investment or service provision. However, if newly employed

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56 This is at the exchange rate 1 EUR = 1.44274 USD.
57 Anthrax exists naturally in the soil in some parts of Bangladesh. Livestock get ill after eating contaminated grass, especially during or after the monsoon when water brings anthrax spores to the surface. The outbreak in question was thought to have been caused by people slaughtering anthrax-infected cattle and selling or eating the contaminated meat. Demand for beef and mutton contracted sharply. The fall in the number of cattle slaughtered limited the supply of hides in the tanneries, and led to a sharp increase in price. Tanners resorted to using hides from old stock. Job losses were reported amongst those raising livestock, slaughtering and selling meat.
workers are migrants, one might expect to see an increase in informal transfers in the form of remittances.

**Poverty and well-being effects:** Growth in the Bangladeshi leather sector resulting from trade diversion is likely to generate some additional jobs, although the numbers are uncertain. Despite poor working conditions in the sector, newly employed individuals are likely to see their household income increase, with benefits for their poverty status.

**Environmental effects:** Industrial production in Bangladesh is heavily concentrated in the densely populated areas of major cities such as Dhaka and Chittagong. The most important area for leather production is the tannery cluster located in Hazaribagh, an industrial area located within a very heavily populated (slum) residential area of Dhaka (USAID, 2010), although others include Dhanmodi, Basila, and Kamrangichar. In 2006, 200 out of 214 tanneries were located near the capital’s three river systems – Turag, Buriganga and Sitalakhya. This matters because harmful pollutants including chromium, lead, sulphur, ammonium and others are released directly into the capital’s river systems. Only 2 of the 214 tanneries have an effluent treatment plant (as required by law)\(^58\) (SOS-Arsenic, 2008) and the pollution seeps into groundwater and rivers and creates health problems as well as harming other livelihoods (e.g. downstream fisheries, and staple crop yields) (Saleemul Huq, 2001).

In recognition of these major challenges, in 2001 the Bangladesh High Court ordered the government to facilitate the relocation of the tanneries from Hazaribagh to the Savar area (also in Dhaka) (Zahur, 2004). However this has proved an extremely complex process and there has been little progress\(^59\). It appears that India has had better success in tackling environmental pollution and that in Bangladesh the problems remain more acute.

**Institutional effects:** If the Bangladeshi leather industry sees a major expansion the balance of authority could shift further in favour of the private sector actors and exporters and away from the government. Some of this has already been seen in the difficulty the government has had, despite injunctions from the Supreme Court, in forcing the relocation the tanning industry to Savar. A strengthened private sector with greater market access and profitability may be even more able to resist government and legal pressure and lobby successfully for additional support.

### 4.3. Frozen shrimp

A focal product recommended by component 2 is frozen shrimp - 03061350. The box below outlines the specificities of this product.

| 03061350 | Frozen shrimps of the genus “penaeus”, whether in shell or not, incl. shrimps in shell, cooked by steaming or by boiling in water |

### 4.3.1. Frozen shrimp global value chain

\(^58\) Embankments, to prevent flooding around the South Asian monsoon, makes the flushing out of waste water difficult which intensifies the impact of this major environmental hazard.

\(^59\) Relocation has been delayed by disagreements about compensation (between owners and the government), the restructuring of mortgages (on tanneries) and the completion of support systems (such as an effluent treatment plant). Nearly a decade on, the government is still applying for extensions on the relocation, government investments in the new area have gone to waste, and there is evidence that tannery owners have continued to invest in the Hazaribagh area (SOS-Arsenic, 2008).
The component 2 report (Keane and te Velde, 2011) review the literature on the shrimp global value chain. Key findings from this review for the purpose of this component 3 study are:

- The shrimp industry has evolved from wild shrimp catching to a globalised factory farming system.
- Since the 1980s, there has been a dramatic increase in shrimp farming, particularly in the coastal areas of major developing country suppliers in Asia and Latin America.
- Competition is based on quality.
- The shrimp value chain is characterised by a high degree of vertical integration (interlocking) with processing companies supplying feeds and laboratory services (testing for sanitary and phytosanitary (SPS) and technical barrier to trade (TBT) requirements) to associated growers. Shrimp farmers tend to be small and medium producers and are often contracted to supply specific processors who provide credit for the purchase and cultivation of shrimp larvae.
- The value chain is relatively complex where at least three major groups – shrimp farmers, local depot owners, and processing factories – interact within a governance structure that is largely driven by retailers in the EU market.
- This production structure means that the most profitable node in the value chain is supplying feed to growers.
- Regulation surrounding environmental impact and certification has become more prominent over the last decade, in reaction to increasingly tough non-tariff barriers (such as SPS requirements) and in response to the need for improved natural resource management by the industry, and increasing quality-based competition.
- In the EU market, while price matters, quality and mode of production, are increasingly important for inclusion in some of the higher value supply chains.

**Price and competition in the frozen shrimp market**

Key findings from the component 2 report (Keane and te Velde, 2011) in relation to price and competitions are:

- The unit value of frozen shrimps of the genus “penaeus” has decreased over time for all producers (albeit with some fluctuations) with the exception of those sourced from Madagascar, Vietnam and India.
- Ecuador’s and Madagascar’s market share have declined over time, whilst all other countries have been able to increase theirs, particularly Argentina, Vietnam (graduating countries) and to a lesser extent Bangladesh. These results suggest that Madagascar is competitively challenged within this market.
- The unit value of frozen shrimps and prawns has decreased over the period 1997-2010 for all producers. The market share of Vietnam halved over this period; Bangladesh managed to maintain market share but not substantially increase it.
- The graduates of frozen shrimps and prawns of the genus “penaeus” are not the largest suppliers to the EU market, nor are they the highest value suppliers in terms of product unit values. The country with the largest market share is Ecuador which also has the lowest unit value as a percentage of the graduating countries. In comparison, Madagascar, an LDC supplier has a high unit value compared to the other graduating countries, but a low market share; Bangladesh is to some extent within the mid-point of these two extremes with a market share of almost 10% and a unit value which is roughly comparable with the graduates.
4.3.2. Vietnam

Key points

- The estimated loss resulting from Vietnam’s graduation is €25.0m. While this constitutes over a fifth of Vietnam’s frozen shrimp exports to the EU, it is a much smaller proportion total frozen shrimp exports (2.5%).

- Vietnam’s shrimp industry is dominated by small-scale producers.

- Evidence suggest that while shrimp farmers are less likely to be poor than non-shrimp farmers, in some areas, at least a quarter of shrimp farmers remain poor.

- Evidence also indicates that certain groups within the supply chain (for example shrimp hatchery labourers, shrimp farmers with limited assets, farm labourers, processing plant workers) tend to be ‘extremely poor’.

- Losses to Vietnam resulting from changing the EU’s GSP threshold could hamper opportunities for these people to escape poverty through shrimp farming and/or push them into chronic poverty. It may also push people who are currently considered non-poor below the poverty line.

- The negative environmental impacts shrimp industry in Vietnam – particularly loss of mangroves and water pollution – are significant, but given the scale of the loss in export resulting from changing the GSP threshold it seems unlikely that any noticeable improvements will be observed.

Overview: economy, society and poverty

The Vietnamese economy is doing well. Growth has been steady with strong industrial and service sectors. However, the trade deficit has been growing steadily.

Poverty levels have been declining, as measured by the poverty headcount ratio at $2 a day (PPP), falling from 68.7 percent (of population) in 2002, to 38.5 percent in 2008. Similarly, the poverty headcount ratio at national poverty line went from 28.9 percent in 2002 to 14.5 percent in 2008. The official national unemployment rate in Vietnam has historically been low, rising from 2.3 percent (of the total labour force) in 2000 to 2.4 percent in 2008. Despite the generally positive trends, the informal sector remains quite large at 68.2 percent (of non-agricultural employment) (ILO, 2011). According to the World Development Indicators, the gini coefficient has fluctuated somewhat in the last decade, going from 37.6 in 2002, to 39.2 in 2004, to 37.6 in 2008. These figures mask the high geographic (and ethnic) differences, summarised by Minot et al (2003: 68) and CIE (2002: 11-5):

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60 Average annual GDP growth in Vietnam was 5.4% in 2009 (6.3% in 2008 and 7.5% 1999-2009) (World Bank, 2011).

61 According to the EIU in 2007 (latest figures available), industry accounted for the largest share of GDP at 42.3 percent. The services sector represented about 38.2 percent, and the agricultural sector was 19.5 percent (EIU, 2008).

62 Since the early 2000s, Vietnam’s trade deficit grew steadily from $2.5bn in 2003 to $10.4bn in 2007, when Vietnam acceded to the WTO in January 2007, although the EIU forecasts that the trade deficit will fall to $6.9bn by 2011, but increase to $9.5bn by 2012. In 2009 leading export items were: garments (16 percent of total exports), crude oil (10.9 percent), fisheries (7.5 percent), footwear (7.2 percent), electronics and computers (4.8 percent), rice (4.6 percent), wood products (4.5 percent), and coffee (3 percent) (EIU 2011; 2008; 2005).
Poverty rates are highest in Northeast and Northwest Vietnam, along the border with China and Lao PDR, in the interior of the central coast, and the northern part of the Central Highlands.

Poverty rates are intermediate in the two main deltas - the Red River Delta, and the Mekong Delta.

Poverty rates are lowest in large urban areas, particularly in Hanoi and Ho Chi Minh City, and in the Southeast region.

Urban poverty rates are consistently much lower than rural poverty rates.

Contextualising frozen shrimp in the Vietnamese economy

Since 2000, Vietnam’s fisheries sector has seen a rapid growth in output, rising 64 percent between 2000 and 2006\(^63\) and with shrimp production also growing rapidly\(^64\). This has propelled Vietnam to being the fifth largest producer of fishery products globally behind China, India, Indonesia and the Philippines. In 2006, the fisheries sector accounted for over six percent of total GDP and 19.3 percent of agriculture, fish and forest sector production. It is Vietnam’s third highest exporter in value terms ($3.35bn, 2006) and the EU was its second most important destination (Nguyen and Tran, 2007)\(^65\). In 2006, frozen shrimp and catfish occupied the largest share of fisheries exports, accounting for 44 percent ($1.5bn)\(^66\) and 22 percent ($1.1bn) respectively and the EU was the third most important destination\(^67\).

Production and employment

According to the FAO, 96 percent of all processed aquaculture production is destined for export (FAO, 2005). Fishery and shrimp production is broadly divided into two types: wild catch and aquaculture. In 2006, the former type accounted about 56.4 percent of fish production, but only 22.8 percent of shrimp production. In light of signs of stress due to overexploitation and over-fishing in wild catch fishing areas, aquaculture has experienced significant output gains in recent years, with aquaculture fish production consisting of 43.6 percent of total fish production, and aquaculture shrimp production representing 77.2 percent of total shrimp production.

Not only has the area dedicated to aquaculture increased since 2000, so too has the capital intensity of production, with Vietnam’s shrimp sector shifting from extensive to intensive farming practices, requiring higher levels of investment in capital, labour and management. According to the FAO, industrialisation of the sector has raised the entry barrier for poor producers to be involved directly in shrimp farming as intensive or semi-intensive farming requires a higher degree of financial assets and skills. High land prices in shrimp farming areas are also acting as a significant barrier to entry. (Mai et al., 2010:132-3; Nguyen et al., 2004:54).

\(^63\) Rising from 2,250.5 to 3,695.9 in thousand metric tons (mt)
\(^64\) As a share of total fisheries production in 2006, shrimp production accounted for 12.4 percent in terms of volume. Between 2001 and 2006, shrimp production grew 84.3% from 249.19 to 459.3 thousand mt. (Between 2000 and 2005, FAO estimated an average annual Vietnam shrimp catch of 100,628 tonnes (Gillett, 2008:34).)
\(^65\) The total area of water surface used for aquaculture has also increased dramatically. In 2006 it was 1,050 thousand hectares (ha), up by 64 percent from the 641.0 thousand ha utilised in 2000 (Nguyen and Tran, 2007).
\(^66\) Japan, 25 percent ($843m); EU, 21.6 percent ($724m); USA, 19.8 percent ($664m); South Korea, 6.3 percent ($210m); ASEAN, 4.5 percent ($151m); and China, 4.3 percent ($146m) (Nguyen and Tran, 2007).
\(^67\) In 2006, total shrimp exports amounted to $1.46bn (Nguyen and Tran, 2007).
Employment: According to the FAO, a significant number of people live in Vietnam’s coastal areas, of which 80 percent are believed to be directly or indirectly engaged in fisheries activities. Exact figures are not available, but the Ministry of Fisheries suggests four million people living in or near tidal areas and roughly one million people living in coastal lagoon areas are directly or indirectly engaged in fisheries activities (Nguyen et al., 2004:53-4). The box 3 below highlights some of the opportunities provided by shrimp farming for increased income and employment generation.

**Box 3: The case of Ca Mau province**

The case study of the Ca Mau province in Vietnam provides some insights into the opportunities provided by shrimp farming for increased incomes, employment creation, and reduced poverty. Income from shrimp farming amounts to 25 percent of household income in the province, as compared to only 8 percent from rice farming. In 2002, incomes in Ca Mau were 8.5 percent above the average level for the Mekong Delta region, and 20 percent above the national average. Poverty has decreased; between 2000 and 2004, the number of poor households fell by more than 17,000, and the poverty rate fell from 15.5 percent to 7.8 percent. Moreover, in 2002, the poverty rate among shrimp-farming households was 28.6 percent, compared to 34.7 percent for non-shrimp-farming households. Between 2000 and 2004, the rate of poor households participating in aquaculture increased markedly, from one-half to two-thirds, reflecting perhaps some indication that households perceive shrimp farming as a viable route out of poverty.

The composition of jobs in Ca Mau have altered due to the growth of aquaculture, with jobs in forestry and agriculture falling from 290,000 in 1997 to 194,000 in 2003, while jobs in the aquaculture sector grew from 85,000 to 312,000. Thus, the aquaculture sector not only absorbed all the jobs lost in other sectors, but increased the number of jobs in the labour force. The jobs created were primarily low-skilled jobs across segments of the shrimp production and processing chain and related services, such as working as hired labour (dredging and maintaining ponds), working for seafood processors, running small business such as shrimp-collection services, and running boats. In Ca Mau, there are 25 seafood processing enterprises (21 for shrimp processing) employing 20 000 full-time and seasonal workers, of which 60 percent are women (Mai et al. 2010:131-2, 136).


While engaging in shrimp farming may be a viable path out of poverty, the uneven distribution of gains is nonetheless also contributing to greater inequality in Vietnam. The World Bank estimates that the income from shrimp aquaculture for poor households is one-third that of non-poor households, while poor households also generate a smaller share of their income (44 percent) from shrimp farming than is the case for rich households (68 percent). The primary reason for the income divide relates to the differences in size of landholdings: more than 35 percent of households in the province are landless, while 25 percent hold more than 4.9 acres (Mai et al. 2010:136-7).

The FAO conducted a classification of poverty within the shrimp supply chain based on factors such as land ownership, qualitative self-assessments of well-being made by local people, and monthly income (Nguyen et al. 2004:56-7). Supply chain participants categorised as “extremely poor or poor” were:

- **Shrimp hatchery labourers**: Poorer labourers, including migrant labour. Limited skills. May be employed part-time, depending on seasonal production cycles (less employment opportunities in northern-central coastal areas).
- **Shrimp nursery operators**: Includes some poor people with limited assets with access to small ponds for shrimp nursing.
- **Shrimp farmers – extensive, with limited or no investment**: Includes poorer farmers with limited assets. May be involved through cooperation/equity with wealthier farmers in large extensive ponds.
- **Farm labourers**: Includes extreme poor and poor with limited assets, including women, sometimes landless, employed either on an occasional or seasonal basis.
- **Ex-shrimp farmers**: Poor people (men and women) who invested in shrimp farming, but were unsuccessful and had to sell land due to debt (mainly arising from disease losses).
• **Processing plant workers – women:** Poor women, sometimes migrant workers from rural areas. Includes landless. It is estimated that around 85 percent of processing plant workers are women (FAO, 2005).

• **Processing plant workers – men:** Poor men, sometimes migrant workers from rural areas. Includes landless.

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**Geographic and environmental context of production**

The rapid expansion of shrimp aquaculture has caused significant coastal environmental problems, with the loss of important natural assets such as mangrove forests. Prior to 1943, mangrove forest coverage was around 400,000 ha, which had reduced to 252,500 ha by 1983 due to high rates of population growth, conflict, clearance for rice planting rice and firewood, and the proliferation of coastal shrimp farming. In 2000, the Asian Development Bank estimated that only 110,000 ha of mangrove forest remained, concentrated mostly in the Mekong river delta (191,800 ha) (Nguyen et al., 2004: 53).

Another serious environmental concern is water pollution from intensive shrimp farming areas, with resultant impacts on fresh groundwater supplies in areas with sandy soil, and serious shrimp disease outbreaks related to shrimp viruses and wastewater discharge. It is common for producers to dispose of wastewater in rivers and channels without proper treatment, spreading pollutants to surrounding areas and increasing the risk of an epidemic. It is these stresses on the environment that may ultimately restrict production increases in shrimp. Moreover, Vietnamese fisheries have faced some market access challenges in its top export markets in light of concerns of contamination in the production process and the presence of antibiotic residues (Mai et al., 2010: 138-9; Nguyen et al., 2004; Nguyen and Tran, 2007).

**Government support for shrimp industry**

The development of the fisheries sector has been under the intense focus of the Vietnamese government for more than 10 years, reflecting the importance of the sector to the Vietnamese economy and the government’s hope that expanding the sector would support poverty reduction. This has included support to households to purchase their own fishing boats (the first ‘Fisheries Sector Master Plan’, 1997), which has influenced the shape of the fishing industry, with large numbers of small boats. Later plans have seen a push for expanded production and exports, and the aim to build modern fishery ports. The fisheries sector is also a focus in Vietnam’s Comprehensive Poverty Reduction and Growth Strategy (CPRGS) (2002) which outlined government aims to provide fisher households and communities more access to education, production inputs, information, extension services, credit and consumer markets, and upgraded infrastructure (FAO, 2005).

In relation to food quality and safety, Vietnam has made some progress in implementing sanitary and phytosanitary measures such as Hazard Analysis and Critical Control Point (HACCP) programmes at the farm level to reduce risks of contamination in production processes. Other initiatives include certification and eco-labeling, such as the pilot scheme in southern Vietnam that saw shrimp certified organic fetch a 20 percent market price premium for exports to Germany and Switzerland. However, in both these cases, implementation of quality assurance systems and standards at the farm level requires knowledge, skills, and investment in infrastructure and extension. The poorest

68 Under the 2006-2010 plan, the goal was to raise fisheries production by 3.8 percent annually, while also increasing exports by 10.6 percent a year, to about $4.5bn per year by 2010 (Stanton et al, 2010).

69 The current ‘Master Plan for Development of the Fisheries Sector 2006-2010’ is being updated, but will include plans to construct more modern fishery ports along the coast over the 2010-2020 period.
farmers and household producers, with limited human, social, and financial assets, are likely to find the transition the most difficult (Nguyen et al., 2004:60-1).

Changing the graduation threshold in GSP trade scheme: poverty implications

Drawing on component 2 findings

The component 2 report estimates that the average value (2008-10) of Vietnamese frozen shrimp exports (03061350) to the EU was €115.1m, comprising 7.9% of EU imports of this product. The EU is the third most important shrimp-specific export destination for Vietnam (see ‘contextualising frozen shrimp in Vietnamese economy’ section). The losses to Vietnamese frozen shrimp exports to the EU resulting from the proposed GSP graduation process have been estimated by the component 2 study at €25m. Assuming that Vietnam could no longer maintain its market share of EU frozen shrimp imports, this estimate would imply a 21.7% decrease in EU imports of Vietnamese frozen shrimp. In 2006, total Vietnamese shrimp exports amounted to €1.01bn (US$1.46bn) (Nguyen and Tran, 2007). A €25m loss would constitute a 2.5% decrease in total Vietnamese shrimp exports. This is a moderate decrease.

The unit value of frozen shrimps and prawns has decreased over the period 1997-2010 for all producers of frozen shrimp (03061350) but the market share of Vietnam halved over this period. During the 2001 to 2006 period, however, shrimp production grew 84.3% in Vietnam (see ‘contextualising frozen shrimp in Vietnamese economy’ section).

Given this, how might potential losses from graduation be transmitted through to households?

Impact on households through transmission mechanisms

The estimated loss resulting from Vietnam’s graduation is marginal. We can identify, however, the potential poverty impact of losses to Vietnam’s shrimp exports must be kept in mind.

Employment: Vietnam’s shrimp industry is dominated by small-scale producers. They are less likely to be poor than non-shrimp farmers, as illustrated by the Ca Mau case study, but a fair proportion of shrimp farmers are nevertheless poor. Further, we know that there are certain groups within the supply chain (shrimp hatchery labourers, shrimp farmers with limited assets, farm labourers, processing plant workers) who tend to be extremely poor.

Losses experienced as a result of changing EU GSP thresholds may negatively impact poor people engaged in shrimp production, as these groups of people typically have few or no assets to draw on, leaving them vulnerable to irreversible declines in well-being. Even marginal increases in competition may make it difficult for some farmers to compete – for example, we know that the industrialisation of shrimp production has resulted in entry barriers for poor people (e.g. financial assets, skills).

Access to goods and services: A key input for successful shrimp farmers is access to bank loans. Shrimp producers report that future shrimp harvests are often used as collateral to secure loans; however, the increasing challenges related to shrimp production makes the incurring of debt that much riskier (Mai et al., 2010: 137). Quick or unexpected losses in Vietnam’s shrimp exports could harm those who have incurred debts to fund shrimp farming

Assets: Focus-group discussions with shrimp farmers from Phu Da and Phu Xuyen communes in coastal Thua Thien Hue province reveal some of the issues influencing the accumulation of assets by poor farmers and households (Nguyen et al., 2004: 58). These include: market price fluctuation; the

70 This is at the exchange rate 1 EUR = 1.44274 USD.
inability of shrimp farmers to influence shrimp buyers’ prices; access to investment and credit; government policies around land, credit and taxes; access to supporting services (district extension); and environmental deterioration. Losses experienced through a decrease in export sales are likely to affect the rate by which those involved in the shrimp industry can accumulate assets.

**Poverty effects:** The loss in shrimp exports resulting from Vietnam’s graduation is not large but may still have a poverty effect. We know that many shrimp farmers are small-holders and in one district at least, around a quarter of them are poor. Given their vulnerability, and the vulnerability of others involved in the shrimp value chain, such as shrimp hatchery labourers and female processing plant workers (who are sometimes migrant workers, and sometimes landless), even a marginal change may have a poverty enhancing effect.

**Environmental effects:** The negative environmental impacts shrimp industry in Vietnam – particularly loss of mangroves and water pollution – are significant. It seems unlikely, however, that such a small loss will ameliorate these challenges at any noticeable level.

### 4.3.3. India

<table>
<thead>
<tr>
<th>Key points</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Gains to Indian frozen shrimp exports to the EU resulting from the proposed GSP graduation process have been estimated by the component 2 study at €8.6m. This is potentially a 5.6% increase in EU imports and a 1.2% increase in total frozen shrimp exports.</td>
</tr>
<tr>
<td>• Despite the small increase in shrimp exports to the EU estimated as a result of changes to GSP preferences, it probable that new jobs will be created. These changes may also result in an increase in the incomes of those engaged (directly or indirectly) in shrimp production and exports.</td>
</tr>
<tr>
<td>• In India, shrimp farming is a better income earner for farmers than other forms of agriculture, and therefore increased incomes – if significant enough – could support poverty exit.</td>
</tr>
<tr>
<td>• But shrimp farmers face constraints, in terms of access to information, skills and knowledge, which hampers productivity and the benefits they can gain from increased market access.</td>
</tr>
<tr>
<td>• The benefits derived from a small gain in export trade may be gendered – social and cultural norms prevent women in some places from engaging in and benefiting directly from shrimp farming.</td>
</tr>
<tr>
<td>• The extent to which poorer people will benefit from a small increase in trade will be mediated by existing power structures and imbalances in the Indian shrimp value chain.</td>
</tr>
<tr>
<td>• The environmental impact of a small increase in shrimp exports to the EU is unlikely to be significant. It may, however, exacerbate in a small way existing problems, such as such as water pollution and the salinisation of drinking water wells and paddy fields.</td>
</tr>
</tbody>
</table>

**Overview: economy, society and poverty**

See this sub-section in India leather section (4.2.2.).

**Contextualising frozen shrimp in the Indian economy**

In response to global demand, and as part of India’s program of economic liberalisation in the early 1990s, marine product exports from India have risen substantially, more than tripling in volume
between 1990 and 2003. Export growth was equally dramatic in value terms, from US$498 million in 1990 to US$1,331 million in 2003, with the majority of fisheries products going to various South East Asian markets, Japan and the European Union (25%) (Kumar and Shinoj, 2009). Today, marine product exports account for about 17 percent of India’s total agriculture and good exports, up from 15 per cent in the early 1990s (Chopra et al, 2010), with the fisheries sector growing more rapidly than crop and livestock sectors (Kumar and Shinoj, 2009) Marine products are a large foreign exchange earner for India - constituting around 13 per cent of India’s total agricultural exports (in value terms), and the sector is recognised as a powerful income and employment generator.

India is now the world’s second-largest shrimp exporter (Chopra et al, 2010: 67). Shrimp is a major constituent in the export basket of marine products. Frozen shrimp is a high export earner – and a high proportion of India’s marine product exports (Kumar and Shinoj, 2009). The value of frozen shrimp exports rose between 1995-96 and 2006-07 from 23,568 m rupees to 45,060 m rupees. The export share value of frozen shrimp in total marine products exports declined over this period, from 67.7% to 53.9%, however frozen shrimp remained the highest export earner in terms of marine product exports. The main trade destinations of frozen shrimp are the EU, Japan and the USA (Kumar and Shinoj, 2009).

India’s strategic location in the Indian Ocean, which experiences heavy rain creating both fresh and saltwater bodies suitable for aquaculture production, along with the long coastline, warm climate and relatively low wages, provide enormous resource potential and comparative advantage for the development of aquaculture (Flaherty et al, 2009: 25). Despite this, shrimp productivity in India is much lower than in other major shrimp producing countries, such as Thailand, Malaysia, China and the Philippines and this has implications for India’s exports prospects, as well as for the welfare of shrimp producers (ibid: 26).

Production and employment

There was a significant increase in commercial hatcheries in the early 1990s in India. For example, in the states of Andhra Pradesh and Tamil Nadu, a large number of commercial integrated shrimp farming units with foreign collaboration emerged, adopting ‘scientific’ culture systems with facilities for production of shrimp seed, shrimp feed, and processing. But this trend did not continue for long as the long scale corporate shrimp farms failed to make profits, and consequently, shrimp farming became more or less a small farmer activity72 concentrated at the coasts (Jayaraman 1998; MPEDA 2008 in Umesh et al, 2009).

Shrimp farms are operated using both leased out government/private lands and landowner-operated shrimp farms. A credit system functions throughout the sector, operated and controlled primarily by intermediaries. Intermediaries act as input suppliers and providers of credit at each stage in the supply chain, and are also involved in buying back the harvested shrimp. On average, farmers pay 30% interest on their loans, which negatively affects their profitability (Umesh et al, 2009). The box below outlines the shrimp production process in the Sundarbans in West Bengal.

Box 4: The production process: the case of the Sundarbans, West Bengal

Many people are involved in the shrimp export market. The first step in the production process involves the prawn-seed collectors. In the Sundans, there are no shrimp hatcheries, so aquaculture farms rely on a supply of shrimp lavae, known as prawn seeds, collected from the wild. In response to rapidly growing demand, many poor people have adopted prawn-

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71 Note that the bulk of India’s aquaculture production is constituted by fishes like carps that are consumed locally, whereas high valued species like shrimp and crab are cultured mainly for export purposes (Flaherty et al, 2009: 25).
72 90% of the total area utilised for shrimp culture is on farms of less than 2 ha, 7% of farms are between 2 and 5 ha and the remainder has an area of greater than 5 ha
seed collection as their primary activity. An estimated 150,000 people are involved, including a number of children. These people tend to be the poorest people, with no livelihood alternatives and no land.

Middlemen, known as aratdars, buy prawn seeds from collectors and resell to farmers in the region. In addition, these middlemen often serve as financiers, providing boats and nets to the collectors on the condition that they can buy the catch.

Aquaculture farmers will either own or lease their land. Panchayats, the local level administrative and political units, play an important role in aquaculture activity, from the allocation of land to farmers to the sale of the final product. Farmers pay them license fees, and the panchayat influences the allocation of government assistance and subsidies, often favouring panchayat members and their relatives.

Farms employ two types of workers – temporary low paid construction workers and permanent workers, including maintenance workers, supervisors and security guards. There are an estimated 732,000 shrimp farm workers in the Sundarbans.

Shrimp production involves the use of a variety of inputs – shrimp feed, fertilisers, lime, pesticides, medicines, and equipment for pond treatment and preparation – selling these inputs has become a profitable business for many suppliers in the region.

Source: Chopra et al, 2010: 70.

With the development of shrimp farming, employment opportunities in coastal areas have increased greatly. As Flaherty et al (2009: 84) note from their study of Orissa, the onset of shrimp culture has brought about a change in the occupational patterns of the coastal people. Many have opted to farm shrimp rather than to cultivate paddy or catch fish. The growing demand for shrimp, coupled with the limited livelihood options in coastal areas, has contributed to this occupational shift. In addition, labourers who were mostly migrating to other areas in search of work in the non-agricultural season are now able to get employment in shrimp ponds (Flaherty et al, 2009: 86). Case studies carried out at a sea-based farm in the Nellore District of Andhra Pradesh showed an increase of 2-15 percent employment and 6–22 percent income for farm labourers following the establishment of shrimp farms (CIBA, 1997 in FAO, 2005).

The expansion of the shrimp market in Orissa has also led to the opening up of subsidiary businesses, which further increase employment. For example, businesses dealing with shrimp feeds, medicine, lime, water pumps, nets, etc, have expanded in the area (Flaherty et al, 2009: 87). The FAO (2005) concluded that over 300,000 jobs have been generated in the main and supporting sectors of the shrimp aquaculture sector in rural areas (FAO, 2005).

In the case of Orissa, there are significant increases in household income. For example, respondents from a study on shrimp farming in Orissa found that one shrimp culture is equivalent to the income from seven times rice farming. In this study they found that established shrimp farmers were able to afford luxuries such as a car, television and bicycles. Spending on cinema, opera, marriage and birth ceremonies has also increased as the purchasing power of shrimp farmers has increased. Table 3, below, shows the dramatic increase in household income.

Table 3: Change in household income following adoption of shrimp culture

<table>
<thead>
<tr>
<th>Area</th>
<th>No. of households in sample</th>
<th>Per capita income of the sample households prior to shrimp culture</th>
<th>Per capita income of the sample households after adopting shrimp culture</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dharama</td>
<td>40</td>
<td>68 549</td>
<td>437 473</td>
</tr>
<tr>
<td>Ersama</td>
<td>40</td>
<td>42 815</td>
<td>182 697</td>
</tr>
<tr>
<td>Satapada/Chilika</td>
<td>11</td>
<td>19 363</td>
<td>18 727</td>
</tr>
</tbody>
</table>

Source: Flaherty et al, 2009
Chopra et al (2010: 74-75) find that shrimp farmers are better off than agriculturalists in terms of per capita income. But the security of their income was much lower, due to the frequency of harvest loss. They also found that prawn-seed collectors had higher incomes compared to fishermen. On the downside, they found that the collectors suffered more chronic health problems as a result of their work and often faced conflict over the price of their catch. Unsurprisingly, salary-earning and waged households (basically, the formal sector) had even higher levels of income security and health security, but that prawn-seed collectors lacked the skills, particularly literacy, needed to move into these categories of work.

The Orissa study highlighted that prevailing social and cultural norms prevent the participation of women in shrimp farming. The rural lives of women are dominated by a patriarchal social system, which maintains a rigid division of labour that controls the roles and responsibilities that women can take on. Poor families may allow women to work out of economic necessity, but this does not reflect well on the family (Flaherty et al, 2009:150).

There are factors that are preventing shrimp farmers from reaching their potential, however. A study by Shakir et al (2010: 289) in Kerala found that there were high levels of illiteracy (20%) and primary education (65%) amongst shrimp farmers. Very few had secondary education (15%) or were graduates (10%). The study Flaherty et al (2009: 92) uncovered similar findings: they found that there were low levels of education amongst most shrimp farmers, which had restricted them from taking advantage of the latest techniques in shrimp culture (Flaherty et al, 2009: 92). Umesh et al (2009) argue that small-scale shrimp farmers in India are unorganised and do not have access to technological innovations and new scientific knowledge about shrimp farming. These farmers contribute around 80% to the total shrimp production, but are poorly served. Poor organisation, lack of skills and lack of information make these farmers vulnerable to the numerous risks and hazards that impact their livelihoods, farm productivity, and competitiveness (Umesh et al, 2009).

Geographic and environmental context of production

Shrimp farming is practiced mainly in the coastal states of Andhra Pradesh, West Bengal, Orissa, Karnataka and Tamil Nadu (Flaherty et al, 2009: 26), with around half of the output coming from Andhra Pradesh (FAO, 2005).

As in Vietnam, shrimp aquaculture has been responsible for the degradation of mangroves along India’s East Coast over the last decade (Hein, 2000: 48). Shrimp aquaculture has also contributed to other environmental problems – including water pollution, salinisation of drinking water wells and paddy fields, destruction of fry of wild fish and crustacean species – as well as social conflicts related to land conversion. Indeed, protests from local villages, supported by various social and environmental NGOs, culminated in the 1996 Supreme Court judgement and 1997 Aquaculture Bill which established a regulatory framework for shrimp aquaculture in India.

The inappropriate and excess use of chemicals and fertilisers and the accumulation of excess feed from shrimp farming makes the soil acidic and unsuitable for any further use either for agriculture or other fish culture, at least in the short run. Moreover, the intense use of chemical, fertilisers and antibiotics can trigger disease outbreaks in shrimp ponds, posing a financial risk to shrimp farmers. The extent and nature of the environmental effects depends on the production system adopted for shrimp farming. For example, the low intensity traditional and extensive shrimp farms are likely to cause a greater destruction of mangroves than the semi-intensive shrimp farms because of their greater spread. But high yielding intensive and semi-intensive shrimp farming will lead to greater land degradation and water pollution (Bhattacharya, 2009).
For example, in Orissa, the shrimp industry has taken lands that were used for paddy cultivation – but the seepage of salt water from the shrimp ponds has destroyed neighbouring paddy fields, making the land unproductive. This results in poor landowners with dwindling paddy crops having no choice but to sell their fields at bargain prices to aquaculture owners. Due to the seepage of saline water into aquifers and drinking water tables, drinking water is no longer potable, and villages have to carry barrels of water to meet demands (Flaherty et al, 2009: 91). Conversion of the agricultural lands into shrimp ponds has had significant impacts on crop and livestock production – and in Orissa, the poorest and most vulnerable members of society, especially those that rely on government owned land or common resources, have been particularly profound, with landlessness and indebtedness on the increase (ibid.).

The government has attempted to regulate shrimp farming to limit environmental damage. For example, the Government of India enacted the Coastal Aquaculture Authority (CAA) Act in 2005. The CAA was mandated with enforcing proper regulatory measures in coastal aquaculture in a more sustainable and eco-friendly manner (Umesh et al, 2009).

Potential for exploiting expanded export space

Government support

National and state governments have supported the expansion of shrimp exports. Increasing shrimp exports has been given ‘extreme focus’ status in India’s national plans (Flaherty et al, 2009: 28). States have initiated policies and programmes in support of shrimp farming: for example, in West Bengal, the State Department of Fisheries supports shrimp farming through extension and training services, liberal credits and subsidies for nets and boats, insurance and savings schemes and infrastructure development, such as establishing warehouses, processing units, roads and communications’ (Chopra et al, 2010: 67).

Constraints

A number of related constraints may limit shrimp farmers from exploiting expanded export space, however.

- **Disease:** Following a period of growth, the shrimp industry in India experienced decline in the mid-1990s due to White Spot Disease (WSD). The disease outbreak was largely the result of the coastal states in India being new to commercial-scale shrimp farming – and as a result their farming practices and extension services were inadequate (Ministry of Agriculture, 2002: 1). Antibiotic residue drawn from a consignment sent to Europe, and Japanese buyers’ concerns with muddy and mouldy smells in farmed shrimp, also damaged Indian shrimp exports in the mid-2000s (Flaherty et al, 2009: 29).

- **Food safety and phyto-sanitary standards:** These standards have become more stringent in importing countries over the last decade and Chopra et al (2010: 68) argue in some cases they have functioned as non-tariff barriers for Indian exporters. The cost of compliance ranges between 1 and 5 percent of total production – and an inverse relationship has been observed between the scale of operation and cost of compliance, making it harder for smaller firms to adapt, driving some out of business (ibid.).

- **Inadequate information, knowledge and extension services:** As Shakir et al (2010: 287) note, inadequate management of the shrimp farming industry has resulted in frequent disease outbreaks, forcing farmers to shut down their farms. High labour costs and land tenure issues have also forced some farmers to abandon shrimp ponds. Umesh et al (2009) cite similar evidence. They argue that small shrimp farmers neither have the skills to adopt scientific norms, nor access to useful technical information essential for shrimp farming. The availability of technical personnel in fisheries departments to support the vital extension
functions at the grassroots level are inadequate, resulting in poor transfer of technology, lack of coordination with other departments, and poor research linkages (Umesh et al, 2009).

Changing the graduation threshold in GSP trade scheme: poverty implications

Drawing on component 2 findings

The component 2 report estimated that the average value of India frozen shrimp exports to the EU (03061350) is €152.4m, comprising 10.5% of EU imports of this product. The gains to Indian shrimp exports resulting from the proposed GSP graduation process have been estimated by the component 2 study at €8.6m. This is potentially a 5.6% increase in EU imports. In 2006-07, total frozen shrimp exports amounted to 45 billion rupees (approximately €679m). A €8.6m gain would constitute a 1.2% increase in total frozen shrimp exports. This is relatively small increase.

Given this, and the literature reviewed above, how might potential gains from the graduation of competitors be transmitted through to households?

Impact on households through transmission mechanisms

Employment: Despite the small increase in shrimp exports to the EU estimated as a result of changes to GSP preferences, it probable that new jobs will be created. It may also drive up incomes of those engaged directly or indirectly in the shrimp industry. As the analysis above suggests, there is evidence that shrimp farming is a better income earner for farmers than other forms of agriculture, and therefore increased incomes could in a small way support poverty exit. However, this may be partially offset by the increased poverty of those households negatively affected by the environmental consequences of their neighbours’ shrimp enterprises. Also, shrimp productivity is lower in India than in competing countries (for example, Thailand), which may limit the expansion of shrimp exports to the EU and related employment increases. Further, shrimp farmers face constraints, in terms of access to information, skills and knowledge, which hampers productivity the benefits they can gain from increased market access. Finally, the benefits derived from a small diversion in trade may be gendered – evidence from Orissa at least highlights that social and cultural norms prevent women from engaging in and benefiting directly from shrimp farming.

Authority: The extent to which poorer people – such as labourers and small scale farmers – will benefit from a small increase in trade will be mediated by existing power structures and imbalanced in the Indian shrimp value chain. Evidence suggests that middlemen facilitate and benefit from inputs supply to shrimp farmers – and any benefits from increased shrimp production may not be passed on fully to farmers or labourers. Panchayats, or local level administrative and political units, may also try to capture whatever gains they can from increased exports.

Poverty effects: The majority of shrimp farmers in India are smallholder farmers. A small increase in frozen shrimp exports may benefit them by increasing their incomes.

Environmental effects: The environmental impact of a small increase in shrimp exports to the EU is unlikely to be very significant. It may, however, exacerbate existing problems, such as such as water pollution and the salinisation of drinking water wells and paddy fields.

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73 This is at the exchange rate 1 EUR = 1.44274 USD.
4.3.4. Bangladesh

<table>
<thead>
<tr>
<th>Key points</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gains to Bangladeshi frozen shrimp exports to the EU resulting from the proposed GSP graduation process have been estimated by the component 2 study at €6.8m. This is potentially a 5.7% increase in EU imports and a 2.9% increase in total frozen shrimp exports.</strong></td>
</tr>
<tr>
<td>In the case of Bangladesh, the estimated changes resulting from changing the EU’s GSP graduation threshold are small – though more significant than for India.</td>
</tr>
<tr>
<td>The <strong>EU is the biggest export market for shrimp for Bangladesh.</strong></td>
</tr>
<tr>
<td>Increased exports of shrimp may <strong>increase employment opportunities for shrimp farmers and labourers, as well as those involved in associated businesses, such as input selling.</strong></td>
</tr>
<tr>
<td><strong>Labour conditions in the shrimp industry in Bangladesh are poor</strong>, and increases in exports may expose workers to more unpaid overtime and result in no or only marginal improvement in their terms of employment. <strong>Women and children are particularly vulnerable to exploitation and low health and safety standards.</strong></td>
</tr>
<tr>
<td>If shrimp production and exports increase, there will be <strong>negative environmental impacts, through water pollution and soil infertility.</strong> This has <strong>negative implications for traditional livelihood activities such as cattle grazing and poultry keeping.</strong> Water pollution is also documented to have negative health effects, through water-borne diseases.</td>
</tr>
</tbody>
</table>

**Overview: economy, society and poverty**

See this sub-section in Bangladesh leather section (4.2.3.).

**Contextualising frozen shrimp in the Bangladeshi**

The fisheries sector has played an important role as one of the highest earning and fastest growing sources of non-traditional exports in Bangladesh. According to the FAO, the share of output from the fisheries sector rose to a peak of about six percent of GDP in 2000, before levelling out to just over five percent of GDP in 2002, a level similar to that achieved in the early 1990s. In terms of export earnings, the proportion of derived from the fisheries sector has declined from 6.9 percent in 1991, to 4.76 percent in 2002, to 2.7 percent in 2010 (FAO, 2007; Khatun, 2004). In 2010, total fisheries exports amounted to $437m.  

Shrimp (especially the tiger shrimp, locally called *bagda* shrimp, and fresh water shrimp, locally called *galda*) plays a central role in overall fisheries exports, comprising a high, but decreasing, share of the sectoral total: shrimp exports comprised 85 percent of overall fisheries exports in 1993, 90 percent in 2003, and then fell to 75 percent in 2010. As a share of total exports, shrimp exports have gradually diminished over time: from a peak of 7.8 percent in 1994, to 4.5 percent in 2003, and 2.0 percent in 2010. In 2010, total frozen and unfrozen shrimp exports were valued at $343m, ranking as the second top export behind only textiles and apparel (at the HS2 level). As a share of all agriculture-based exports (HS1-24), frozen shrimp accounted for 47 percent in 2010. As a share of GDP, output from the shrimp sector was estimated at 0.36 percent in 1993, and 0.48 percent in 2010.  

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74 Export figures sourced from the Bangladesh Shrimp and Fish Foundation, see reference section.
2003. Export tonnage of frozen Bangladesh shrimp was 20m kg in 1998, rising to 39m kg in 2010 (FAO, 2007; Khatun, 2004).

About a third of domestic shrimp production is sent to export markets. The EU, the US and Japan are the major destination for Bangladesh shrimp, accounting for more than 95 percent of these exports. In 2003, the EU took 52.1 percent of these exports, the US took 38.6 percent, and Japan accounted for another 4.5 percent (WTO, 2006; Khatun, 2004). Thus, the EU continues to act as a sizeable export market for shrimp from Bangladesh.

Production and employment

In the 1990s, the total area under shrimp cultivation increased by three fold. According to a 2004 FAO report, total area for shrimp cultivation was 141,353 hectares, roughly one percent of total land area in Bangladesh. In 2005-2006, total shrimp area for cultivation was 218,000 hectares. In general, the production method of shrimp cultivation used in Bangladesh is extensive (rather than intensive) with low inputs, little or no nutritional inputs, accompanied by little or no mechanisation (FAO, 2007; Khatun, 2004).

There are generally three types of fisheries in Bangladesh: inland capture, inland culture and marine capture. The inland (capture and culture) fisheries provide the bulk (78%) of fish to total domestic production, with slightly less than half of this coming from capture (Khatun, 2004).

Employment figures vary, but inland fisheries appear to be made up of small-scale fishing communities, with inland capture fisheries providing employment for approximately 770,000 Bangladeshis (no estimate available for inland culture fisheries) (FAO, 2007). It is estimated that the marine capture fisheries employs over 167,000 fishermen and support staff, with an additional 185,000 engaged in part-time shrimp fry collection activities. A 2004 FAO report suggests that about 2 million people are employed in the upstream and downstream fisheries sectors on a full-time basis, representing about seven percent of total employment in Bangladesh at the time (FAO, 2007; Khatun, 2004).

Shrimp processing factories incorporate cleaning, washing, processing and freezing facilities. They tend to function with excess capacity, using less than 50 percent of their capacity (according to a 2004 FAO report), with most firms operating at only 13 percent.

Gammage et al (2005) outline the supply chain of shrimp production in Bangladesh. The supply chain comprises multiple actors:

- **Shrimp fry collectors** catch the fry and then the fry is transferred to the villages. Women and child workers sort and count the catches.
- **Hatcheries** are also part of the supply chain of shrimp production. Hatcheries produce shrimp from mother shrimp. Hatcheries get the mother shrimp either from farmers or fishermen.
- **Fry faria** purchase the fry from fry catchers or from hatcheries. During the off-season, they are often faced with financial difficulties (Gammage et al 2005). They often lend money from fry aratdar ‘which locks them into a contract to sell all fry to the lender’ (Gammage et al 2005).
- **Fry aratdar** also purchases the fry from the hatcheries.
- **Commission agents** receive the fry from the fry aratdar and sell the fry to the farmers. Shrimp commission agents especially trade with exporters and processors. They obtain significant rents through their manipulation of shrimp prices.
There were 130 shrimp processing plants in Bangladesh in 2005. In addition, there are shrimp retailers who sell shrimp for local consumption to the hotels, restaurants, supermarkets, etc. (In 2004, there were 128 shrimp processing plants of which 61 were licensed to export, and 44 had permission to export to the EU (Khatun, 2004)).

Shrimp nurseries also play a part in the supply chain of shrimp production. Nurseries adapt the fry to the production environment.

The FAO’s domestic supply chain analysis conducted a ranking exercise to assess the ‘poverty situation’ of different stakeholders and actors in the value chain (Khatun, 2004). The report identified fry collectors, hatchery workers, depot workers and processing plant workers as the most vulnerable in the production chain, in terms of their lack of land ownership, their low daily calorie per capita intake and their low income levels. As such, these groups have few productive assets and limited capabilities, are involved in irregular occupation and rely on subsistence living with no savings. Other vulnerable groups include fishing crews of small mechanised boats, artisanal fisherman with non-mechanised boats, and ice van operators (Khatun, 2004; USAID, 2006). According to USAID, 40 percent of all fry catchers and 62 percent of processing factory workers are women and girls. In shrimp farming, 73 percent of women work in casual or temporary employment, while in processing industry 92 percent of women are employed under atypical contracts (USAID, 2009). Fry collectors and small farmers are mostly dependent on larger buyers and in many cases they are locked into contracts where they are obliged to sell their product to particular purchasers (Gammage et al 2005: 30). Workers in the shrimp industry typically work 12 hours per day, and many are forced to work unpaid overtime. According to the Solidarity Center (2008: 26-28), they had very low levels of social protection, such as healthcare, childcare, and poor levels of safety. High levels of child labour are the result of a lack of child care options – women have no choice but to take their children to the workplace.

Geographic and environmental context of production

Main shrimp cultivation areas are found in the coastal districts of Chittagong, Khulna, Bagerhat and Shatkhira. All these districts were found to have experienced high GDP growth between 1995-96 and 2005-06, and Chittagong District has one of the lowest incidences of poverty (at 35 per cent) (Deb et al, 2008: 3).

As in other countries, the Bangladeshi shrimp industry has adverse effects on the environment and on health. Shrimp cultivation increases salinity, which significantly decreases soil fertility. It also damages communal forests, mangroves and coastal vegetation (Battacharya et al, 1999: xvii; Paul and Vogl, 2011). As shrimp cultivation promotes water pollution, it increases the possibility of the emergence of water-related mortality – especially premature deaths through diarrhoea and dysentery (Battacharya et al, 1999: xviii).

Potential for exploiting expanded export space

Export support

The Government of Bangladesh (GoB) has provided direct subsidies in the form of cash incentives linked to local-content requirements and the promotion of export diversification that cover the costs of handling, processing, upgrading, and freight charges and/or in lieu of duty drawback and bonded warehouse facilities. Implemented in 2002, the scheme provides a cash incentive of 10 percent (of export value) for exports of frozen shrimp and other fish. In 2004-05 the government’s total outlay on cash incentive subsidies was Tk 7.5bn mainly for local fabrics (56 percent), frozen shrimp (23

percent), and jute products (13 percent). Unfrozen and unprocessed prawns and shrimps were also subject to an export restriction under Bangladesh’s Export Policy 2003-2006. Other forms of public support to agriculture relate to research, agricultural extension, pest and disease control measures, training, marketing services, and various infrastructural services (WTO 2006).

The GoB also grants domestic support through agricultural credits at concessionary rates provided by nationalised commercial banks or specialised banks. Total domestic support in 2003-04 amounted to $142.3m, mostly in support of wheat and rice. Some support measures are targeted at poor and marginal farmers, but the dollar amounts are minimal. For instance, investment subsidies to poor and marginal farmers (including fisheries and livestock sub-sectors) composed of credit facilities at concessional rates of 1.5 percent per annum amounted to $90,000 in 2004-04. During that year, marginal farmers also received a 2 percent interest rebate for timely loan repayment that totalled $30,000 (WTO 2006).

In addition to the 1998 National Fisheries Policy (NFP), which supported increased production and self-employment through the provision of inputs (for example, credit and fertiliser) and emphasised the importance of ecological balance and bio-diversity, a shrimp-specific policy has also been developed to address a wide-range of industry-specific issues such as production techniques, skill training, quality control and hygiene, ecological balance, infrastructure and marketing (Khatun 2004).

To reduce production costs in light of regional competition, support to domestic production was bolstered through subsidizing agricultural inputs such as seeds, fertiliser, irrigation, capital, and electricity, in addition to direct subsidy measures and government procurement practices. Reports note that improvements have been made to the accessibility of key inputs and services, but significant problems remain (WTO 2006; Hossain 2010).

Infrastructure
While port efficiency has improved in recent years, with vessel turn-around times at Chittagong falling from 6.5 days in 1998-99 to 4.2 days in 2004-05, congestion, inefficient management practices, slow customs procedures and cargo handling, labour unrest and high official costs continue to heighten transaction costs that undermine the economy’s productivity, competitiveness and international trading links. Moreover, the lack of a linked transport system, inadequate dredging, the lack of skilled manpower and appropriate planning for upgrading have led to under-utilisation of seaports (WTO, 2006; EIU, 2008; EIU, 2003).

The provision of electricity remains a key bottleneck for economic growth and development. According to the WTO, the country’s installed power generation capacity of 5,025 MW (2004-05) was greater than peak demand of 4,308 MW, but actual generation was about 3,800 MW. As such, demand remains unsatisfied by supply despite the presence of new generating stations by independent power products and the rehabilitation of some existing facilities. Power generation is constrained by serious financial constraints (affecting maintenance of old units), high system loss, and low efficiency (WTO 2006).

Changing the graduation threshold in GSP trade scheme: poverty implications

Drawing on component 2 findings

The component 2 report estimates that the average value (2008-10) of Bangladeshi frozen shrimp exports (03061350) to the EU was €119.3m, comprising 8.2% of EU imports of this product. The gains to Bangladeshi frozen shrimp exports to the EU resulting from the proposed GSP graduation
process have been estimated by the component 2 study at €6.8m. This estimate would imply a 5.7% increase in EU imports of Bangladeshi frozen shrimp. In 2010, Bangladeshi frozen and unfrozen shrimp exports were estimated to be €237.7m (US$343m) (see ‘contextualising shrimp in Bangladeshi economy’ sub-section). Assuming that the potential increase in export space to the EU is not filled by trade diversion, a €6.8m gain in frozen shrimp exports would constitute a 2.9% increase in total Bangladeshi frozen and unfrozen shrimp exports. This is a moderate increase.

**Impact on households through transmission mechanisms**

**Prices:** Fish and fish products such as shrimp are central to food security in Bangladesh. According to CGIAR (1998 in Gammage, 2005: 6), almost three quarter of the animal protein intake comes from fish products in Bangladesh. Although the Bangladeshi shrimp cultivation sector has grown rapidly, the global market for seafood products is still dominated by Thailand, Indonesia, China, and Ecuador. All these countries have increased their value added production in their exports through innovations in production and processing seafood, while the Bangladeshi fishing sector has lagged behind in these developments (Gammage et al, 2005: 1). The price implication of this is that rather than an increase in shrimp production, shrimp will be diverted from domestic to export markets, which may result in increased domestic shrimp prices.

**Employment:** Increased exports of shrimp would have mixed employment results. First, according to Solidarity Center (2008), workers in the shrimp industry are exposed to overtime and unpaid work. The industry may force workers to work overtime instead of hiring new workers. Also, the industry contains a high percentage of undocumented workers, making it difficult to assess the likely impact of GSP on employment. Even if the employment increases, the labour standards would continue to be very low due to the existence of “widespread informalisation of the industry”, “exploitation of female workers”, “persistence of child labour”, and low health and safety standards (Solidarity Center, 2008: 27).

**Taxes and transfers:** Due to the high percentage of unregistered farms and processing plants, it is difficult to estimate whether any increase in the volume of exports would increase taxes (Solidarity Center, 2008: 25).

**Poverty and well-being effects:** The increase in export space may have a significant poverty reduction effect given the role of the EU as Bangladesh’s biggest export market for shrimp. Yet, the existence of overtime and unpaid work practices, and the widespread informalisation in the industry may hamper poverty reduction.

**Environmental effects:** If shrimp production and exports increase, there will be negative environmental impacts, through water pollution, for example. Shrimp production decreases soil fertility, which in turn causes serious damage to traditional livelihood activities such as cattle grazing and poultry keeping (Battacharya et al, 1999: xvii). There are also health impacts of water pollution resulting from shrimp production – with an increase in water-borne diseases documented.

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76 This is at the exchange rate 1 EUR = 1.44274 USD.
4.3.5. Madagascar

Key points

- Gains to Malagasy frozen shrimp exports to the EU resulting from the proposed GSP graduation process have been estimated by the component 2 study at €4.2m. This is potentially a 5.7% increase in EU imports and a 4.7% increase in total frozen shrimp exports. This is a considerable increase.

- An increase of this magnitude should lead to employment creation.

- Job creation in Madagascar will be channelled through the medium and large size firms that dominate industrial shrimp fisheries.

- The increase in frozen shrimp exports could increase the number of hours children work in shrimp fishing.

- Shrimp is a highly valuable export for Madagascar – second only to apparel exports – so even a small increase in export earnings should have a positive effect.

- Shrimp exports are an important source of revenue for the government – through license fees and taxes. These gains may be transmitted through to households through economic and social investments and/or transfers.

- While concerns have been raised about the sustainability of industrial shrimp fishing, the Government of Madagascar has taken a number of steps to manage the environmental impact of shrimp trawling (e.g. eco-certification and supporting environmental protection measures). A 4.7% increase in shrimp exports may intensify these environmental problems, however.

- The need for Madagascar to compete on a price basis may reduce these potential gains. Infrastructure challenges (in roads and power, for example), as well as rising fuel prices, may also limit the extent to which producers, workers and exporters can exploit increased EU export market opportunities.

Overview: economy, society and poverty

The GDP (current US$) of Madagascar was $9.22 billion in 2009 and grew at a rate (annual %) of 1.6% in 2010, -4.6% in 2009, 7.1% in 2008, and 6.2% in 2007. The economy was in contraction from 2009 until the beginning of 2010, because of fallout from a domestic political crisis combined with the impact of the financial crisis on export activities. Inflation was 9.0% in 2009 (World Bank, 2011).

Estimates for 2010 indicate that agriculture represented 26.5% of GDP, industry 16.7%, and services 56.8% (CIA, 2011). Exports of goods and services (% GDP) comprised 28% in 2009, while imports of goods and services were 52%. Top exports include textiles/garments, shellfish, petroleum oils, vanilla, cloves, prepared or preserved fish, coffee, and chromite. Traditional crops of coffee, vanilla, cloves, and pepper continue to represent the main portion of agricultural exports, but seafood exports, especially prawns, continue to grow. The country is rich in minerals and manufacturing is of growing importance, with textiles/garments manufacture growing as a result of economic liberalisation and establishment of a free zone (BFCO, 2011; UNData, 2011).

Roughly 86% of the population has some form of employment, an increase of 3.3% since 2001. The urban employment rate has increased over the past years, but remains lower than the rural rate. Employment growth has been driven by greater participation of women, who make up half of the workforce. The primary sector comprises 88% of rural employment, and 45% of urban employment. The informal sector dominates employment, with most workers having no formal education.
Agricultural jobs are the lowest paying, while non-agricultural, formal sector jobs are the highest paying (Stifel et al, 2007).

Madagascar is a Least Developed Country (LDC). Gross national income per capita (current US$) in Madagascar was: $484.3 in 2008, up from $235.2 in 2000 (UNData, 2011). Of the total population, 69% live below $1.25/day (2005)\(^{77}\) (World Bank, 2011). Roughly 76.7% of the rural population, and 52.1% of the urban population, are poor. Toliara province in the south-west has the highest poverty incidence. The majority of rural poor live in the three most densely populated provinces of Antananarivo, Fianarantsoa, and Toamasina (IFAD, n.d.).

The languages spoken in the country are French (official), Malagasy (official), and English. Indigenous beliefs are practiced by 52% of the population, Christianity by 41%, and Islam by 7%. Ethnic groups include: Malayo-Indonesian (Merina and related Betsileo), Cotiers (mixed African, Malayo-Indonesian, and Arab ancestry – Betsimisaraka, Tsimihety, Antaisaka, Sakalava), French, Indian, Creole, Comoran (CIA, 2011). Some tensions exist between coastal peoples (known as “cotiers”) and Merina from the highlands. Former President Marc Ravalomanana and Prime Minister Charles Babemananjara were both from the highlands, causing some coastal peoples to feel as though political power was stacked against them. The Merina/Cotier divide can be understood in the context of the historical domination of the Merina Empire.

High adult illiteracy, low school enrolment, low life expectancy, a lack of basic infrastructure (such as sanitation and drinking water), as well as economic deprivation, have been identified by the Government of Madagascar as the major drivers of poverty (Republic of Madagascar, 2000: 1). CARE builds on this, citing social exclusion, poor governance and gender inequality as key contributors to poverty (CARE, nd). The rapid population growth in the country hampers poverty reduction. Since most workers are poor, creating good jobs is more important than simply creating more jobs (in Madagascar, good jobs are those in the formal sector, and access to good jobs depends on education levels) (Stifel et al, 2007).

Fluctuations in food prices put Madagascar in a vulnerable position because it imports a significant proportion of its food. Rising oil prices also harm the economy – the country produces no oil – by increasing transportation costs. A high percentage of exports compared to overall GDP means that the country is susceptible to external shocks. This is particularly the case given that its main exports are in internationally competitive sectors (e.g. textile/garments, vanilla, coffee). The 2008-2009 financial crisis was anticipated to have little effect on the banking sector because of minimal international integration. The financial crisis, however, did affect export-oriented sectors, particularly textiles, shrimp, and tourism. Agriculture and mining were not affected in 2009 because of previous investments, good weather, and the start of some major mining operations, however, agriculture in 2010 was not expected to do as well as 2009 because of lower investment and fewer inputs (World Bank, 2010). Estimates indicated that the oil and food price shocks of 2008 would lead to a deterioration of the balance of payments at a rate of 3.1% and 0.7% of GDP respectively. The rise in oil prices was expected to reduce GDP growth by 0.3% in 2008 (IMF, 2008).

**Contextualising shrimp in the Malagasy economy**

The shrimp sub-sector – captured and farmed – is Madagascar’s most valuable fishery export, and a highly important source of domestic employment. In terms of foreign earnings, shrimp exports are second only to apparel exports. Between 2000 and 2006, the average contribution of frozen shrimp exports to GDP was 2.23 percent, reaching a peak of 2.45 percent in 2003, before falling back to 2.32

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\(^{77}\) Poverty figures have fluctuated in recent years: 68.7% (2005), 72.1% (2004), 80.7% (2002), 69.6% (2001), and 71.3% (1999) (World Bank, 2011).
percent in 2006. Over this period, the share of frozen shrimp exports in total exports fluctuated but held steady at 13.6 percent in 2000 and 13.7 percent in 2006. Frozen shrimp account for a growing share of Malagasy agriculture-based exports (which accounted for 39 percent of total exports in 2006), rising from 32.7 percent in 2000 to 35.0 percent in 2006. In 2006, frozen shrimp exports totalled $128 million in value (WTO, 2008; EIU, 2005; 2007; 2011).

In recent years, annual shrimp production has been between 10,000 and 13,000 tonnes, with about two-thirds of shrimp catches linked to the export-oriented industrial trawl fleet. Industrial shrimp exports are dominated by whole shrimp (66 percent), mostly sold to Europe, and headless shrimp (29 percent), mostly sold to Japan. A small portion of shrimp exports are sold to neighbouring countries such as Mauritius and Reunion. The quality of Malagasy shrimp fetches a higher price in Europe than shrimp products from Asia or Latin America – indeed, Malagasy shrimp exports have developed on the basis of targeting a higher value niche within the EUs shrimp market (Peterson, 2007). The component 2 report estimated that the average value of Malagasy frozen shrimp exports to the EU (03061350) is € 74.3 million, comprising 5.1% of EU imports of this product. Shrimp catches from traditional fishing (individual/group with non-motorised vessels or by foot in very limited fishing areas), totalled 3,450 tonnes in 2004 and is aimed primarily at supplying the domestic market (Gillett, 2008; FAO, 2008).

Production and employment

There are three categories of coastal shrimp fishery: industrial (68.6 percent of catches during 2000-04 period), traditional (27.3 percent during 2000-04 period), and artisanal (4.1 percent during 2000-04 period). According to the World Bank, the shrimp industry in Madagascar directly employs 62,000 people and an additional 200,000 people indirectly benefit from the industry (World Bank, 2008: 99) (the estimated population of Madagascar is almost 22 million (CIA, 2011)). All industrial shrimp fishing fleets in Madagascar are local companies relying on significant amounts of foreign capital (Gillett, 2008).

Industrial: Roughly two-thirds of shrimp production in coastal fisheries is controlled by industrial freezer trawlers, and annual shrimp trawler production is relatively higher in Madagascar compared to other countries. But the average catch size, and the catch of shrimp per hour, has fallen over time (for example, the catch of shrimp per hour of trawling has fallen from more than 40 kg in the 1960s, to 30-35 kg in the 1980s, to 20-30 kg over 2000-2004). These trends have led to sustainability concerns over the high-level of exploitation of this natural resource (Gillett, 2008; FAO, 2008; Fennessy et al 2003). Industrial shrimp fisheries are dominated by medium and large size firms (World Bank, 2008: 100-101).

Artisanal: Artisanal shrimp fishermen use ‘mini-trawlers’ with small engines, operating mainly on the west coast at depths of 10 metres, only during the day, and often very close to coastal estuary and mangrove areas. The mini-trawler design was originally introduced under an FAO programme to assist artisanal fishing through motorisation and facilitate entry into the modern fishing sector. Ultimately, however, the mini-trawlers have been taken over by the owners of the industrial shrimp trawling vessels (Gillett, 2008). There are approximately 6,000 artisanal fishermen (World Bank, 2008: 100).

Traditional: Over the last 25 years, production from the traditional shrimp fishery has increased by 400 percent, from 800 tonnes in the late 1970s to about 3,500 tonnes by 2004. Unlike in the industrial and artisanal operations, traditional shrimp fisheries are not subject to a legal framework.

78 In its 2008 country profile of Madagascar, the FAO notes that the capture and aquaculture fisheries (not just shrimp) contributed 7 percent of domestic GDP (FAO, 2008b).
of shrimp fishing licenses, which has led to a rapid and uncontrolled expansion of this category of operators. Thus, while the number of operational industrial trawlers has declined, traditional shrimp fishers have increased (Gillett, 2008). In traditional fishing, there is no motorised equipment. Instead, pirogues and other craft using nets are used. The catches are sold immediately to middlemen (their number is approximately 400) as there is no cold storage of catches on board. These catches are later sold in local markets unlike the catches of industrial/artisinal shrimp fisheries which export almost all of their shrimp. Many women work in the traditional shrimp fishing sector (World Bank, 2008: 100).

Industrial and artisanal shrimp farmers are organised under the Madagascar Shrimp Fishers and Farmers Cooperative (GAPCM). Traditional shrimp farmers are not organised. For political and social reasons, the government has tended to protect the interests of traditional shrimp farmers (FAO, 2008c: 229).

According to the ILO, 28% of children between the ages of 5 and 17 actively work. Children mainly work in the agricultural and fishing sectors (ILO, 2008). There is not any available data for the number of child workers in the shrimp industry.

**Geographic and environmental impact of production**

Shrimp fishing takes place in all of Madagascar’s coastal areas and the surrounding deep seas. In parallel to growing concern surrounding the environmental impact of shrimp trawling, eco-certification was introduced by the Marine Stewardship Council (MSC) in Madagascar in 2003. This certification aims to protect the environment and natural resources by informing consumers about whether the ‘fishery products have been produced from well-managed fisheries’ (FAO, 2008: 229). Recent initiatives such as the establishment of a ‘Temporary Commission of the Users of the Port of Mahajanga’ and the implementation of the project ‘Zone d’Aménagement Concerté’ focuses on establishing more effective monitoring systems in shrimp fishing zones, rehabilitating the infrastructure of some ports and supporting environmental protection measures (World Bank, 2008: 102).

**Potential for exploiting expanded export space**

**Infrastructure**

The government’s ‘Madagascar Action Plan’ (MAP) sets out the country’s economic and social development strategy for the period 2007-11, and envisages a ‘sustainable green revolution’ and the establishment of agri-business centres to provide training and other inputs such as irrigation, seeds, fertiliser and storage, and instructions on their usage. To complement MAP, a transport policy has been developed to integrate isolated production zones and support entrepreneurship.

But serious bottlenecks remain. For example, the country’s national road network covers 50,000 km, of which only 8,000 are considered in fair condition, thus representing a significant impediment to Madagascar’s economic development by adding to costs and time in getting product to market. In 2002-06, a total of 3,600 km of motorways and 4,000 km of roads were rehabilitated, reducing the percentage of rural communities not connected to the road network from 59 percent to 33 percent. Nonetheless, only around 600 out of 1,557 rural communities have access to regular transport links (EIU, 2008; WTO, 2008).

In terms of national electricity generation, the total installed capacity was 233 MW in 2008, comprised of the Antananarivo and Fianarantsoa interconnected networks and independent centres. The Antananarivo interconnected network, with a peak of 111 MW in 2000, has reached the extent
of its capacity. As electricity supply cannot meet demand, the rate of electrification is low. In rural areas, less than two percent of the population has access to electricity and reliable access to electricity is perceived to be an urban privilege. Infrastructure is insufficient and a large proportion of generation and distribution facilities are obsolete (WTO, 2008; EIU, 2008).

Fuel is an important energy input in Madagascar’s shrimp export sector. Trawling, used in both industrial and artisanal shrimp fishing, requires high fuel consumption. In 2001, the cost of fuel for the industrial shrimp fishery was 24 percent of ‘all intermediate expenses’ and was 21 percent for the artisanal fishery. By taking some steps, government has decreased the fuel costs to 20 percent (FAO, 2008b: 228).

**Export support**

Shrimp exporters approved for the Industrial Free Zone (ZFI) regime are granted various tax advantages, as long as 95 percent of their output, in value terms, is exported. According to the WTO, about 202 ZFI companies were active in 2006, employing roughly 116,000 people. ZFI exports totalled around $300m special drawing rights (SDR) in 2006, equivalent to 56 percent of the total for that year, with textiles and clothing exports accounting for 70 percent, and shrimps and crustaceans for 15 percent (WTO, 2008). According to the EIU, ZFI export goods led all other exports in 2009 with $551m; cloves and clove oil placed second at $59m (EIU, 2011).

Together with mining and tourism, the fisheries and aquaculture sub-sectors are seen as one of the three major activities to boost the medium-term economic development of Madagascar. The fisheries sub-sector enjoys comparatively higher tariff protection vis-à-vis the global average (18.8 percent vs. 13 percent) (WTO, 2008).

**International health and hygiene standards**

The shrimp industry in Madagascar meets international standards for health and hygiene. The Malagasy government has developed policies to attempt to sustain the wild shrimp resource, reduce environmental risks, and to achieve certain quality and standards. For instance, since 1996 the government made considerable investment into the control of quality standards. In 1997, the government initiated Madagascar’s National Shrimp Research Programme (PNRC), with a budget of €3.8 million, which focused on the socio-economic and biological concerns related to shrimp production (FAO, 2008b: 126).

Currently, Malagasy quality standards in the industrial shrimp fishery- are much higher than those of the European Union, which supports export. But these standards do not exist in artisanal and traditional shrimp fishery industries. This partially explains the pattern by which artisanal and traditional shrimp industries sell their catches onto local and other markets (Mauritius, and South Africa), while industrial shrimp exports focus on the EU market (World Bank, 2008: 102).

**Changing the graduation threshold in GSP trade scheme: poverty implications**

**Drawing on component 2 findings**

The component 2 report estimates that the average value (2008-10) of Malagasy frozen shrimp exports (03061350) to the EU was €74.3m, comprising 5.1% of EU imports of this product. The gains to Malagasy frozen shrimp exports to the EU resulting from the proposed GSP graduation process have been estimated by the component 2 study at €4.2m. This estimate would imply a 5.7% increase in EU imports of Malagasy frozen shrimp. In 2006, total Malagasy frozen shrimp exports amounted to €88.7m (US$128m) (see ‘contextualising shrimp in Malagasy economy’ sub-section). Assumes

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79 This is at the exchange rate 1 EUR = 1.44274 USD.
that the potential increase in export space to the EU is not filled by trade diversion, a €4.2m gain would constitute a 4.7% increase in total Malagasy frozen shrimp exports. This is a considerable increase.

Madagascar does face infrastructure challenges which may constrain increased shrimp exports (e.g. inadequate electricity, poor roads). Rising fuel prices may also limit the benefit that producers and exporters derive from increased exports. But the Government of Madagascar does have in place a policy framework that should support shrimp exporters to capture gains from the graduation of competing countries. For example, the sector enjoys relatively high levels of tariff protection and support through Madagascar’s Industrial Free Zone. Health and hygiene standards in shrimp production are high and facilitate access to EU markets; this is an area where Madagascar has an advantage over its competitors.

Given this, how might potential gains from the graduation of competitors be transmitted through to households?

*Impact on households through transmission mechanisms*

*Prices:* In terms of prices for producers, it is difficult to estimate how this increased export space may affect price. Indeed, the component 2 report highlighted that Madagascar’s market share of EU shrimp imports has declined, with Vietnam, Argentina and Bangladesh increasing their shares. The graduation process is likely to help Madagascar resist price pressure from Argentina and Vietnam (both of whom are likely to graduate) but not against Bangladesh, where competition is likely to be based on quality. This suggests that graduation may slow down the decline in Malagasy exports but this is unlikely to be turned into an increase unless Madagascar can begin to compete on price and this would pose challenges, particularly with increasing and volatile fuel prices.

In terms of prices for domestic consumers, given the segmented nature of the market – with catches from industrial and artisanal shrimp fishing sub-sectors mostly exported, and the catches from the traditional shrimp fishing sub-sector consumed locally – it is unlikely that prices for domestic consumers will be affected. On the macroeconomic front, since 2005 the exchange rate of the Ariary has been stable. Inflation has been relatively high, however, which may challenge the competitiveness of the sector in terms of input costs.

*Employment:* Employment generation will be a key transmission channel from potential increased exports of frozen shrimp to the EU. Shrimp exported to the EU from Madagascar is generated through industrial shrimping. Therefore, employment creation resulting from potential increases in exports to the EU will be channelled through the medium and large size firms that dominate industrial shrimp fisheries.

The relatively small increase in frozen shrimp exports could increase the number of hours children work in shrimp fishing.

*Taxes and transfers:* License fees for fishing constitute an important component of government revenue in Madagascar. These fees are closely related to the earnings from the export. In addition, the shrimp industry provides substantial tax revenue for the government (AFD, 2008). A possible increase in shrimp exports to the EU following the graduation of Argentina, Vietnam and China may increase revenue for the Madagascar government through license fees and taxes, which may be transmitted through to households in the form of public investment.
Authority: As noted above, the government has tended to resolve conflicts between the different sub-sectors of the shrimp industry in favour of traditional shrimp farmers. Increased export opportunities to the EU could potentially shift this – as the Government of Madagascar tries to capture potential export gains through increased shrimp exports from industrial shrimp farming.

Assets: With increased exports, the incomes of those associated with industrial shrimp fisheries may increase. Asset holdings of these households may in turn increase.

Poverty and well-being effects: This gain in EU exports may lead to income increases for those currently employed by or through industrial shrimp fishing and frozen shrimp exports. The need for Madagascar to compete on a price basis may reduce potential gains, however. Employment generation in jobs relating to directly or indirectly to industrial shrimp fishing and frozen shrimp exports may also result.

Environmental effects: Concerns have been raised about the sustainability of industrial shrimp fishing. Average catch size has decreased over time, leading to concerns over the intensiveness of shrimp fishing in Madagascar. The Government of Madagascar has taken a number of steps, however, to manage the environmental impact of shrimp trawling (for example, eco-certification introduced by the Marine Stewardship Council (MSC) and ‘Zone d’Aménagement Concerté’, which focuses on monitoring shrimp fishing zones, and supporting environmental protection measures). A 4.7% increase in shrimp exports may intensify these environmental problems, however.

Fiscal effects: Given that shrimp is a highly valuable export for Madagascar – second only to apparel exports – even a small increase in export earnings should have a positive effect. Shrimp exports are an important source of revenue for the government – through license fees and taxes – and an increase in exports should result in increased government revenue for infrastructure and social investments.

4.4. Unshelled beans

4.4.1. Unshelled beans global value chain

A focal product recommended by component 2 is unshelled beans – 20055900. The box below outlines the specificities of this product.

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td>20055900</td>
<td>Unshelled beans &quot;vigna spp., phaseolus spp.&quot;, prepared or preserved otherwise than by vinegar or acetic acid (excl. frozen)</td>
</tr>
</tbody>
</table>

The component 2 report (Keane and te Velde, 2011) review the literature on the unshelled beans global value chain. Key findings from this review for the purpose of this component 3 study are:

- Preferential market access in the EU has historically been an important determinant of the development of the horticultural industry in developing countries.
- Non-traditional exports, such as horticulture, are considered more dynamic than other types of traditional commodities and have formulated the basis of export diversification strategies for many countries in sub-Saharan Africa. For example, the growth of the horticultural industry in Kenya is regarded as one of the major export success stories of sub-Saharan Africa in recent years.
- Overall, the UK–Africa horticulture value chain exhibits several characteristics of a “buyer-driven commodity chain” in which powerful lead firms (supermarkets) govern supply
networks that span several African countries, and define not only what is to be produced but also how and under what conditions.

- China has recently emerged as a formidable producer and exporter of horticultural goods, almost doubling the value of these exports over the last decade. The expansion of the labour-intensive horticultural sector during the 1990s was driven by the need to take advantage of China’s plentiful supply of rural labour. While limited literature prevents generalisation about the extent to which changes in graduation thresholds might affect sourcing strategies from graduates, it has been noted that an increase in Chinese exports of green beans is likely to reduce world market prices with adverse effects on the export revenues of other developing countries. This would suggest the converse may also be true if China is graduated from this product category should this result in an increase in prices, which subsequently reduces exports.

- China is the lowest cost supplier of these products but has seen its market share within the EU decline over time, whilst that of all other major suppliers - notably Madagascar and Kenya - has increased.

- Because of the relative price changes as a result of graduation, China’s market share within the EU could decline further. But, there is a wide range of product unit values for unshelled beans with China being the lowest cost producer to the EU market and Madagascar the highest, by far.

- The increase in relative prices which may result from the increase in tariffs on China due to graduation could in this case result in a trade shift towards the non-graduates. But given the extreme variation in product unit values across producers, it may be the case that other attributes such as quality also matter in this market. The review of the GVC literature for this product suggests that these types of horticultural products tend to be rather more luxury goods. But as previously mentioned most of this literature refers to fresh rather than prepared and preserved produce which means it is difficult to draw definitive conclusions, including related to the price elasticity of demand for this product.

4.4.2. China

<table>
<thead>
<tr>
<th>Key points</th>
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</thead>
<tbody>
<tr>
<td><strong>Losses to China’s unshelled beans exports have been estimated to be very small – just €0.2m.</strong></td>
</tr>
<tr>
<td><strong>Unshelled beans are not an important export item for China to the EU.</strong> Therefore, any loss will be marginal, particularly given China’s significant vegetable trade with other countries such as the USA and Japan.</td>
</tr>
<tr>
<td><strong>There is a considerable amount of domestic consumption of green beans in China, and therefore the graduation of China in this product could benefit domestic consumers.</strong></td>
</tr>
<tr>
<td><strong>Green bean farmers may be affected by losses in the short run, but we can assume that in the medium term they will diversify, planting other vegetable crops to compensate.</strong></td>
</tr>
<tr>
<td><strong>Larger processing plants, which typically have a diversified export bundle, should be able to offset their losses by increasing the processing of other export agricultural products.</strong></td>
</tr>
<tr>
<td><strong>Labour turnover in horticulture is quite high, so we can anticipate that workers (both farm labourers and processing plant workers) will cope with any employment losses by moving into the production and processing of other agricultural products.</strong></td>
</tr>
<tr>
<td><strong>We anticipate that any changes resulting from China’s graduation in this product will be marginal and absorbed by migration to other areas, and other rural industries.</strong></td>
</tr>
</tbody>
</table>
Overview: economy, society and poverty

Economy
GDP growth has been strong in China in recent years.\textsuperscript{80} The agricultural sector accounted for approximately 10\% of GDP, the industrial sector 46\%, and the service sector 43\% (EIU, 2011: 18). Exports in China constituted 27\% of GDP in 2009, lower than preceding years – 35\% (2008), 38\% (2007), and 39\% (2006).\textsuperscript{81} The fastest growth segment of the labour force has been unregistered workers – unreported workers in registered enterprises, workers in unregistered enterprises, and undocumented rural migrant workers in urban areas. This development implies that informal urban employment has increased substantially in recent years (World Bank, 2009).

Society, poverty and inequality
China is a Middle-Income Country (MIC).\textsuperscript{82} The poverty headcount ratio at US$1.25/day was 15.92\% in 2005.\textsuperscript{83} The World Bank estimates that the poverty headcount ratio at the national poverty line (% of population) was 2.8 \% in 2004.\textsuperscript{84} The Gini coefficient for China was 41.5 in 2010, 44.7 in 2005, and 40.3 in 2001 (UNDP, 2001, 2005, 2010).

The rural poverty headcount rate was 12.49\% in 2001, compared to an urban poverty headcount of 0.5\% (Shen and Fou, 2008: 20).\textsuperscript{85} While the reduction in poverty in China over the past decades is significant, the challenge to further reducing poverty in the country is that nearly half of the poor are dispersed in regions of the country other than the western provinces (World Bank, 2009).

An overdependence on low-productivity and low-income agriculture is one cause of poverty in China. Nevertheless, migration from rural to urban areas has increased the income of rural labourers. Insufficient infrastructure (such as transportation and power) and poor access to services (such as health and educational services) contribute to rural poverty (Wang, 2009), but since the 1990s, urban poverty has been rising as a result of decreased public employment, and the erosion of welfare systems previously provided by state-owned enterprises (Shen and Fou, 2008: 18). Other causes of urban poverty are underemployment, poor education and health conditions, and limited social security and public services (Wang, 2009).

Contextualising unshelled beans in the Chinese economy

The agriculture sector constituted 10\% of GDP in China in 2009. China has the highest production of green beans – which are part of the ‘unshelled beans’ product category – in the world. In 2008, total Chinese green bean production amounted to 14.5 million tons, the highest production rate in the world.\textsuperscript{86} Yet China was not among the top exporters of green beans in the world in 2008.\textsuperscript{87} This

\textsuperscript{80} The GDP growth rate (annual \%) in China in 2010 was 10.3\%, higher than that in 2009 (9.2\%) and 2008 (9.6\%), but lower than 2007 (14.2\%) and 2006 (12.7\%).
\textsuperscript{81} \url{http://data.worldbank.org/indicator/NE.EXP.GNFS.ZS}. Top exports are electrical and other machinery – including data processing equipment – apparel, textiles, iron and steel, and optical and medical equipment (CIA, 2011).
\textsuperscript{82} National income per capita (current $US) was $3212.6 in 2008, $1741.2 in 2005, and $948.8 in 2000 (UNData, 2011).
\textsuperscript{83} \url{http://hdrstats.undp.org/en/indicators/38906.html}
\textsuperscript{84} \url{http://data.worldbank.org/country/china}
\textsuperscript{85} Rural poverty in China is mainly concentrated on the northern, northwestern and southwestern provincies of China (Shen and Fou, 2008: 22). Moreover, 85\% of the total urban poor lives in the provinces which are located in the northeastern industrial regions and poor central regions such Gansu, Shaanxi, and Guizhou (Shen and Fou, 2008: 25).
\textsuperscript{86} \url{http://faostat.fao.org/site/339/default.aspx}
may be partly related to strong domestic demand in China for vegetables, in turn due to increasing incomes and a rapidly growing urban population (Diop and Jaffee, 2005: 238; Yuman et al, 2004).

China’s exports of vegetables can be categorised under two groups: fresh vegetables and processed vegetables. Fresh vegetables are further divided into two sub-groups: fresh and frozen vegetables, and temporarily preserved vegetables. Fresh and frozen vegetable exports amounted to 1,707,800 tonnes in 2000 – or 54.17 % of the total vegetable exports (Yuman et. al., 2004: 40). China exported 381,500 tonnes of temporarily preserved vegetables, which accounted for 12.12% of the total vegetable exports in 2000.

In 2008, China was one of the main developing countries exporting canned vegetables and fruits to the EU. Key export products were canned mushrooms, canned tomatoes, and canned asparagus (Centre for the Promotion of Imports from Developing Countries, 2009: 11). This suggests that unshelled beans, or canned beans, were not a key Chinese export item to the EU.

Production and employment

In China, there are approximately 200 million farming households with average land holdings of 1-2 acres per farm. There are at least 400 000 food processing enterprises, most with ten or less employees (Gale and Buzby, 2009:3). Small-size farms are dominant in China (Robert et al, 2004: 7; Miao et. al., 2011: 1252). Farmers decide what and how much to plant, and move in and out of different agricultural crops frequently (Gale and Buzby, 2009: 3; Miao et. al., 2011: 1252). Products such as green beans are often exposed to volatile prices, which in turn leads to serious production losses for farmers.

China has a comparative advantage in the labour-intensive horticultural sector due to the plentiful supply of rural labour (Rae et al, 2006: 3). Yet there is a high labour turnover in the industry (Gale and Buzby, 2009:3). This can partly be explained by migration from rural areas (where the agricultural production takes place) to urban areas. For instance, 114 million rural labourers migrated from rural areas to urban cities and coastal areas in 2003 (Ping and Shaohua, 2005: 1).

Processing companies are generally located close to those regions where the vegetables are produced (Yuman et al, 2004: 60). In terms of ownership, processors are categorised as ‘foreign proprietors’, ‘foreign joint ventures’, ‘corporate processors’ and ‘privately owned individual processors’. Foreign proprietors, foreign joint ventures, and corporate processors are large processors, whereas privately owned individual processors are generally small processors (Yuman et al, 2004: 61).

Small processors mainly engage in primary processing (such as washing, grading, and packaging), while the larger processors concentrate on further processed vegetables such as vegetable juice, vegetable mash, dried/dehydrated vegetables, pickled vegetables, and vegetable powders (Yuman et al, 2004: 62). Large processors usually process more than one vegetable product. For instance, in Anqiu province of China, Anqiu Linfu Food Co. – one of the seven largest processing firms – processes ginger, scallion, taro, garlic and onion (Yuman et al, 2004: 64).

Geographic and environmental impact of production

Top exporters were France (54,129 tonnes), United States of America (30,669 tonnes), Netherlands (41,980 tonnes), Spain (28,505 tonnes), Egypt (22,802 tonnes), Kenya (15,371 tonnes), Mexico (23,584 tonnes), Belgium (14,706 tonnes), Germany (7,738 tonnes), and Ethiopia (7,993 tonnes).
Green beans are mainly grown in the northeastern provinces and the Inner Mongolia Autonomous Region of China. In 2009, there was a severe drought in the Northeast of China, which drastically decreased the production by 50% (Miao et al, 2011: 1252).

The eastern coast of China is the main region in which vegetables are grown for export. Eight of the ten top vegetable exporting provinces (Shandong, Guangdong, Fujian, Zhejiang, Jiangsu, Liaoning, Guangxi and Tianjin) are located in the eastern part of China (Yuman et al, 2004: 41).

Despite the measures taken by the Chinese government, which will be discussed below, there are still concerns regarding safety and quality of Chinese agricultural exports. Firstly, banned agricultural chemicals and veterinary drugs are still used to increase crop yields from the lands. Secondly, many of China’s farms and processing companies are located close to the heavily industrialised regions plagued by contaminated water, air, and soil as a result of industrial effluents and vehicle exhaust. Thirdly, poor storage and transportation equipment leads to the development of bacteria, viruses, parasites, and fungi (Gale and Buzby, 2009:2).

Potential for exploiting expanded export space

Policy initiatives
The Chinese Government has established several policies and programs to increase the quality and safety of vegetable production. The government introduced the Vegetable Basket Project (VBP) in 1988. In the first phase of the project (1988-1994), the government aimed to increase vegetable production in order to overcome the shortages in the supply of vegetables for domestic consumption. During the second phase of the project (1995-2001), the focus was on diversifying the varieties of vegetables, which was achieved by building the transportation infrastructure between the regions of China and developing greenhouse technology in the northern part of China. The last phase of the project concentrated on increasing the quality and safety of vegetable products, including enactment of the Action Plan for Pollution-free Agricultural Products in order to meet international safety standards demanded by importing countries (Yuman et al., 2004).

Infrastructure and labour
The government’s Vegetable Basket Programme promoted infrastructure improvements in rural areas, including the development of a network of wholesale markets, investment in greenhouse construction, government transfer of new technologies, and the development of demonstration farms and extension services (Rae et al, 2006: 3).

As stated above, China has a comparative advantage in terms of labour in horticulture production – it is cheap and plentiful. This labour force also feeds the primary processing industry, which does not require skilled workers. The existence of a plentiful supply of rural labour gives China considerable price and production advantages in international markets (ITD, 2004: 2). Further, China has a comparative advantage when it comes to land. In 2000, the cultivated area of vegetables and flower was ranked the largest in the world (ITD, 2004: 1).

Changing the graduation threshold in GSP trade scheme: poverty implications

Drawing on component 2 findings
The component 2 report estimates that the average value (2008-10) of Chinese unshelled beans exports (20055900) to the EU was €9.4m, comprising 18.7% of EU imports of this product. The losses to Chinese unshelled beans exports to the EU resulting from the proposed GSP graduation process have been estimated by the component 2 study at €0.2m. Assuming that China could no longer maintain its market share of EU unshelled beans imports, this estimate would imply a 2.1% decrease
in EU imports of Chinese unshelled beans. We have not been able to locate figures on total unshelled beans export from China, but it is unlikely that a €0.2m loss will have extensive negative impacts.

*Impact on households through transmission mechanisms*

*Price:* There is a considerable amount of domestic consumption of green beans in China. The possible graduation of China may benefit domestic consumers (as long as this loss is not compensated by increasing exports to non-EU countries). Green bean farmers may be affected in the very short run. However, we can assume that in the medium and long term they will compensate for the loss by switching to other vegetable crops. As for the processing industry, the larger processors which have a diversified export bundle should be able to offset their losses by increasing the processing of other export agricultural products.

Unshelled beans are not an important export item for China to the EU. Therefore, any loss will be marginal, particularly given China’s significant vegetable trade with other countries such as the USA and Japan.

On the macroeconomic front, since 2005, the exchange rate of the Yuan has been quiet stable and the inflation has not been high. In that regard, the inflation and exchange rate should not intensify the possible loss of export space for China.

*Employment:* As the labour turnover in horticulture is quite high, we can anticipate that producers and workers will cope with any loss in employment by moving into the production and processing of other agricultural products. Given the unskilled nature of farming and the primary processing industry, we know that unskilled workers will be most adversely affected, if there is any effect at all. In essence, we can anticipate that any change resulting from China’s graduation will be marginal and be absorbed by other areas and other rural industries.

*Poverty and well-being effects:* The loss in EU will be very marginal for China and we therefore anticipate that the impact on households will not be significant. Evidence suggests that farmers adapt their cropping to meet demand and there is a high turnover of rural labour. We anticipate any loss will be able to be absorbed.

*Environmental effects:* The marginal loss of green bean exports will not have any significant (positive or negative) environmental effect. Environmental problems resulted from green beans production apply across the horticultural industry (they are not specific to green bean production). Given that we anticipate that farmers will compensate for the marginal loss by shifting to another vegetable crop, it is unlikely that the marginal loss will result in less environmental damage.
4.4.3. Kenya

**Key points**

- The **scale of the likely gain by Kenya is small (€0.15m)** and would imply a 0.6% increase in EU imports of Kenyan unshelled beans.

- The price typically offered by exporters for fresh French beans is above that offered by canneries, suggesting that there might be little incentive to expand production to meet the increased export space. But prices offered by canneries may be above the domestic price for French beans, suggesting that an **expansion in the demand from canneries might benefit farmers**, who would divert second grade beans from the domestic market to the canneries.

- As the production of French beans is highly labour intensive, expansion in the value of unshelled beans exports will **almost certainly translate into job creation**.

- It is **not clear whether more beans will be grown or whether there will simply be a reduction in the fresh French beans available on the domestic market**. If more beans are grown, this might benefit producers (at least some of whom will be smallholder outgrowers). This in turn will generate increased employment for casual agricultural labour. Independent of whether production increases or not, it is **likely that there will be an increase in demand for processing staff**. It is not clear whether up and downstream industries will benefit.

**Overview: economy, society and poverty**

**Economy**

The Kenyan economy has suffered from several shocks since 2008, including post-election violence, drought, and the global food and financial crises. However, the economy has rebounded. GDP (current US$) in 2010 was $31.4 billion and economic performance in the first three quarters of 2010 was better than anticipated, with the average economic growth rate being 5.4%, compared to 2.1% in 2008 and 2.3% in 2009.\(^8\) In 2010, agriculture grew at a rate of 5%, industry at 7.6%, and services at 4%, which is a more moderate grow rate for the sector that has driven growth over the last decade, largely through growth in the ICT and financial subsectors. While agricultural growth has bounced back, it has yet to reach the levels of 2007, and can be interpreted as representative of recovery from bad weather and the lower demand for horticultural exports seen in 2008 and 2009. (KNBS, 2010; World Bank, 2011).

Exports of goods and services were 25% of GDP in 2009 (World Bank, 2011).\(^9\) Agriculture represents a key sector of the Kenyan economy, contributing roughly 24% of GDP and 60% of export earnings. 26% of those export earnings are indirectly linked to agriculture by way of agro-based manufacturing, transport, wholesale, and retail trade. The horticulture sub-sector experienced growth in the period between 2002 and 2006. The total value of production increased from Kshs. 32.0 billion to Kshs. 54.4 billion. Revenues from the export of cut flowers increased from Kshs. 14.8 billion in 2002 to 42.3 billion in 2007, while export revenues for vegetables increased from Kshs. 10.2 billion to Kshs. 20.8 billion between 2002 and 2007. Bean production increased from 481 225 tons to 531 800 tons from 2002 to 2006 (GoFK, 2008). Manufacturing was a major contributor to output and export earnings in 2010 and is a sector that shows great promise for creating employment. A large portion of manufacturing consists of food processing. The 12% growth in the sector during the third

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\(^8\) GDP growth was 5.9% in 2005, 6.9% in 2006, and 7.2% in 2007.

\(^9\) Top exports include tea, cut flowers, petroleum oils other than crude, prepared vegetables, and coffee (UNData, 2011).
quarter of 2010 is in contrast to growth in the sector of 3.6% and 2% in 2008 and 2009 respectively (AEO, 2011).

From 2003-2007, wage employment in the formal sector increased from roughly 1.7 million to 1.9 million. The number of paid jobs in the informal sector increased over the same period from around 5.7 million to 7.4 million, the majority of which were in wholesale, retail, restaurant and hotel sectors – an increase from 3.36 million to 4.37 million (Kenya Ministry of Trade, 2009). Agriculture is a large employer of rural people, with estimates indicating that 3.8 million people work on farms and in livestock production and fishing. An additional 4.5 million work in off-farm informal sector activities (GoK, 2008).

*Society, poverty and inequality*

Kenya is a Low-Income Country (LIC) with gross national income per capita (current US$) of $783.4 (2008, compared to $524.2 in 2005, and $399.1 in 2000) (UNData, 2011). The 2005-2006 Kenya Integrated Household Budget survey shows a decline in poverty from 52% (1997) to 46% (2005/2006). This fall is comparable to other sub-Saharan countries, but the level of poverty remains higher than that of neighbouring countries (Tanzania, 36%; Uganda, 31%). Poverty incidence varies by region and the 2005/2006 survey reveals that Central province had the lowest rate of poverty (30.3%), compared to Nyanza (47.9%), Rift Valley (49.7%), Eastern (51.1%), Western (53.2%), Coast (69.7%), and North Eastern (74%) (World Bank, n.d.). While it is on track to meet most of the Millennium Development Goals by 2015, Kenya is a long way from meeting targets for the eradication of extreme poverty. The persistently high rates of poverty are partly attributable to high rates of inflation between 2003 and 2009 that have negatively influenced the purchasing power of the population, with the greatest impact on the poor and vulnerable. Poverty and unemployment, especially among youth, are continuing challenges for Kenya (AEO, 2011).

Inequality in Kenya is high with a Gini Coefficient of 47.7 in 2010 (rural, 39%; urban, 49%) (up from 42.5 in 2005) (UNDP, 2005, 2010). Inequality has decreased in rural areas since 1997 but increased in urban areas (World Bank, n.d.).

Kenya’s Human Development Index has increased in a positive direction from 0.464 in 2009 to 0.470 in 2010. This compares with 0.389 for Sub-Saharan Africa as a whole, and 0.624 for the world. Kenya ranks 128th out of 169 countries on the HDI scale. Of particular concern to the Kenyan government currently is youth income and skills development (AEO, 2011).

Of its roughly 40 million inhabitants, Kenya has approximately 31 million people living in rural areas (IFAD, n.d.). The poor disproportionately live in areas removed from roads suitable for a motor vehicle and lack access to education. Land quality and availability play an important role in driving chronic poverty. Chronically poor people are more likely to live in low potential agricultural regions, with almost four out of five households found consistently in the bottom wealth tercile living in agricultural zones classified as mid-low to lowest potential. In terms of land constraints, roughly 75% of chronically poor households live in regions where the median farm size is less than two acres, while fewer than 7% live in regions where median farm size is greater than 4 acres (Burke & Jayne, 2010).

Household data collected by the Government of Kenya in 1994 reveals that the agricultural sector contain the highest poverty rates in Kenya. The highest incidences of poverty – approximately 71% – are found among pastoralists, followed by subsistence farmers and then casual workers. Many rural household heads are subsistence farmers (42%), the next most common livelihood is that of unskilled private sector work (11%). Looking nationally, 96% of casual workers live in rural areas and 38% have no education. Rural poverty statistics seem to indicate that while an expansion of the
agriculture and the informal sectors does not necessarily reduce the poverty headcount ratio, it does reduce inequality and poverty severity by narrowing the poverty gap (Oiro, Mwabu, & Manda, 2004).

Contextualising unshelled beans in the Kenyan economy

Kenyan exports are limited mainly to primary commodities due to limited capacity for value addition in the manufacturing sector and relatively underdeveloped intermediate industries (Kenya Ministry of Trade, 2010). Agriculture employs 70% of the Kenyan population and is the most important source of income for poor people (IFAD, n.d.). Horticulture is the fastest growing agricultural subsector, and the largest foreign exchange earner. French beans representing the second largest category of horticultural exports (following cut flowers) and in 2002, bean processing was the fastest growing subsector behind cut flowers (Kimenye, 2002). This is supported by Kenya having comparative advantage in the production and preparation of fresh and preserved beans due to ecology and low labour costs. The sector is also well established, as European companies began looking to source canned beans in Kenya in the mid-1970s (Jaffee, 1987).

Kenya exports more fresh than canned unshelled beans (11m kg fresh, 0.07m kg canned beans, 2008) (HCDA Kenya, no date). Besides canning French beans, the other two methods of processing in Kenya are freezing and dehydration.

Unshelled beans are processed French beans. Beans selected for processing are usually either those that have failed to reach export grade as fresh French beans or those that have been produced too far away from the cool chain and processing facilities for fresh export.

Firms processing beans obtain 50-75% of their beans from smallholders (Kimenye, 2002). Some are sourced from the firms’ own farms, others from contract farmers, and a small portion from non-contract farmers (ibid.). The high involvement of smallholder farmers is apparently explained by the high degree of labour intensity in producing French beans (Jaffee, 1987). However, increasingly stringent phytosanitary regulations and traceability requirements (imposed by European supermarkets) has seen a greater degree of market interlocking and increased consolidation, with a shift to larger farmers who can meet the new requirements and smaller (and poorer) farmers being squeezed out due to difficulty (and costs) associated with guaranteeing food safety without third-party certification and close monitoring. Also smallholders tend to be geographically dispersed, increasing coordination costs (Okello et al, 2007). In addition to exporters’ shift in preference towards larger farms, importers also increasingly prefer larger exporters. Thus, in Kenya the trend has been towards the consolidation of exporters and producers. This has also affected other aspects of the supply chain. Brokers and middlemen are disappearing as exporters deal directly with large-scale producers and exporters increasingly hire their own staff to monitor production in the field in order to provide evidence that they are meeting food quality and safety requirements (Okello, et al, 2007).

Despite consolidation in the value chain, some institutional mechanisms have enabled smallholder farmers to continue production: changing target market or product; contracting between exporters and groups of smallholder farmers; forming alliances between NGOs, donors, and the public sector. The first avoids certain safety and quality standards while the others reduce transaction costs by

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90 Adherence to international standards requires use of safer but more expensive pesticides, investment in expensive assets such as grading/packaging and cooling facilities, as well as technical records of pesticide use and application.

91 The cost of monitoring numerous smallholder farmers is higher and exporters do not want to bear this cost and small-holders are not able to.
increasing economies of scale or securing the capacities necessary to meet standards. Contract farming is of increasing interest, as it enables smallholder farmers to secure access inputs while providing exporters with assured procurement at the quantity and quality desired. Several public-private and private-private partnerships have developed to support the horticulture sector in Kenya. Examples include: creation of the HCDAs Fresh Produce Handling Company by the Government of Kenya and the Japanese International Cooperation Agency; smallholder regulatory and pest control mechanisms implemented by the Government of Kenya, the Kenya Plant Health Inspectorate Service, and USAID; a partnership between DFID and HCDA to train horticulture service providers to serve smallholders; training, auditing, and the provision of financial aid to smallholders seeking EurepGAP certification funded by Care International, Reach the Children, and ICIPE; PrideAfrica’s facilitation of linkages between EurepGAP trainers, input sellers, banks, and exporters (Okello et al, 2007).

*Bean picking* on small farms is generally undertaken by family members, although some local workers may be hired. Large farms almost exclusively employ hired labour. Bean picking and grading employs women almost exclusively. Women may live on-farm or migrate seasonally (Jaffee, 1987). In some parts of the country (Maragwa District), the majority of bean-pickers are young (60% under 35), attracted to the sector by high youth unemployment but in others (Nakuru District) over half of the pickers over 35 (55%) (Kimenye, 2002).

*Processing* largely employs female casual workers (Nakuru District and Maragwa District: 87% casual workers of which 79% are female) (ibid.) Female involvement in bean processing may also reflect that when a high value agricultural crop is produced commercially, women commonly lose control of the land allocated to them by their husband for food production. Men tend to control the production of cash crops, signing contracts and making decisions and women are relegated to the role of unpaid labour (World Bank, n.d.). By working in processing they gain a wage, which they have some chance of controlling.

French bean processing also has up and downstream linkages into the wider economy, as it creates employment in the production of glass jars, cans, plastic crates, cardboard cartons, or uniforms for factory workers.

The production and processing of French beans is *geographically concentrated* around Nairobi. For processors, this means that they are close to the major bean producing areas (typically within 2 hours drive of the international airport and in Central Province and Eastern Province), suppliers of secondary inputs (containers, spare parts), government and the international airport (Kimenye, 2002; Okello, Narrod, & Roy, 2007).

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93 Interviews with factory management revealed that casual work is preferred because the factories do not operate at full capacity throughout the year, and females preferred because the work is delicate, including removing tips of the beans and packaging them (Kimenye, 2002).

94 Murang’a, Maragwa, Thika, Kiambu, Kirinyaga and Nyeri

95 Embu, Meru, Machakos and Makueni
Potential for exploiting expanded export space

Services and inputs
Bean production is highly intensive in terms of labour, fertiliser, and agro-chemicals. Kenya has a comparative advantage in its supply of cheap labour and contract farming and larger-scale farming has been undertaken to address the challenge of fertiliser costs (Kimenye, 2002). However, the agricultural sector’s performance has declined over the past few years due to increased climatic variability (and inadequate irrigation); poor access to farm credit; the prohibitive costs of farm inputs; inadequate extension services; inappropriate technology and limited application of innovation; poor infrastructure and inadequate policies, and institutional and legal frameworks (Kenya Ministry of Trade, 2009).

Enabling the horticulture sector
The success of the Kenyan horticulture sector has been enabled by a range of contextual factors:
- Effectively exploiting the growth in demand for South Asian vegetables (particularly from the UK)
- Capitalising on opportunities generated by the tourist industry in Kenya, including cheaper cargo transportation costs, and increased demand for high quality horticulture from local hotels and restaurants (EPZA Kenya, 2005)

There are a number of other factors that make Kenya favourable for horticultural production and point to its ability to exploit potential export space in processed unshelled beans. Kenya has a tropical and temperate climate that supports year-round growing and it already reliably and consistently produces a wide array of fruits, vegetables, and flowers. It has a readily available and well-trained labour force at low cost and a number of international and local seed companies are present in Kenya, supplying high quality seeds to farmers. In addition, a number of large and medium sized companies provide stability and technology to the sector. Further, producers and exporters have developed close links with EU importers over the years and have good working relationships with them. Other practical issues are important. Nairobi is a regional cargo hub with direct cargo flights to many European cities. This is matters particularly for the export of fresh beans and without the fresh beans sub-sector, Kenya would be unlikely to have a significant role in processing and exporting unshelled beans. In addition, the sector has a relatively good enabling environment. The Horticultural Crops Development Authority (HCDA), a state corporation, is mandated to regulate the horticultural industry through licensing and application of rules outlined in the Agricultural Act, Cap 318. It also provides advisory and marketing services to industry stakeholders as well as promotes the development of horticultural crops. A range of organisations collaborate with the HCDA to support the sector (EPZA Kenya, 2005). The GoK has implemented standards in line with importer requirements in packaging, sizes and quality, and health, particularly in recent years (EPZA Kenya, 2005). Although government provides support the sector it does not interfere (ibid.) and it provides a stable liberal, macroeconomic policy framework that has favoured foreign investment and international trade (EPZA Kenya, 2005).

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96 Poor road infrastructure between rural growing areas and processing centres and the deterioration of the highway between Nairobi and the port of Mombasa has constrained bean processing (Kimenye, 2002).
97 Kenya is a signatory to the UPOV (International Union for the Protection of New Varieties of Plants) convention making it an attractive location for growing new plant varieties
98 Fresh Produce Exporters Association of Kenya (FPEAK); Export Promotion Council (EPC); Kenya Bureau of Standards (KBS); Kenya Agricultural Research Institute (KARI); Ministry of Agriculture; Kenya Flower Council (KFC); Kenya Plant Health Inspectorate Service (KEPHIS); Pest Control Products Board (PCPB); Kenya Industrial Research and Development Institute (KIRDI); Kenya Universities and Colleges of Agriculture; National Resources Institute (NRI); Japan External Trade Organisation (JETRO); and Japan International Cooperation Agency (JICA)
This all suggests that Kenya will be in a good position to exploit any space in the export market and may well benefit from trade diversion.

Changing the graduation threshold in GSP trade scheme: poverty implications

Drawing on component 2 findings
The component 2 report estimates that the average value (2008-10) of Kenyan unshelled beans exports (20055900) to the EU was €26.1m, comprising 52.1% of EU imports of this product. The gains to Kenyan unshelled beans exports to the EU resulting from the proposed GSP graduation process have been estimated by the component 2 study at €0.15m. This estimate would imply a 0.6% increase in EU imports of Kenyan unshelled beans. We have not been able to locate figures on total unshelled beans export from Kenya, but it is unlikely that a €0.15m gain will have extensive positive effects.

The scale of the likely gain by Kenya is small. It will therefore be unlikely to have a measurable impact on Kenya’s GDP or on the number of enterprises in the sector. However, changes of this scale could very easily result in additional contracts for smallholder outgrowers, increased employment for agricultural casual labour and processing staff and thus (probably small impacts) on up and downstream industries.

Prices: Trade diversion of this scale is unlikely to influence price substantially if at all. However, previous negative shocks have highlighted the sensitivity of the horticulture sector. Shifts in international prices and demand have a significant effect on the production of French beans in Kenya. Given that much of its bean exports are directed towards Europe, the Kenyan economy is particularly affected by fluctuations in demand in Europe. A precipitous drop in European demand for horticultural products during 2008-2009 at the time of the financial crisis translated into a significant drop in the volume and value of Kenyan horticultural exports. The same can be said of the disruption in demand caused by the volcanic ash that shut down air traffic in Europe in 2010. Presumably, these drops had effects on incomes and employment, although statistical data on this does not seem to be available.

Employment: The processed French bean sector is less susceptible to short-term demand fluctuations than the fresh market and impacts on employment tend to be lagged. Increased employment by smallholder farmers, casual labourers on large-scale farms, and casual workers in canneries (and those working for suppliers of goods to canneries) might have implications for poverty reduction.

The extent to which changes in exports of (processed) unshelled beans affect smallholder farmers would depend, in part, on the extent to which they can switch (and/or benefit from switching) between selling their produce to canneries and fresh produce exporters. Farmers under contract would have little opportunity over the short term to switch. If prices for fresh produce are higher than those offered by canneries, moreover, there would be little incentive to grow beans to meet increased export space for processed unshelled beans. There also remains the question of the extent to which smallholder farmers might switch between French beans and other crops (e.g. coffee).

Increased casual laboring opportunities on large-scale farms might be expected to benefit poor households. Workers at canneries might also benefit.

Taxes and transfers: The Kenyan government has placed great emphasis on bolstering its export sector, meaning lowered taxes on exports and on the profits of companies engaged in exporting. It
has also established export processing zones with various incentives for exporters. Thus, an increase in trade of processed unshelled beans may not necessarily translate into increased government revenues as taxation rates are already low.

The importance of trade diversion for informal transfers will depend on the degree to which workers in the cultivation and processing of beans are migrants sending remittances or are workers providing other support to their extended family.

*Environmental effects:* The environmental impacts of bean production include air and water pollution from agrochemicals as well as water depletion due to irrigation.

The Kenyan government has created the Water Resource Management Authority to regulate water removal from catchment areas (Kenya DLC, 2010). It is hoped that this will help to conserve water in an era of increased climatic variability and greater demand for irrigation (for horticulture and staple food crops). However, horticulture is ‘water-hungry’ and four crops of French beans are grown per year in Maragwa under irrigation, compared with only one crop per year being grown in Njoro where production is rain-fed (Kimenye, 2002). This suggests that expansion of horticulture may have implications for Kenya’s scarce water resources. However, it is unlikely that the expansion of Kenya’s unshelled beans production resulting from China’s graduation from the GSP will be of a sufficient scale to result in substantial additional environmental damage.

**5. Conclusion**

The objective of component 3 was to evaluate the poverty impacts of changing the graduation threshold of the EU’s GSP trade scheme. By reviewing available literature on selected products, and selected countries, and applying this to a framework which supports the understanding of how changes in the economy are transmitted through to households, potential positive and negative effects have been identified.

The table below summarises the estimated implications for selected countries resulting from changing the graduation threshold of the EU’s GSP trade scheme.
Table 4: Summary of estimated changes resulting from changing the EU’s GSP graduation threshold

<table>
<thead>
<tr>
<th>Product - Country</th>
<th>Average value (2008-1) of exports to EU (€m)</th>
<th>Loss/gain (€m)</th>
<th>Change in EU exports of product (%)</th>
<th>Total exports (€)</th>
<th>Change in total exports of product (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leather - 3061350</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>India</td>
<td>9.9</td>
<td>-0.6</td>
<td>-6.1</td>
<td>2.43bn</td>
<td>Less than -0.1</td>
</tr>
<tr>
<td>Bangladesh</td>
<td>10.2</td>
<td>0.3</td>
<td>2.9</td>
<td>346.56m</td>
<td>0.09</td>
</tr>
<tr>
<td>Frozen shrimp - 41079910</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vietnam</td>
<td>115.1</td>
<td>-25.0</td>
<td>-21.7</td>
<td>1.01bn</td>
<td>-2.5</td>
</tr>
<tr>
<td>India</td>
<td>152.4</td>
<td>8.6</td>
<td>5.6</td>
<td>679m</td>
<td>1.2</td>
</tr>
<tr>
<td>Bangladesh</td>
<td>119.3</td>
<td>6.8</td>
<td>5.7</td>
<td>237.7m</td>
<td>2.9</td>
</tr>
<tr>
<td>Madagascar</td>
<td>74.3</td>
<td>4.2</td>
<td>5.7</td>
<td>88.7m</td>
<td>4.7</td>
</tr>
<tr>
<td>Unshelled beans</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>China</td>
<td>9.4</td>
<td>-0.2</td>
<td>-2.1</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Kenya</td>
<td>26.1</td>
<td>0.15</td>
<td>0.6</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

There is strong body of evidence, as outlined in section 3, that even a transitory shock can result in declines in consumption and well-being that can have substantial and surprisingly long-term impacts. The effects of the GSP changes will be transmitted through to households through a range of transmission channels which have framed our analysis: prices, employment, taxes and transfers, access to goods and services, authority and assets. Our analysis has identified poverty, environmental and fiscal effects.

In a number of cases analysed in this report, the expected gains or losses resulting from changing EU GSP preferences are small. As table 4 above shows, this is in terms of absolute value, but also in terms of the percentage change in EU and total exports. This means that even at the micro level, in some cases changes will be relatively insignificant.

The way to calculate the net effects of changing the GSP graduation threshold is to look at the potential effects of export losses in graduating countries and compare these with the potential effects of export gains in beneficiary countries. The specificity of the products covered in this report mean that there are significant data limitations.

Using our framework, and available evidence, we have sought to evaluate the poverty impacts of changing the graduation threshold of the EU’s GSP trade scheme. Conclusions for each of the three products examined are outlined below.

5.1.1. Leather

Poverty effects: The estimated losses for India (€0.6m) and gains for Bangladesh (€0.3m) are very small. In India, this small change may result in job losses, or reductions in employment, and may particularly affect those low caste workers or women who cannot easily find other sources of employment. In Bangladesh, the small gain is likely to generate additional employment and
accompanying increases in household income – though it is likely that the jobs will be of low quality and result the increased use of child labour.

**Environmental effects:** Treating and correctly disposing of effluent and other wastes associated with leather tanning is costly and has significant environmental consequences. In India, it is less likely that environmental conditions will improve, and more likely plausible that some leather tanners and others in the sector will seek to trim costs in the face of a price squeeze following the loss of preferences, and potentially return to illegal dumping of wastes. In Bangladesh, the expansion of leather exports will exacerbate existing environmental problems. We conclude that the net effect of a decline in production in India and an increase in Bangladesh would have negative environmental consequences, as environmental controls are looser in Bangladesh.

**Fiscal effects:** Given the size of the potential change in exports in India and Bangladesh vis-à-vis the size of their economies, fiscal effects and resulting changes in government expenditure are negligible.

### 5.1.2. Frozen shrimp

**Poverty effects:** The estimated losses for Vietnam are €25 m. This is the largest gain or loss in value terms examined in this report, and while this constitutes over a fifth of Vietnam’s frozen shrimp exports to the EU, it is a much smaller proportion total frozen shrimp exports (2.5%). Vietnam’s shrimp industry is dominated by small-scale producers, who may feel the income and poverty impact of this export loss. This may push them into poverty, or hamper their opportunities to use shrimping as a source of poverty escape. In addition, certain groups within the shrimp value chain (e.g. labourers and processing plant workers) have been found to be very poor, and may be adversely affected.

The combined gains for India, Bangladesh and Madagascar are €19.6 m. In all countries, we anticipate that a small number of jobs will be created, and there will be an increase in income for those directly or indirectly engaged in shrimp production and exports. In India at least, where shrimp farming is also dominated by small-scale producers, shrimp farming has been found to be a better income earner than other forms of agriculture. Even small increases in shrimp exports could therefore support poverty exit. In Madagascar, the picture is different: job creation will be channeled through the medium and large size firms that dominate industrial shrimp fisheries. The extent to which job creation and increased production opportunities have a poverty impact depends on a number of factors. In India, for example, due to existing norms and customs may prevent women from benefiting from increased export opportunities. In Bangladesh, labour conditions in shrimp production are poor, and increased exports may expose workers to practices such as unpaid overtime and result in an increase in the number of ours children work in shrimp fishing.

**Environmental effects:** It is not possible to say whether the net environmental effect of changes in the GSP will be positive or negative as we do not know whether a decline in shrimp exports from Vietnam will reduce environmental damage, and if so by how much and over what time period, or how much increased exports from India, Bangladesh and Madagascar will exacerbate existing environmental problems, such as loss of mangroves, water pollution and the salinisation of drinking water wells and paddy fields. Governments in both India and Madagascar have taken steps to manage the environmental impact of shrimp production through legislation and regulatory measures (India and Madagascar) and eco-certification (Madagascar).
**Fiscal effects:** The small estimated increase in shrimp exports to the EU from India and Bangladesh may have small positive fiscal effects. The scope and nature of these effects are difficult to determine, however. In Madagascar, we anticipate the effects will be more prominent. Shrimp is a highly valuable export sector for Madagascar, second only to apparel exports. A 4.7% increase in total shrimp exports should have a positive effect on government revenue, which may be transmitted through to households through economic and social investments and/or transfers.

5.1.3. **Unshelled beans**

**Poverty effects:** We expect that the small (€0.2m) loss in exports of unshelled beans from China to the EU will not have a poverty-inducing effect. This is because evidence suggests both farmers and processing plants will be able to compensate through diversification (i.e. planting or processing another vegetable crop). In Kenya, the small (€0.15m) gain may benefit vegetable farmers and will translate into job creation – albeit small.

**Environmental effects:** We do not anticipate that changing the graduation threshold of the EU’s GSP trade scheme will have significant environmental effects in China or Kenya.
6. References


http://footwearsinfoline.tripod.com/leather1.pdf


http://www.isec.ac.in/WP%20218%20-%20Poulomi%20Bhattacharya.pdf


(Eds.), *Globalization and Health: Pathways, Evidence and Policy* (pp. 131-51). New York: Routledge.


