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PRIVATE STANDARD SCHEMES AND DEVELOPING COUNTRY ACCESS TO GLOBAL VALUE CHAINS: CHALLENGES AND OPPORTUNITIES EMERGING FROM FOUR CASE STUDIES

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This study discusses the effects of private voluntary standards on market access for selected developing countries. It is based on case studies of selected fruit and vegetables for four countries, Ghana, Peru, South Africa and Chile, as well as relevant literature. Each of the case studies is based on a common interview framework. Its purpose is to improve understanding of how private standards operate as governance tools for quality in global value chains and consequently of the challenges and opportunities these present for different agents in the supply chain.

It complements and extends previous OECD work on the economics of private voluntary standards schemes and the shaping of the agro-food economy by exploring challenges and benefits which private standards hold for developing countries in accessing global value chains. This paper is part of Activity F of the programme of work 2005-2006: *The Impacts of Private Voluntary Standards on Market Access*. A scoping paper was presented in fall of 2005 where the approach and general themes were discussed.

PRIVATE STANDARD SCHEMES AND DEVELOPING COUNRY ACCESS TO GLOBAL VALUE CHAINS: CHALLENGES AND OPPORTUNITIES EMERGING FROM FOUR CASE STUDIES

Part I: Executive summary

1. This study on the impacts of private voluntary standards (PVS) and developing country access to global value chains is based on interviews with fruit and vegetables (F&V) producers and exporters in Ghana, South Africa, Peru and Chile. The fruit and vegetable sector was chosen because these are high value products with favourable export growth prospects and allow developing countries to exploit their abundant resource - labour. The four case study countries were selected to cover countries that are at various stages of development and have a wide range in incomes per head of population. Although the sample is quite limited it provides initial empirical work across different countries using a common framework.

2. Despite the limited nature of the study, a few preliminary results nevertheless emerge. First, compliance with PVS schemes is increasingly mandatory for accessing Global Value Chains (GVCs). Private standards are here to stay and will likely continue to increase in scope and stringency. Large retailers with market power will enforce them, along with other commercial requirements, such as volumes and flexible delivery schedules.

3. Based on the interview results, it appears that exporters are a key link between importers and buyers on the one hand and producers on the other hand. Exporters are responsible for transmitting demand specifications to all producers. In the case of small producers, they also frequently assist in organizing, financing and overseeing production, as well as assisting them in the audit and certification process. Thus, they play a vital role in the integration of small holders in the global value chain.

4. Even when constraints, internal to the producer/farm, such as human and physical capital necessary to comply with PVS, can be removed, constraints external to the producer/farm, such as infrastructures and services at the macro and sector level may still be binding. These include transportation and telecommunications systems, energy supplies and testing facilities among others. In these instances, they effectively limit producers'/exporters' capacity to meet commercial export demands. Again this is particularly binding for small and medium producers, who can not use their private resources to overcome these systemic constraints.

5. The case studies suggest that large producers or exporter-producers are able to adapt to meeting private standards for market access. However, small-holders have an increased risk to be excluded from GVCs, due to human and physical capital constraints in complying with PVS.

6. Government's role is viewed in the higher income developing countries as one of accompanying the producer and export industries through the provision of an appropriate infrastructure that enables industry to operate competitively. This public/private collaboration has been particularly successful in Chile, and to some extent in South Africa and Peru, but much less so in Ghana.

Part II. Introduction

7. Private voluntary standards play an increasing role in global agro-food system and are closely linked to the evolving economic environment and the institutional and legal frameworks. Standards are set by buyers in the food chain, most often retailers and increasingly by coalitions of firms, they relate to product and process attributes, their compliance is verified through third party audits and certification and

sellers that can not or choose not to meet these standards are denied market access. The most important reasons for the development of private voluntary standards are increased competition between retailers, a desire to reduce in-house monitoring and inspection costs and an increase in products sourcing around the globe. A recent analysis of role of private standards in the food chain can be found in OECD, 2006.

8. Access to OECD markets remains one of the leading demands of developing countries in the negotiations for agricultural trade liberalization.[1] Products must now meet not only the importing country regulations, but also those set by major importers and retailers which are often more complex and stringent than those of governments (OECD, 2006; Henson and Reardon, 2005). Although these private standards are voluntary and not required by law, they are required for doing business, thus are *de facto* mandatory (Henson and Northen, 1998; Fulponi, 2006). The role of private standards has raised concerns about market access for developing country producers, in particular small and medium producers, who may be capital-constrained at the farm level and may be operating in countries whose lack of adequate infrastructures and services make it too difficult and costly for them to comply.

9. Recently, complaints on private voluntary standards (PVS) as trade barriers in the agricultural sector were expressed at the WTO, for instance at the 2004 WTO symposium and the WTO SPS meeting in June 2005.[2] The PVS referred to in the complaint are those most often demanded by leading retailers in their sourcing of food products. However, being set by the private sector as product specifications, these are not within the remit of the WTO. Such complaints, nonetheless, signal the apparent importance of these standards schemes for a number of exporting developing countries and raise a number of issues on the evolution of global sourcing, in particular by lead firms within a global value chain (GVC) framework. Since private standards schemes are expected to continue to evolve, increasing in stringency and extending over wider sets of attributes (OECD, 2006), what does this mean for access by developing countries to global value chains?

10. The analysis is based on interviews with producers and exporters of fruits and vegetables in four developing countries, Chile, South Africa, Peru and Ghana, regarding their experience in the application of private voluntary standards. The fruit and vegetable (F&V) sector was chosen because these are high value products with favourable export growth prospects and allow developing countries to exploit their abundant resource - labour. Fresh F&V trade accounts for about 15% of total agricultural trade and is expected to increase (Huang, 2004:3).

11. While due to its limited nature this study can not answer all these questions, its aim is to shed some light on the issue of private standards and access to global value chains based on experiences of actual exporters and producers in meeting standards in selected countries. The rest of this paper is organized as follows: Part III discusses some of the important issues in developing country access to the global value chain; Part IV describes the method of analysis; Part V presents what was learned from the case studies; Part VI discusses the relation between private standards and small holder agriculture, and Part VII draws conclusions.

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1 While the goal of trade agreements is to facilitate trade and to make doing business easier for producers of goods and services, yet allowing governments to meet their social and environmental objectives, the potential for trade is not always realised when supplies do not match specific product demands http://www.wto.org/english/thewto_e/whatis_e/whatis_e.htm

2 Report of the meeting of the WTO Sanitary and Phyto-Sanitary Measures Committee, 29-30 June 2005 http://www.wto.org/english/news_e/news05_e/sps_june05_e.htm

Part III. Major issues in developing country access to the global value chain

A. Sourcing along the supply chain: the various roles of exporters

12. Trade in the fresh produce sectors is increasingly managed by global buyers that are linked to major retail chains.[3] Although these retailers only source about 25% of their fruits and vegetables from developing countries, primarily for off-season and tropical products, their imports are sizeable, thus providing a significant earnings opportunity for those developing countries who can comply with the standards (OECD, 2006). Supermarkets now account for the major share of fresh F&V sold in North America, Australia and most European countries.

13. Developing country producers can be linked to retailers either directly or through exporters dealing with retailers or global buyers/importers. Generally global buyers/importers link retailer demands to producers through exporters based in developing countries. These exporters, often in close contact with the importers, are responsible for ensuring that products meet quality, private standards' requirements, volume and delivery schedules set by the foreign buyer. Where firms are large or even medium-sized but experienced, the task for exporters is simply that of a trader - managing supply logistics.

14. Exporters in developing countries are very often not simply traders, but are also closely involved in production, either through their own production or through that of out-growers who are generally small-scale. They can also exclusively manage production of medium and small-scale producers and not produce themselves. They thus have the key role in integrating small and medium size producers into export markets. Where small producers dominate production, such as in much of Africa and parts of Latin America, the role of exporters is a combination of a farm manager, safety inspector and trader. How is this done? While there are variations, the exporters provide inputs, supervise, or at times undertake pesticide applications, product testing and field level record-keeping as well as ensure that all PVS requirements are met. In this hands-on management model they are the drivers behind the certification process for small and medium size producers, just as they are the drivers for bringing these small producers into the non-traditional F&V sector.

B. The role of industry and public-private sector associations

15. Regulatory frameworks, government agencies and industry associations define the business environment in which the F&V sector in developing countries operates. Industry associations, particularly the large ones with experience, are invaluable aids to members through engaging in marketing and promotional activities, providing technical assistance and collecting, analysing and disseminating industry information. At the same time, they keep members abreast of key regulatory changes in export destination markets, initiate and/or manage R&D programmes of value to all members and lobby governments for special needs. Where the government and industry see the role of the public sector to 'accompany' private sector initiatives, such as in Chile, they have together been able to find solutions to problems faced by industry, without resorting to excessive regulatory oversight or government subsidies. This public-private collaboration has proved very effective in helping the Chilean agricultural sector to make the transition from a small bean, lentils and wool sector, to one of the world's leaders in temperate fresh fruit export markets.

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[3] Procurement of fresh F&V has been consolidating with the rest of the food chain, centralised distribution centres have begun to serve chains over wide geographic areas. International trade in F&V is also handled by fewer agents as alliances between traders and grower-shippers (integrators) across continents begin to emerge in part to counter balance the market power of the retailers (Cook, 2003). At the same time specialisation is also emerging where a specialised seller will provide year-round availabilities of products following strict criteria from quality, to food safety and traceability.

16. It appears from the interviews which were undertaken for this study, that exporters in South Africa would like the government to adopt a policy similar to that of PROCHILE, and to assist industry more actively. Peru has developed a number of industry associations and public-private partnerships which resemble those of its successful neighbour, Chile, and these have certainly helped create its fresh asparagus export sector, which is now the world's largest. Industry associations have been heavily involved in technology transfers from the United States, often channelled through government agencies. Ghana also has a number of industry associations which are helping to develop the export sector. The overall export promotion agency is now engaged in more industry collaborative efforts, but these are still far from what is being done in South Africa, Chile and even Peru.

17. The increasing levels of technical know-how and management required throughout the production process, as well as in product delivery needed by exporters/producers, raise the issue of effective market access (Wilson *et al.,* 2003; Dolan and Humphrey, 2001; Farina, 2003; Reardon and Farina, 2002; Raynolds, 1994). Major buyers deal only with the best and well-established exporter/suppliers, capable of providing consistently adequate supplies and quality (Thrup, 1995; Dolan and Humphrey, 2004; Reardon *et al.,* 1999; Reardon and Farina, 2002; Reardon and Timmer, 2004). Even where small producers are able to produce according to PVS, it is not clear they can retain their access to exporters given their size. It may be simply too costly, in terms of transactions/management costs, for them to deal with many small producers. The Kenya green bean experience is often cited as an example of the results of increasing standards on small farmer access to markets.[4]

C. Meeting the private standards challenge

18. Private standards are here to stay and large retailers with market power will enforce them, along with other commercial requirements, such as volumes and flexible delivery schedules. This new environment means that producers in developing countries will need to be able to adapt to the resulting evolution in demands. The largest and most able producers operating in countries with good infrastructures, services and experienced industry associations fare quite well in export markets. They are equally as competent and successful as any OECD producer. There may be periodic adjustment costs, but these demands are often just another element in doing business.

19. But a very large segment of producers in many developing countries, that is the small and even medium sized producers, are firms with limited resources. For these producers, the new commercial economic environment could become an impediment to accessing GVCs. They frequently face a simultaneous set of constraints in complying with private standards. Some of these are internal to the producer or production process, and some of them are external, and can not be relaxed through the farmer's own actions. These external constraints are those that relate to infrastructures and services and include such

[4] Green bean production for UK markets was originally undertaken in the 1970s-80s by many small farmers who delivered their production to local markets where exporters purchased them and sold them in turn to importers for wholesale markets. As food safety standards rose and supermarkets gained a larger share of fresh produce sales, making quality and scheduling of quantities an imperative, wholesale markets were no longer a reliable source for green beans of the type, quantity and quality necessary for retail sales. Direct purchases through integrators/exporters increased in the 1990s and the UK FSA 1990 spurred large retailers to develop written procedures laying out their precise requirements. These were then followed up with audits of products and farms, exchange of information and on-site inspections. The retailers also began to use annual contracts which gave suppliers and farmers stability and incentives for investments to upgrade. This is a radical change in the way of doing business, from open markets to contractual supplies. Consequently, those small-holders unable to meet new retailer requirements were no longer able to supply the UK and other similar demanding markets, and were marginalised. Only those that could remain tightly integrated with large exporters, through contracts, remain linked to the lead retailer trade (Jensen, 2005, Dolan and Humphrey, 2001).

factors as lack of reliable energy supplies, deficient transport and telecommunications systems, lack of cold storage and testing facilities, and insufficient technical assistance and extension. The internal constraint to the producer is that related to his own physical and human capital, which can be severe in case of small-scale producers.

20. According to the exporters-producers interviewed in the case studies, meeting PVS's is essential, or an entry ticket, to accessing GVCs. Similar conclusions are found in the literature (Jensen, 2005; Gibbon and Ponte, 2005; Henson and Reardon, 2005). What is needed to relax the constraint for small and medium-sized producers? The investment required to upgrade and thus relax the constraint, will depend on the producers' initial set-up, or how 'far away' he is from the required one set by the PVS. For small producers who cannot benefit from economies of scale, these fixed, up-front costs may be too large and not be an economically viable option given their lack of economies of scale. For large producers, upgrading is generally not a constraint, since they have access to credit. In addition there are the costs of annual audits and certifications, along with constant upgrading, to keep pace with the new demands.

21. Other requirements of PVS schemes, such as record keeping for traceability and application of chemicals as part of good agricultural practices, are also part of the difficulties faced by smallholders in being certified and thus accessing markets for high value products. These latter difficulties reflect the fundamental lack of human capital, engrained cultural habits and lack of a 'market mindset', as well as a heritage of persistent poverty.

22. In all likelihood, PVS will continue to increase in scope and stringency overtime (OECD, 2006). This fact, coupled with trends in global sourcing, raises the question of whether small-holders can be integrated into the commercial export system and remain in the system in the long term. Given the sums necessary to be certified under the PVS schemes and the management efforts required, some may ask about development strategies postulated on smallholder production of high-value F&V for export. This evolution may also raise the issue of the possible divergence in income and capacities over time between those who can be part of the trading system and those who can not.

Part IV: Method of Analysis

A. Case Study Approach

23. Few, if any, empirical analyses of private standards and market access for developing countries exist, thus this study contributes to providing some comparative information on the topic. The case studies focus on the effects of PVS on fruit and vegetable (F&V) exports of developing countries. The fruit and vegetable sector was chosen because exports have experienced significant growth in recent years and the trend is likely to continue. Furthermore, the F&Vs are put forth as products for which many developing countries have a comparative advantage due to natural agro-climatic conditions and abundant labour supplies, and hold income generating potential for small-holders.

24. Specific product selection was done in collaboration with country experts to identify those products where private standards are applied. Selecting only exporters/producers using private standards biases against finding private standards to be exclusionary or a significant constraint to market access. It does however permit to identify many of the challenges that have had to be overcome to access these markets. Furthermore, the questionnaires did contain questions specific to small-holders potential to enter high value export markets. In addition the issue was specifically addressed by country experts.

25. Countries with different income levels and geographic locations were selected, in order to understand how private standards might differentially affect potential market access. Economic development was measured by GDI per capita with data taken from the World Bank. The countries

selected for study are Ghana and Peru (low income), South Africa and Chile (middle income). See Annex I for a brief summary of general economic characteristics of the selected countries.

Table 1. Product coverage in the country case studies (figures in brackets are GDI per capita)

Chile (USD 6500)	South Africa (USD 5200)	Peru (USD 2200)	Ghana (USD 600)
Table grapes Apples Cherries	Table grapes Apples and Pears Citrus Avocados	Asparagus Mangoes	Pineapple Mangoes Papaya

26. The interviewees were chosen so as to reflect some of the diversity in production and export sectors; both large and small operators were interviewed in each country. To understand the institutional framework in which firms operate, interviews were also undertaken with public authorities and producer and export associations dealing with specific issues, such as food safety, GAP, quality control and general infrastructures.

27. Exporters and producers were considered the two main categories of agents affected by PVS schemes. The case studies discuss the results of the interviews with producers, exporters, industry associations and government agencies. Country expertise was brought in through consultants who were responsible for selecting interviewees - exporters and producers - within the criteria of diversity of agents in each category. Producers were chosen from those supplying to exporters that have been interviewed. Interviews were done in person; they were based on a questionnaire that was discussed at the meeting of the APM Working Party on 3-4 November 2005 [AGR/CA/APM(2005)26].

Part V: What was learnt?

A. Synthesis of main issues

28. This section discusses the main findings from the case studies, underlying common constraints and benefits of compliance with private standards as a means to access GVCs.

29. While all case studies followed a common framework in terms of exporter and producer interview questionnaires, there were substantial differences in the synthesis of the materials and their presentation. This makes simple tabular comparisons subject to misinterpretation and, consequently, this is not undertaken in a systematic manner. A common set of issues, challenges and benefits clearly appear from the case studies. Nonetheless, the specificity of each product/country and their history must be taken into consideration, as initial market structures as well as overall economic and institutional setting can be determinant to accessing the GVCs.

30. For instance, South Africa has almost one hundred years of experience in exporting F&V to Europe, and Chile's role in world fruit trade as been well underway since the 1980s. This is in contrast to Peru, which has little more than a decade of experience for a very limited set of high value products, and Ghana, which has severe constraints both in terms of product and experience. This means a differential stock of social and physical capital has accumulated in the sectors, and these differences can be crucial to access and performance. Those who are already operating in the chain may need only to make marginal

adjustments, while those attempting to break in have to make major efforts just to catch up.[5] Simply said, history does matter.

31. While there are common challenges and benefits that appear in all four case studies, their differences lie in the extent to which these are binding and how much effort, at the individual, sectoral or national level is needed to relax them.

B. Which standards?

32. Most private standards required at the farm level are some form of 'Good Agricultural Practice' (GAP) scheme, with the objectives of ensuring food and worker safety and minimizing environmental damage. The actual requirements of the GAP standard applied will also incorporate regulatory requirements, particularly where their application is intended to facilitate trade. Box 1 describes the general Gap standard.

Box 1. Good Agricultural Practices (GAP)

Private standard schemes for good agricultural practices (GAP) use a 'quality management' approach, with checks at key activity points to monitor production processes. The focus is on critical control points similar to HACCP systems to ensure food safety, but extended to include worker safety and to minimize environmental damage. Many countries, both OECD and non-OECD, have been adopting voluntary GAPs for agricultural production.

While adhering to a general risk management approach in agricultural production, these schemes in terms of protocols can be quite different. They may not only differ in objectives emphasized but also in terms of traceability, range of permitted agricultural practices, farm structures, hygiene and safety procedures, etc. They all require recording of pre and post harvest agronomic practices, as well testing procedure results. These GAPs have increased in importance globally as demands for traceability of foods has increased in the 'farm to fork 'optic.

33. EurepGap was the most frequently cited standard to which exporters-producers are compliant. This is largely due to the large share of fruit and vegetable sales of these exporters to Europe, and the fact that EurepGap represents the standard developed by the Euro-retailers fresh produce working group in order to harmonize minimum food safety standards. The results of the interviews support the growing global reach of this standard and, moreover, the importance of buyer driven global value chains in shaping the food system (see Box 2). Often alluded to in the sectoral development and literature, EurepGap appears to be the most widely applied standard for GAP.

Table 2. Private Standards schemes applied by exporter-producers

Farm level private standards	Chile	South Africa	Peru Mango	Peru Asparagus	Ghana
EurepGap	100%	100%-exporters	100%	100%- to EU	EurepGap
SQF1000	Some	8%		-	-
Pro-Safe	To US				
GAP-US				100%-to US	-
ChileGap	75%				
Retailer schemes: Natures choice				Some	

[5] This should not be read to imply that newcomers can not enter markets and be successful, only that it may be more difficult to do so.

34. Where exporters/producers export to several destinations or buyers, they must frequently comply with several standards simultaneously. This is costly in time and money. Where some processing is undertaken by either exporter or producer, such as packaging, washing and cutting, firms must also comply with private manufacturing standards. These, too, are most often defined by retailers, such as the British Retail Consortium Global Standard (BRC) or the International Food Safety (IFS) developed by German and French retailers. Other frequently named standards were the Dutch-HACCP, SafeQuality Food (SQF2000), Pro-safe-Davis Technologies and BASC, an anti-terrorism standard for exports to the US.

Box 2. EurepGap

Developed by the Euro-Retailer Produce working group (Eurep), EurepGap is a widely applied standard for Good Agricultural Practices whose objective was to reassure consumers that food was being produced in a safe and sustainable manner within the context of a globalised food economy. Given the dominance of these retailers on the global markets for fresh fruit and vegetables, it is natural that their scheme dominates the market compared to others.

EurepGap is a quality and safety management system, or metasystem, providing tools for verifying best practices in a systematic and consistent way. This is done through the use of product protocols and compliance criteria applied to food safety, environmental sustainability and worker health and safety. These protocols, and the fact that national GAP schemes can be benchmarked by EurepGap extending participation under the scheme, are seen as important in fulfilling a basic aim of facilitating trade in safe and sustainable farm produce. For a listing of the specific criteria according to product scheme, see critical control points documents at www.eurep.org.

EurepGap certified producers have grown substantially in the recent years. In summer 2002 there were 3 889 EurepGap certified growers in 20 countries in the world. EurepGap is now used in over 50 countries and has certified upwards of 36 000 farms, a nearly ten-fold increase. The number of farms in developing countries which are seeking certification is also rising as exports to EU increase, implying an increasing effective demand of F&V with EurepGap certification. The number of retailers that are actually members of EurepGap for the F&V protocols is still limited but its popularity seems much greater. This is because anyone can effectively ask for a EurepGap certificate as condition for a sale. In this case the EurepGap certification signals that suppliers are capable of supplying high quality products and non-members may select suppliers from this set. In addition it is possible that exporters and importers, not willing to maintain two separate compartmentalised systems, will opt for supplying certified products alone, even if only some of their clients require it, Humphrey(2005,p.19). Thus some buyers may purchase certified products without actually asking for them.

B. Complying with the standard: challenges and benefits

35. Generally, the key requirements for compliance with PVS are: good agricultural practices as defined by protocols of the specific standard, traceability and worker safety procedures. However, since all interviewees were EurepGap-certified, their responses clearly relate to the difficulties or benefits of this standard's compliance criteria.

1. Costs of compliance, audits and certifications

36. To comply with GAP requirements, investment in equipment and buildings for chemical storage, hygiene and temperature controlled facilities, among others, are often needed. For farms that are able to benefit from economies of scale, these are simply requirements for doing business. For small-holders, particularly where there are no economies of scale to be had, the costs may be prohibitive for them to remain in the high-value chain.

37. Survey results indicate that once farms are compliant, the recurrent audit and certification costs of private standards were not excessive in relation to sales. For Chile they amounted to 1% or less of sales and in South Africa about 4%. In Peru these costs varied between 4%-15% of the farm gate price for mangoes, thus volumes will be a determinant of profitability as a portion of these costs is fixed irregardless of size. Even for Ghana, costs of audit and certification were relatively limited, USD 50 for an 8 ha farm with sales of USD 20 000 and for a 400 ha farm with sales of USD 1.2 million, costs amounted to

USD 12 500. And this result takes into account the costs of certifiers who must be flown in from other countries such as South Africa. EurepGap now provides for group certification and this reduces recurrent costs substantially.

38. Undergoing the audit procedure may, however, also improve efficiency in farming practices and use of inputs. These were reported in Chile, Peru, and South Africa. However, it is also possible that changes in production practices may increase production costs which may not be necessarily compensated by increased efficiencies.

Table 3. Examples of compliance costs for meeting PVS from case studies

	Chile	South Africa	Peru	Ghana
Recurrent costs of annual audit and certifications as a %of price or sales	<1% of sales	~4% of sales	4 to 15% of farm gate price	<%1
Upgrading investments	USD 22 000 to 25000 depending on size	N.A.	N.A.	USD 400-500 for an 8 hectare pineapple farm to USD 100 000 for a 720 ha farm.

39. The most binding constraints to meeting the PVS are the upfront costs necessary to upgrade the farm itself to be able to comply with GAP. This can include buildings for storage of chemicals, changing-rooms, toilets and dining-rooms or upgrading of packing and washing facilities. These costs will vary according to the standard adopted but also the initial conditions of the farm. For instance, in Ghana, EurepGap compliance costs for a 15-20 acre pineapple farm were about USD 400-500 but for large farms they can be more substantial. For example, a 1 000 acre pineapple exporter producer has spent USD 80 000 to be EurepGAP ready. In Chile, a grape producer estimated compliance costs so far had been USD 220 000 but that further investments were still required, *e.g.* in machinery and a loading platform.

40. In a global markets context, exporters are shipping to multiple continents and often to more than one buyer in the same country under different private standards schemes. This can mean duplicate audits for the same product where the standards are essentially certifying conformity to the same set of attributes. This increases costs, both in time and money, for producers and exporters and could be constraining if profitability or sales are not increased as a result. To meet such double or triple certification problems, Chile's exporter association, ASOEX, with help from government agencies, developed ChileGap, building upon Chile' s own Gap standard. This standard incorporated the requirements of the US market for GAP and the EurepGap standard requirements and has been benchmarked by EurepGap. Thus, exporters/producers can have only one certificate, ChileGap, and export to both markets. This means, of course, that being certified ChileGap one is automatically certified EurepGap, but not the inverse.

2.-Record-keeping and traceability

41. Record-keeping at the field level has become complex because more and more information is being required by importers to satisfy their clients, who are lead retailers in the case of EurepGap. Medium and large firms are required to have managers who are responsible for ensuring the detailed record-keeping demanded by importers/buyers and most often use ICT at the field level. Farm workers generally have low levels of literacy and for them therefore, this would be an impossible task. Small producers also find themselves in the same predicament, and thus these tasks are generally taken on by the exporter.

42. Record keeping on chemical use at the field level is now being integrated into the commercial traceability demands of retailers, this procedure yields a chemical application history of a given field/orchard and is considered important when thinking in 'due diligence' legal terms. This appears to have become a commercial requirement for the UK. Many supermarkets in other European countries are requesting similar procedures, although such detail is not required by law in the EU.

43. Demands for detailed recording of agronomic practices at field/orchard/vineyard level, can be a formidable task, and to be efficient and accurate are often heavily dependent on the use of ICT structures and competences. New technologies are being developed to permit tracing and tracking which are necessary should a food safety problem arise. But some experts and interviewees asked if there is a limit to what, should and can be traced. With new ICT technologies almost everything can be tracked and traced, but is this necessary?

44. The costs of record-keeping and use of tracking systems from the field to the exporter can be significant. Salaries of managers undertaking these tasks as well as the specialised ICT equipment that must be used, for instance in bar coding, mean both fixed and recurrent costs to the producer. For small exporters/producers these costs could be a constraint to accessing certain GVCs. For instance in Peru, managerial costs for record keeping and other management tasks for mangoes were reported at about USD 800-1000 per month. Not all of this is attributable to record-keeping, but does represent a large share of it.

45. Many large producers and exporters are already ICT equipped, or are in the process of becoming so, particularly in Chile, South Africa, and Peru. But where small-holders dominate production, it is unclear how they can remain in the value chain even when exporters take over the tasks of chemical use and record keeping through specialised personnel. In any case, these costs are debited to the producer earnings at the end and the transactions costs of exporters are often such that they prefer simply not to have to deal with small producers. As long as products are in short supply the small producers will remain in the chain. But for how long will this last?

C. Which private standards are the most difficult to meet?

46. The following section provides a brief synthesis of the producer and exporter interviews for the case studies of Chile, South Africa, Peru and Ghana. It presents a brief overview of what first exporters and then producers see as the most difficult requirements of PVS and briefly discusses what is seen as the main benefits. The types of firms interviewed differ substantially. Exporters are also very frequently producers themselves, or have responsibility for the production of their out-growers, and some producers have their own exporting firms and do no out-sourcing for supplies.

47. The following were cited by *exporters* in the case studies and interview materiel as the most difficult requirements.

- Record-keeping by producers/out-growers,
- Chemical use management,
- Management of different standards systems, that is compliance of different schemes by the same producer,
- Certification, in particular for attesting to good manufacturing practices,

- Transforming the mindset of producers, particularly small and medium producers, to a market-oriented approach,

- SPS requirements and diverse country regulations, which are the basis of the private standards,

48. For *producers* the main constraints voiced in the interviews were more related to changes required in agronomic practices which are undertaken on a regular basis.

- Food quality standards, particularly in the harvest and post harvest part of the operations, such as picking, transport and cold chain. This is clearly also a major preoccupation of exporters,

- Food Safety: worker hygiene, minimum residue levels (MRL) and micro-biological compliance, pesticide selection and applications,

- Testing facilities: equipment and procedures in importing countries do not necessarily correspond to those in exporting countries,

- Record-keeping and traceability: recording in the field requires skilled labour and new traceability requirements make ICT methods necessary in some cases. This added cost and competence is difficult to meet,

- Worker safety and hygiene: difficulty in changing cultural behaviours,

- Investments required in buildings and equipment: chemicals storage, hygiene facilities, changing facilities, secure equipment for chemical use, *etc*.,

- Information on foreign market regulations and private standards compliance.

49. From the interviews, the following emerged concerning what producers/exporters saw as the main benefits of private standard certification:

- Access to the global value chain, which is essential for commercial exports to developed countries, and the possibility to develop longer-term trading relationships,

- Improved efficiency in operations: reduced costs through better use of chemicals, organization of tasks, increased information on proper use and storage of pesticides to improve worker safety,

- Increased information on proper use and storage of chemicals with fewer negative environmental effects,

- Improved worker safety through proper attire for chemical use as well as through changes in storage procedures and separation of different tasks.

D. Infrastructure and services

50. The case studies all concurred on the importance of good infrastructure and services for the development of a competitive fresh produce export sector. A summary of the assessment of infrastructure by interviewees is given in Table 4.

51. Fulfilling standards is an essential and a necessary requirement but not sufficient to access the global value chain. Telecommunications, energy supplies, roads, ports, rail and air systems with adequate

cold storage facilities must be reliable in order to deliver the product to the buyer, intermediary or final. Where countries are inherently deficient in these key services and structures, supply logistics systems necessary to operate in the GVCs do not function and market access is indeed difficult. This is particularly relevant for the high value fresh fruits and vegetables export sector which demands substantial coordination of production, transport, storage and delivery.

52. Some private and public collaboration to find solutions to bottlenecks in the system can be informative and provide some alternative ways of dealing with these problems. Peru's asparagus export sector, finding itself constrained by lack of cold storage at airports, developed the aereo frio, which is the largest cold storage facility in Latin America. This facility permitted maintaining high quality in asparagus before shipment in temperature and air controlled containers.

53. Overall the producers and exporters of South Africa and Chile were satisfied with the level and quality of infrastructure and services, with those in Chile finding them to be good, but requiring further improvements. Peru's exporters expressed substantial frustration with high costs of certain services such as telecommunications, air transport and port services, as well as unreliable roads. This is particularly true for the mango sector, which, because of high transport costs, may not be competitive in the longer term with competing countries, such as Brazil and Ecuador. In Ghana, exporters and producers were very dissatisfied with the present infrastructure and supply of government services. The infrastructure is unable to provide minimum necessary services to the operation of a commercial fruit and vegetable export sector. This includes energy supplies, telecommunications, road system, ports, testing and R&D facilities, extension services and marketing and information services. What is the cost effectiveness of upgrading individual farms to produce high quality produce if it can not get to the port or airport due to roads or cold storage systems that fail due to blackouts'[? This raises issues of the opportunity costs of such investments.

54. The main types of constraints cited in the case studies revealed the following infrastructure constraints that exporters/producers face. These can often jeopardize efforts to meet market demands. There appears to be two types of constraints, those related to the sector and those of a macro nature relating to the entire economy.

Sector constraints:

- Export association marketing services to explore new market opportunities,
- Research and development of new varieties that better respond to new demands and include advances in agronomic technologies,
- Centralised technical assistance to help all farms to develop more efficient and sustainable practices,
- Cold storage facilities at ports and airports (except air Peru/South Africa),
- Sufficient accredited laboratory testing facilities.

Constraints at the macro level:

- Reliable energy supplies,
- Reliable and low cost telecommunications,
- Reliable and efficient transportation systems, airports, ports, roads and rail systems,
- Macro-economic stability.

Table 4. Interviewee assessments of infrastructures in case study countries

	Chile	South Africa	Peru	Ghana
Reliable energy supplies	Good	Satisfactory-periodic 'brown or black' outs	Satisfactory	Poor
Good Telecommunications, internet	Good, competitive prices	Good but expensive and rural area often deficient	Not always reliable and need more internet capabilities in rural areas	Poor quality and inadequate in quantity, but improving
Road transport	Good	Good but maintenance could be improved	Main roads excellent but local roads are poor	Poor
Port Facilities	Good	Congested at peak periods	Poor and priced too high compared to competitor exporting countries Brazil and Ecuador	Poor -insufficient and not competitively priced
Air transport facilities			Expensive, limited and often congested at holiday periods when produce needs compete with other products	Satisfactory low cost, but lack of cold storage facilities and road access creates shipping bottle necks
Cold Storage	Good largest port cold storage facility in Latin America	Good but must be increased to deal with supplies	Poor at the ports but excellent at air terminals.	Severely lacking in quantity and quality
Testing facilities/laboratories	Good	Need more high quality facilities particularly for testing MRL's		Satisfactory for phytosanitary control by government, non existent for MRLs must use either South Africa or EU
Accredited certifiers	Yes	Yes	Yes	No
R&D of new products and varieties	University public monies and industry association funded	University public monies and industry association funded	University public monies and industry association funded, but considered inadequate	Donor and NGO funded
Public based export regulatory information	Public private partnerships(PPP)	PPP	PPP	NO
National Regulatory Infrastructure	Yes: food safety, hygiene, labour and environment	Yes : Food safety and hygiene, labour, environment Export legislation	For asparagus and mango Food safety and hygiene, labour and export legislation	Minimal

Part VI. Private Standards and small-holder agriculture: exclusionary or not?

55. An additional objective of examining the impacts of private standards and trade was to understand the possible effects on small-holders in developing countries. With the emergence of increasingly demanding private standard schemes, questions have arisen as to whether the small-holders will be able to benefit from trade liberalisation. Development strategies to increase sources of income for small-holders, through trade in high-value products, have been constructed on the premise that given their abundant labour supply they should have a comparative advantage in those crops which make use of this resource. Fresh fruits and vegetables are more intensive in labour use than homogenous commodities, and are of higher-value. Thus, fruit and vegetable export crops have been widely promoted through trade related capacity programmes.[6]

56. But global markets for high-value products are very often ones that are retailer dominated, for which access is keenly competitive and for which quality and safety requirements are stringent. In addition, they require deliveries of specific volumes at scheduled times. For exporters dealing with small holders, these two requirements are often difficult to meet on a regular and reliable basis.

57. Where orders require certified produce, integrating small-holders in the GVC chains implies getting them certified. However, the constraints for doing so can be severe and are often not easy to relax. Such constraints include:

- Low levels of education/literacy prohibit many from easily understanding and adopting the requirements of national legislation, GAPs and/or other private standards,
- Technical agronomic assistance and extension is needed to improve quality, safety and productivity,
- There is a lack of record keeping skills, tied to literacy,
- Management skills are lacking,
- Personal and farm hygiene behaviours are often in need of change,
- A move is required from a production to a market oriented mindset,
- The costs of certification and upgrading can be high, if not prohibitive,
- There is a need for supervision or monitoring of production behaviours, and
- Associative participation is limited.

58. The major donor and assistance programmes have been sponsoring different types of aid packages, such as low cost loans to farmers, agronomic training and literacy projects, investments in local infrastructures and promoting public-private partnerships in agro-food industries. But what aid and cooperative efforts have the potential to change earning capacities of these small-holders over the long-run and how to evaluate the opportunity costs of such aid? Clearly, certain agro-business projects, such as private donor funded "Blue Skies", have been a success.[7] It is important to understand the mechanisms behind such success stories and whether these can be replicated.

59. This study attempts to contribute to the discussion by considering what country experts and those exporters and producers who can and do meet the stringent demands, are saying about challenges which small holders face to comply with the evolving private standards, which nowadays are the entry

[6] Development aid agencies as DFIS, GTZ and others have operated such strategies in Kenya, Ghana and Uganda.

[7] Blue skies is a fresh pineapple processing firm in Ghana, established on the initiative of a private UK donor to promote access of pineapple growers to high value markets.

requirement for GVCs.[8] All four case studies highlighted the difficulties of small-holders in meeting private standards in terms of quality, food safety, GAPs and traceability. The experiences in individual case study countries are briefly summarised below to help understand the difficulties for small holders of entering high value export markets.

Chile

60. The expert view in Chile is that it is exceptional to find small producers; that is a farm with 7 or less hectares of land, involved in the fruit export market. This sector is capital and knowledge intensive, requiring sophisticated management skills as well as traditional economies of scale for investments, inputs and certification costs. However, there are sectors such as nuts, avocados and grapes and berries in which small holders are competitive. Some of those interviewed suggested that because the export business relies heavily on management capacities, it is possible for small farmers with a high value product to participate if they are skilled managers. But small-holders, overall, have low management skills, low educational and literacy levels as well as scanty technical agronomic knowledge, all of which are essential to be part of the modern export system. They also have low rates of participation in producer or export associations which were found, in Chile at least, to be an aid and stimulus to successful participation in global markets

61. Over the past 5 years the Institute of Agricultural Development (INDAP) has attempted to introduce simple cost, sales and production record keeping to peasant farmers, but the effort was not generally successful. Failure could be attributed in part to lack of basic literacy and numeric skills but also lack of a 'business-like' mentality, as well as experience in being part of the market.

62. Since 2004 INDAP has been providing training for small farmers producing berries and honey, both of which are labour intensive and in which small farmers should have a comparative advantage. The approach taken is to fund an initial diagnostic of the farm, design an intervention programme for implementing GAP, provide funding for audits and certification and loans for investments required for GAP compliance. It was expanded in 2005 to include other products such as flowers and avocados. Experts from INDAP in charge of the program are not too optimistic about the outcome. They expect that future market access to high-value chains will remain limited, because the small fruit farmers essentially have only limited management skills and have difficulties in record keeping. This in turn creates problems in complying with traceability, as well as with adapting to the continued evolution in requirements.

63. The small-holder issue remains a difficult problem, even in a country such as Chile, with its experience in high value fresh fruit exports, where infrastructures are good and where industry and public sectors successfully work together. The question then becomes whether public efforts, in stead of aiming for GVC access for small holders, should be directed to either helping them to adapt out of agriculture or to supply the local or other less demanding markets in terms of quality and certifications.

[8] Reardon underlines the growing importance of the rise in supermarkets in domestic markets which absorb 95% or more of small-holder output. As these supermarkets also begin to shift in procurement organization, imposing standards on products and processes previously marketed as bulk items, these farmers could also be marginalised. Outcomes depend on how fast and to what extent 'supermarketization' advances in developing country markets. The process is already advanced in Latin America but still remains limited in parts of South East Asia and Africa.

Peru

64. In Peru, the mango sector is a traditional sector, dominated by small-scale producers who operate on the local market. This market absorbs 60% of production and the remaining 40% is exported. The biggest constraint for export growth has been the sourcing of sufficient quantities of quality mangos due to competition with local market demands. Exporters are mainly Peruvian firms, though there are some joint-ventures with foreign import firms or specialised buyers which invest in order to secure supplies for their domestic market clients. Those who have entered the market for export reasons have benefited from strong demand and have had to find solutions to sourcing supplies. Exporters-producers have had to integrate small producers to achieve necessary volumes on a regular basis as well as for periods of high demand.

65. Importers are increasingly requiring certification to EurepGap for the EU market, although many EU importers are still accepting a GAP (Peru based) certificate. To face constraints that sourcing from small-holders presents, such as low levels of literacy, poor hygiene habits, low record keeping ability and lack of knowledge in the use agro-chemicals and other agronomic procedures, exporters have taken on the task of integrating small-holders into their supply base. They do this by assisting them in farm upgrading to meet certification standards, as well as in audit and certification costs. In view of the small volumes marketed, certification for small-holders would not be financially feasible given the necessary investment as well as recurrent costs. In addition, without substantial monitoring, technical assistance and a complete reversal in hygiene and market behaviours, consistent compliance with standards would be very difficult.

66. One solution to certifying producers has been the use of joint certification. Farm production is certified EurepGap, the common demanded certificate, and is issued in the name of both the farmer and exporter. To avoid being tied to one exporter uniquely, which could be a disadvantage for the farmer in terms of having only one market option, small-holders can have several joint certificates which permit some price negotiation. The same argument holds for exporters. For the moment certification is not a problem for small holders given the exporters' willingness to partner with them in the process and to provide assistance.

67. To some extent the certification problem has been covered up by some exporters, who in order to achieve needed export volumes, mingle certified with uncertified products. Thus, production from medium-sized producers, who are legitimately EurepGap certified, is exported with non-certified production from small-holders. Exporters deem EurepGap certification is imperative for access to European markets. However, some leniency is permitted as long as firms can demonstrate that produce is GAP (Peru based) certified and that efforts and progress are being made towards EurepGap compliance. However, it is unclear how much longer the grace period will last. This could also depend on progress made towards EurepGap certification by Peru's competitors. In this optic, exporters try to give evidence of progress in sourcing larger and larger portions of their product from certified sources.

68. With respect to the development of small-holder production and exports, new forms of cooperatives have been suggested, or 'New Generation Cooperatives'. These are envisioned as entities which can finance their own managers and technical assistance and become integrated firms from production, through packing to exports. Such structure avoids intermediaries and loss of revenues. Larger cooperatives would benefit from economies of scale, have better quality assurances and also ensure worker health and safety, which could be attractive for exporters. Moreover, eventually such cooperatives, if large enough, could also consider financing their own packing facilities and export operations and attempt to develop a 'Fair Trade' branded operation. But price competition from Brazil and Ecuador with their lower costs of transport and better shipping and transport infrastructure may limit market access to the more lucrative markets of the US, EU and Japan, where such new entrants must compete with established exporters.

Ghana

69. Except for a limited number of exporters and producers, Ghana's agricultural production is dominated by small-holders. This makes complying with, and upgrading of standards, a very difficult issue. The external constraints, such as lack of good roads, cold storage facilities, shipping facilities, reliable energy supplies and telecommunication services, lack of testing facilities, notably for MRLs, represent formidable challenges for the sector as whole. When added to the specific small-holder constraints of low literacy levels, access to land and credit and technical capacity, this implies that enormous hurdles must be jumped to access high value export markets. In fact, the sentiment is that little or nothing is to be gained from upgrading agronomic practices to comply with standards, unless the infrastructures and services to the sector were likewise upgraded to enable exporters to meet increasingly competitive commercial requirements.

70. Both exporters and producers recognize that many of these constraints are more fundamental than specific food safety, quality or environmental requirements. Those interviewed noted that the trend in the export sector for fruits and vegetables is becoming dominated by a small number of sophisticated exporter-producers. This is a trend that is considered likely to continue, with existing firms and new entrants accounting for the greater proportion of exports. To what extent small-holder upgrading is possible, is uncertain. Yet without upgrading they are relegated to the low value export sector. The Ghana pineapple sector distinguishes out-growers and small-holders. While both have less than 20 acres, out–growers are small-holders that have somewhat formalized contracts. Out-growers are supplied by the exporter with inputs such as seeds and chemicals and they receive cash advances. Upon receipt of the fruit, the company pays the out-growers for the production, less advanced sums. Small-holders are independent; they move in and out of the supply chain with most of their production sold on local markets or to processors. They are most frequently excluded from export markets because of low quality but even when offered access, many reported finding prices too low and payment too slow. This situation is somewhat regrettable since pineapple is suited to small-scale farming as investment is limited, as it requires primarily labour and farms areas near urban centres (Danielou and Ravry, 2005).

71. The experience of "Blue Skies" provides evidence that it is possible to improve the earning capacity of small-holders through integration in the GVC, but this example of a UK private donor financed export firm has not been frequently replicated. Farmapine, a Ghanain project funded by the World Bank in 1999 is using the Farmer Owner Model (FOM). In this project, small-scale farmers own the company and those that are full-time farmers were financed by the International Development Agency of the World Bank. There are currently 300 farmers working with Farmapine which was the first producer managed organisation to be EurepGap certified in Ghana. Gradually, this project has been able to certify a number of small-scale farmers but not all.

72. Reliance by government and industry on donor funds and assistance, including through NGOs, has to some extent created a dependence syndrome, constraining self reliance in numerous areas of market orientation and adaptation. The earlier mentioned projects of Blue Skies and FarmaPine were also developed with assistance from foreign firms and donor monies and expertise. While such programmes do offer hope for inclusion of small-holders in the value chain, when assistance ceases, it is unclear what the outcomes will be unless the basic infrastructures are upgraded, the overall level of literacy rises, agronomic competences are improved and hygiene culture of farmers themselves profoundly changed.

South Africa

73. The South Africa experience with respect to inclusion of small farmers in the GVC is influenced by the dual economy structure of the agricultural sector. To a large extent, inclusion problems affect black farmers because they have been hitherto excluded from high value export markets. The lack of experience,

capacity and reference points of these farmers reflect South Africa's political history of apartheid which continues to weigh on outcomes for black farmers and thus also for the sector as a whole.

74. Although apartheid was ended in 1991 and land redistributed, small farmers are often found not to make use of the available land due to lack of financial resources to purchase plants or to maintain existing orchards. The low level of literacy, agronomic knowledge and management skills, as well as lack of access to credit for upgrading of buildings/equipment and to cover recurrent certification or input expenses, limit the capacity to comply with schemes. Furthermore small farmers lack knowledge of the contents of standards schemes; most do not even know of the Agricultural Standards Act of South Africa let alone EurepGap, BRC or HACCP, though they are required to comply with their contents.

75. The lack of sufficient farm extension services and technical support also impedes the adoption of good agricultural practices by small-holders. And where non-family labour is also needed, the increase in the economy-wide minimum wage poses constraints, again due to credit limitations. Meeting basic hygiene standards are most difficult for many small farmers as the cultural habits are deeply engrained and difficult to alter. Even when they are able to be certified and recognize the benefits of certification, but do not experience higher prices, they do not perceive there are gains to be had from the upgrading.

76. Small farmers are integrated into export chains through commercial farms that use them as out-growers to meet quantity commitments or through producer associations which may manage cooperatives. There are generally few contracts between small farmers and these buyers and agreements between them are mostly informal. This indirect and informal link through larger commercial firms of small holders to exporters leads to irregularities in demand for small-holder output. This in turn renders investment in upgrading required for certification risky. However, established exporters need to comply with private standards such as EurepGap. Thus, unless small-holders can become certified themselves, their sales to exporters may ultimately end. A case in point is provided by the Masalal Pack House. This is an emerging firm supplying buyers that do not demand compliance with private standards. However, should buyers require EurepGap or similar certification, it will be difficult if not impossible for this, and for most small firms, to continue to supply them.

VII. Conclusions

77. Despite the limited number of case studies discussed and evaluated in this report, it nevertheless appears that large producers and exporter-producers are able to adapt to meeting private standards requirements for market access. They are in a position to reap the benefits from accessing the global value chains and from being linked to the leading retail firms through more stable sales relationships. Their social capital can accumulate from dealing with these chains. For small-scale producers the situation is substantially different, in that they are facing two major constraints. First, they often lack basic skills, notably education and more fundamentally, literacy. Second, they are often confronted by a lack of resources, both financial and physical, such as land and equipment.

78. Generally, private standards appear to contribute to the exclusion of small holders from export markets, even where infrastructures and services operate efficiently and reliably, such as in Chile and South Africa. Only if there is sufficient financial and technical assistance available, as well as continual monitoring and management oversight, are small-holders able to meet the private standards necessary to access GVC. Where infrastructure, both in terms of public services and institutions, perform less well, the difficulties of into integrating global value chains are increased substantially. In fact, they may be elevated to the point that resolving small-holder performance may not be sufficient, as in the case of Ghana: a pineapple grower who is able to meet EurepGap standards but who cannot ship produce to the point of export, still lacks access to the global value chain. The small-grower situation in Peru is evolving, and

through links with exporters, they are being certified in greater numbers. Nonetheless, the task is a difficult one.

79. A feasible way enabling of small-holder access to the global value chain is through contracting with exporters who need supplies to meet the required volumes in the export market. These exporters generally finance inputs, provide training, monitor production, often including managing and undertaking chemical applications and do the record-keeping. They thereby assist small-holders in becoming certified, which makes them a key actor in the integration of small-holders into the global value chains. However, the earlier mentioned constraints are formidable, and exporters are not always successful in getting their out-growers certified.

80. Even in cases where, through public/private partnerships and/or other forms of assistance, the constraints to GVC access that are *internal* to the production process can be eliminated while the *external* ones remain, the small-holder issue remains a difficult problem. The question then becomes whether public efforts, instead of aiming for GVC access for small-holders, should be directed to either helping them to supply markets – local or foreign – that are less demanding in terms of quality and certifications, or to pursue other, more viable, income opportunities.

81. Where external constraints are limited, there have been a number of experiences – either through public/private partnerships, or entirely private donor led – that have been successful in connecting small holders to the global value chain. While it is important to understand the mechanisms behind such successes and whether they can be replicated, they bring with them the risk of a dependence syndrome, rendering self reliance of small-holders difficult in numerous areas of market orientation and adaptation. Such experiences do offer hope for inclusion of small-holders in the value chain and improvement of their earnings situation, but it is unclear what the outcomes will be once assistance ceases.

82. From the case studies and supporting literature, it appears that inclusion of small-holders into the global value chain is a very complex issue. Caution must be exercised, therefore, in attributing to private standards alone the sole responsibility for the exclusion of small-holders from GVCs. That said, PVS will continue to increase in scope and stringency overtime as their minimum is set by government rules and regulations, which are not likely to move down in areas of food safety, environmental sustainability or other society objectives neither. Indeed, it is more likely that private standards will increase in stringency and scope, just as public regulations in food safety and traceability increase. Together with a trend towards increased global sourcing, private voluntary standards, therefore, will remain a hurdle to small holder access to GVCs that will at least be very costly to address.

83. The sums necessary for small-holders to be certified under the PVS schemes, the management efforts required and uncertainties as to the long-term viability of small-holder certification, raise questions about development strategies postulated on small-holder production of high-value agricultural produce for export: what aid and cooperative efforts have the potential to change the earning capacities of small-holders over the long-run? How should the opportunity costs of such aid be evaluated? And how to deal with a growing divergence in earning capacities between those who are successful in integrating the global value chain, and those who are not?

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ANNEX I

Economic characteristics of countries subject of case studies

	Chile	Ghana	Peru	South Africa
GDP (current thousand USD)	72 412 250	7 624 200	60 577 000	165 434 100
GDP per capita, PPP (current international dollar)	10 274	2 206	5 260	10 594
Structure of production:				
Agriculture, value added (% of GDP)	8.8	35.8	10.3	3.8
Agriculture, value added (current thousand USD)	5 298 394	2 729 463	5 651 266	5 552 992
Industry, value added (% of GDP)	34.3	24.9	29.3	31
Industry, value added (current thousand USD)	20 627 150	1 896 467	16 937 080	47 528 730
Services, etc., value added (% of GDP)	56.9	39.3	60.4	65.2
Services, etc., value added (current thousand USD)	34 210 570	2 998 269	33 621 690	96 901 410
Structure of exports:				
Merchandise exports (current thousand USD)	21 046 000	2 360 000	8 986 000	36 482 000
Manufactures exports (% of merchandise exports)	16.4	6*	22.1	58.2
Food exports (% of merchandise exports)	28.2	45*	26.9	9.9
Agricultural raw materials exports (% of merchandise exports)	8.9	11*	2.9	2.8
Employment in agriculture (% of total employment)	10	11	2	2

Source: World Development Indicators, 2003.