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Cost-benefit analysis for identifying institutional capacity building priorities in LDCs: an application to Uganda

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ABSTRACT

Institutional constraints prevent the Least Developed Countries from fully utilizing the trade-related International Support Measures provided by development partners. A cost-benefit analysis has been developed as a methodology to identify institutional constraints and prioritize support measures comparing benefits with costs, based on survey data. Applied in Uganda, it identified critical institutional constraints: limited knowledge on how to access most of the assistance; inadequate institutional arrangements; ineffective communications regarding the use of support measures. International support measures related to sanitary and phytosanitary issues, among others, are expected to increase the trade value in Uganda.

Keywords: Cost-benefit analysis, Least Developed Countries, International Trade, Export Promoting, Uganda

JEL Classification: D61, F14, O19, O24, O55

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Acronyms

CBA	Cost-Benefit Analysis
CEA	cost-effectiveness analysis
DFQF	duty-free quota-free access
CEA	cost-effectiveness analysis
DFQF	duty-free quota-free access
EIF	Enhanced Integrated Framework
EBA	Everything But Arms
FS	Fish Stocks Agreement
ICT	information and communication technology
ISMs	international support measures
LDCs	least developed countries
MCDA	Multi-criteria decision analysis
SPS	sanitary and phytosanitary
TBT	technical barriers to trade
UN DESA	United Nations Department of Economic and Social Affairs
WTO	World Trade Organization

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1 Introduction

The least developed countries (LDCs) are developing countries suffering from severe structural impediments to sustainable development. To assist LDCs to overcome their structural impediments, international support measures (ISMs) have been made available by the international development community. The United Nations Department of Economic and Social Affairs (UN DESA) has taken the lead in cataloguing these measures (see www.un.org/ldcportal).

The support measures fall into three main areas: international trade; official development assistance (ODA), including development financing and technical cooperation; and general support. Currently, these measures are mostly related to the granting of trade preferences and financial and technical co-operation.

Among the available support, LDC-specific ISMs related to international trade are provided through the special treatment accorded in the World Trade Organization (WTO) agreements as well as by certain regional trade agreements. One well known example of a trade-related ISM is preferential market access for LDCs, such as duty-free quota-free (DFQF) access provided by the Everything But Arms (EBA) initiative of the European Union. LDCs also benefit from other special and differential treatment provisions related to the disciplines of WTO agreements. For instance, LDCs potentially have access to the technical assistance related to sanitary and phytosanitary (SPS) measures and technical barriers to trade (TBT). Trade-related technical assistance for LDCs is also provided by the Enhanced Integrated Framework (EIF).

Trade-related measures are often difficult to access due to the lack of awareness by LDCs, the complexity in the process for gaining access to these measures, and their dispersion across a range of development and trading partners. Moreover, institutional constraints are preventing LDCs from utilizing the support measures to the fullest extent. In an effort to assist LDCs in addressing these constraints, UN DESA has initiated a project with the objective of increasing institutional capacity in the governments and export sectors of LDCs to access and effectively use the trade-related ISMs. The project focuses on identifying those LDC-specific support measures addressing the limitations affecting export growth in a number of priority exports and on evaluating existing institutional capacity constraints with respect to using those measures in selected countries.[1]

Given limited resources from national budgets and the donor community, countries need to prioritize which particular institutional capacity constraints should be addressed for improving access to the various ISMs identified by the project. For this purpose, a priority selection mechanism based on a Cost-Benefit Analysis (CBA) methodology has been developed by UN DESA.

The present paper describes the identification and selection of priorities using a CBA in assisting stakeholders in one pilot country, Uganda. The same exercise has been applied to other pilot countries,

1 UN DESA project, 'Building institutional capacity in use of trade-related ISMs', is expected to contribute to advancing the development strategies of LDCs in overcoming structural handicaps and economic vulnerability (UN/DESA 2013). Since 2013, UN DESA has been implementing the project in four pilot countries, namely, the Gambia, Lesotho, Nepal and Uganda. These activities are funded by the UN Development Account. See www.un.org/esa/devaccount/

including the Gambia, Lesotho and Nepal, but we only highlight the results for Uganda in this paper as an example.[2] The paper is structured as follows: i) an introduction to CBA methodology in the context of prioritizing institutional capacity constraints in accessing ISMs; ii) detailed description on cost-benefit framework used for establishing institutional capacity building priorities; iii) results of CBA conducted in Uganda; and iv) conclusions.

2 CBA selecting capacity building options

In this paper, the definition of institutional capacity encompasses the functions (tasks) that institutions should have the competence (ability) to perform, and the human, technical and financial resources necessary to conduct and perform these tasks (Bhagavan and others, 2004; Henson and Masakure, 2012). Institutional capacity constraints in using the trade-related support measures are related to a number of factors: 1) inadequate knowledge about special measures and other support available as well as about the existing procedures to request such assistance; 2) inappropriate institutional arrangements in and among government agencies, including, among others, the absence, or unsuitable application of rules and procedures which determine the authority of the institutions to identify and access ISMs of interest; 3) coordination and communication failures within and between LDC stakeholders (trade-related ministries, exporters, producers, standardization bodies, etc.); and 4) deficiencies related to human resources, technical infrastructure, and financial support (Cortez, 2011; UNDP, 2007; Support Measures Portal for LDCs).

There can be many potential capacity building options to address institutional constraints in accessing ISMs. The decision about which options to pursue should be based on the assessment of available resources in the country and on the costs and benefits associated with corresponding capacity building options. CBA is a long-standing approach to support evidence-based decision making in this area (Layard and Glaister, 1994). The standard cost-benefit approach is to compute and then compare the costs and benefits of the options under consideration, based on a baseline scenario without any interventions, and a scenario with a particular intervention. The measured difference between these two scenarios is taken to reflect the net impact of the intervention (Nas, 1996).

CBA is not without limitations. In developing countries, particularly in LDCs, applications of traditional CBA are restricted due to limits to data quality and availability which often require compromises in terms of the scope or depth of the analysis, and raises questions about the accuracy of the results provided (Henson and Masakure, 2010).

When benefits are difficult to be measured in monetary values, cost-effectiveness analysis (CEA) has been used as an alternative approach to evaluate capacity building options. In this case, the ratio of dollar costs to a certain unit of benefit is expressed as the cost per benefit and the programme with the lowest cost is ranked as the most cost-effective (Mushkin, 1979; Kuchler and Golan, 1999). For example, CEA is often used in the field of health services, where it may be inappropriate to monetize health effect. Typically the CEA is expressed in terms of a ratio where the denominator is a gain in health from a measure (years of life, premature births averted, sight-years gained) and the numerator is the cost associated with the health gain.

Multi-criteria decision analysis (MCDA) can be considered an extension of CBA and enables capacity building options to be prioritized based on a wide range of decision criteria that are not necessarily measured (or even measurable) quantitatively. While MCDA approaches have been applied to decision-making in other areas, such as natural resource management, so far they have been little used in the area of trade-related capacity building. One recent

2 Results of CBAs for the Gambia, Lesotho and Nepal are available from the authors.

application of MCDA in the area of trade is the prioritization of SPS capacity needs (STDF, 2012).

Relatively little attention has been given to assist LDCs to apply these methods in the prioritization of capacity building programs in general, and less so in the area of trade-related ISMs. One of the reasons is the lack or unreliability of data which are necessary for implementing such analyses.

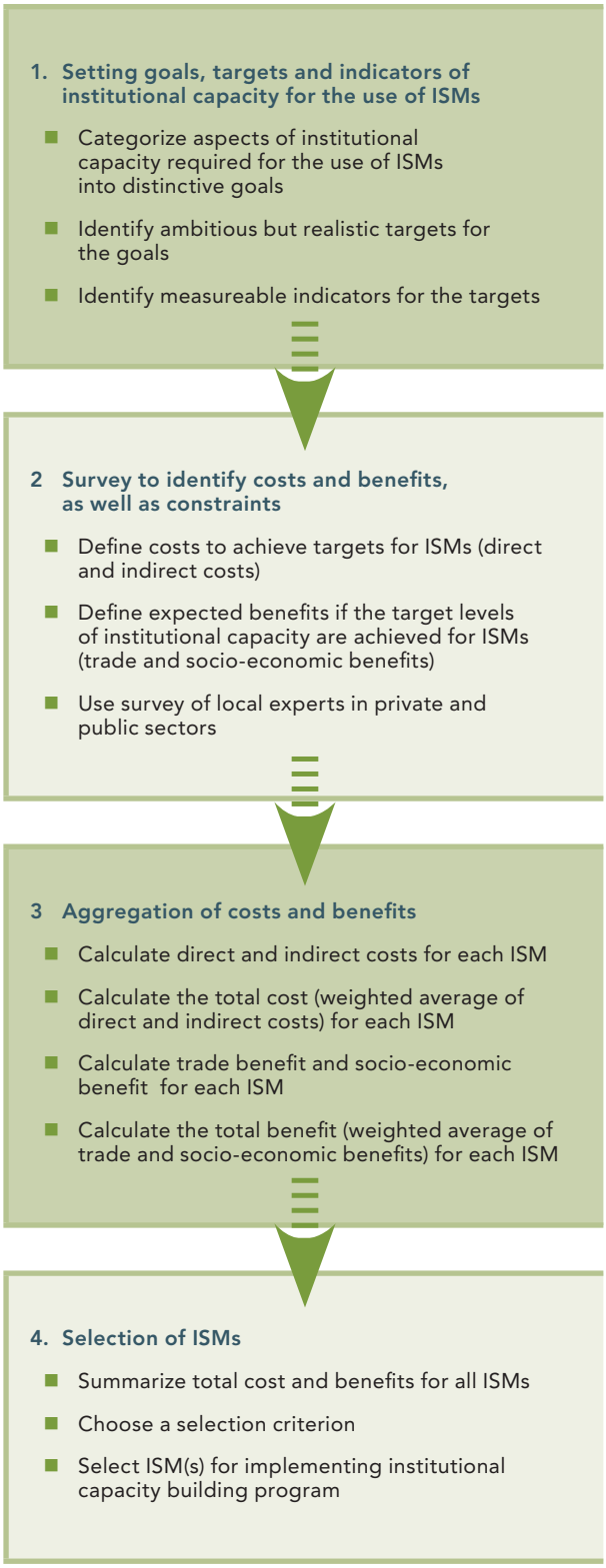
This paper describes a practical step-by-step process to prioritize institutional capacity building in the pilot countries. The paper adopts an extended CBA approach to compare costs and benefits when selecting institutional capacity building programs for accessing and using ISMs. It is "extended" in the sense that for costs and benefits which are difficult to measure, the MCDA methodology is followed by using a qualitative ranking system. In order to address the issue of unreliability or lack of necessary data in LDCs, we use a small scale expert survey to collect information directly from the stakeholders.

Just for simplicity, we use a single criterion (as in CBA) rather than multi-criteria (as in MCDA). The core principle of MCDA is to consider multiple, often conflicting, criteria in making decisions. The most efficient solution of the MCDA is, therefore, determined by multi-dimensional criteria, sometimes resulting in non-dominating multiple possible alternatives. This feature of the MCDA is not desirable for the case of LDCs, because those countries often do not have resources and time available to implement multiple capacity building activities simultaneously.

3 A cost-benefit framework for identifying priorities

The CBA described in this paper illustrates the methodology on how to select capacity building options for addressing the institutional constraints in accessing ISMs. The selection is based on a comparison of costs and benefits across various scenarios and with concrete examples. A sequence of steps

Figure 1
Cost Benefit Analysis Flow Chart



in the prioritization of capacity building programs through a CBA is summarized in figure 1, followed by further details outlined below.

3.1 Setting goals, targets and indicators of institutional capacity for the use of ISMs

The overall objective of the CBA is to identify stakeholder priorities for building institutional capacity. The first step is to identify goals, targets, and indicators of institutional capacity to be built for using the ISMs under consideration. While, many of the aspects of institutional capacity are often intangible and conceptual, it is possible to identify ambitious, but realistic, measurable targets of institutional capacity which can be achieved within a reasonable time period, reflecting a level of institutional capacity that would be consistent with the extent of utilization of ISMs and a desirable level of performance.

The feasibility of identifying goals, measurable targets and observable indicators is determined by country-specific factors. An example of potential goals, targets and indicators are presented in table 1. These would need to be fine-tuned and adjusted to the specific conditions of each country when the CBA is applied.

3.2 Survey to identify costs and benefits, as well as constraints

We use a small scale survey to collect information directly from all stakeholders, regarding costs and benefits, as well as institutional constraints in accessing ISMs. The survey is administered to local experts and stakeholders in the private and public sectors, as well as to development partners. Since the data on costs and benefits is collected directly from exporters and government officials, we do not need hypothetical assumptions on macro and micro economic indicators for data manipulation or estimation. The limited sample and sample selection may cause bias and misinterpretation in the survey results. Yet the survey is suitable for the cases of LDCs that are challenged by the lack of time and funds for large scale data collection. Small scale expert surveys have been widely used as an efficient methodology to collect information on constraints and policy responses (World Bank 2013; Independent panel of reviewing the World Bank Group's Doing Business Report 2013).

The survey questionnaire needs to be designed based on "what" and "how" to measure costs and benefits of institutional capacity building options (see Annex I and II for sample survey questionnaires addressed to the public and private sector). Each question in the survey leads to an indicator reflecting the cost of improving institutional capacity. The costs are grouped in two, direct costs and indirect costs, and then we aggregate the costs for each ISM (see table 2 for illustration).

In the benefit section of the survey, benefits are defined as the positive impact of achieved level of institutional capacity in accessing an ISM. Various aspects of achieved institutional capacity are likely to affect the performance in an inter-linked way, and therefore benefit is measured by the areas of impacts: trade benefit and socio-economic benefit.

In cases when data is not available or non-existing for numerical estimation of costs and benefits, which is the case for most of the indicators covered in in this paper, the survey assigns values to the indicators in scale 0-1, or in ranks across ISMs. The values and ranks are simple averages of different values of survey responses. When applicable, the maximum value among the ISMs is taken and rescaled to 0-1. For example, if survey respondents report that the number of people needed to be trained is 10 for ISM 1, 50 for ISM 2, 500 for ISM 3, it could be scaled down to 0.02 for ISM 1, 0.1 for ISM 2, and 1 for ISM 3 by multiplying 0.02 (=10/500).

Direct costs

Direct institutional capacity building costs are explicitly related to institutional capacity building, including input, process, output, and monitoring and evaluation of the institutional capacity building activities for the corresponding ISM. This would

Table 1

Example of goals, targets and indicators of institutional capacity

Goal	Target	Indicators
1. Information on ISMs Develop knowledge about the objectives of ISM, understanding of requirements and procedures to utilize ISM among stakeholders, including line ministries, standardization bodies, private sector, external partners, etc.	Ensure that enough stakeholders are trained to understand how to access and make use of ISM and that trainers are in place to maintain level of knowledge of the ISM	■ Training received ■ Knowledge on existing training opportunities ■ Interests in taking training ■ Number of participants that need to be trained ■ Difficulties in organizing training due to travel costs, etc. ■ Frequency of changes in rules and regulations (as a proxy for the frequency of trainings needed)
2 Institutional arrangements Ensure efficient arrangements within and between government agencies, producers, exporters and partners on accessing ISM	Integrate cooperation agreements/ arrangements into policies and procedures of all relevant stakeholders for accessing ISM	■ Existence of cooperation arrangements at the managerial level ■ Existence of regular meetings between stake holders
3 Communication and coordination Develop operational communication and coordination mechanisms for accessing ISM support through improvements in collaboration and internal/external communication between stakeholders	Address all major constraints in communication and coordination in order to make access to ISM an integral part of further developing trade in selected export product(s)	■ Knowledge on government focal points ■ Request for information about ISMs ■ Request for assistance in using ISMs ■ Average processing time to respond to requests
4. Human, technical and financial resources Achieve adequate level of human, technical and financial resource to facilitate the process of applying for ISMs	Ensure adequate level of resources allocated to assist the utilization of ISMs	■ Level of ICT infrastructure for communication

include fixed cost, overhead cost, logistics/supplies, training, dissemination of information, monitoring and evaluation, etc.

It is possible to estimate the monetary value required to implement the capacity building program based on quantitative data, for instance, the value of the fixed investment required, overhead cost for necessary staff, salaries for additional personnel, total cost of organizing training and workshops, and so on. However, it is difficult to measure these costs in monetary terms and compare them across ISMs in practice, particularly in LDCs. Therefore, most indicators measured for direct cost would be expressed in ranks across ISMs, or relatively within the interval of 0-1. In case the indicator is ranked across ISMs, we rescale the ranks within the interval of 0-1, in order to standardize the data.

Depending on how the indicators are measured, they are added to the cost positively or negatively. For instance, the percentage of respondents who already received training for an ISM contributes negatively to a direct cost to improve institutional

capacity to access the particular ISM—i.e., the more people had training for an ISM in the past, less cost will be incurred to provide (additional) training for that ISM.

Indirect costs

Indirect costs are related to enabling factors, such as supply capacity constraints, infrastructure, required changes in the legal system, and so on, not directly related to the institutional capacity. Indirect costs also include indirect socio-economic costs, in many cases realized in the long term: measures required to be in place in other economic sectors (back – and forward linkages), costs of financing, implication on national fiscal/monetary policy, cost of crowding out private investment, etc. High indirect costs would mean that not only institutional constraints, but also non-institutional capacity constraints need to be addressed to improve access to ISMs.

As in the case of direct costs, indirect costs are assessed in ranks across ISMs, or relatively within the interval of 0-1, mainly through a survey. We rescale the ranks within the interval of 0-1, in order to take averages across indicators.

Table 2 presents examples of the direct and indirect costs for each goal. For instance, Goal 1, "Develop knowledge about ISMs", has three indicators (training received, interests in training, number of participants to be trained) as proxies for the direct cost, and three indicators (difficulties in organizing training, frequency of changes, existing training opportunities) for the indirect cost. Two indicators (existence

Table 2

Example of direct and indirect costs for each goal

Goal	Related to Direct cost	Related to Indirect cost
1. Develop knowledge about ISMs	■ Training received (-) ■ Interests in taking training (-) ■ Number of participants that need to be trained	■ Difficulties in organizing training due to travel, etc. ■ Frequency of changes in rules and regulations ■ Knowledge on existing training opportunities (-)
2 Ensure efficient institutional arrangements	■ Existence of cooperation arrangements at the managerial level (-) ■ Existence of regular meetings between stake holders (-)	
3 Develop operational communication and coordination mechnisms	■ Knowledge on government focal points (-) ■ equest for information about ISMs (-) ■ Request for assistance in using ISMs (-) ■ Average processing time to respond to requests	■ Related assistance by development partners (-) ■ Priority in cooperation strategies of development partners (-)
4. Achieve adequate levels of human, technical and financial resources		■ Difficulties in using ICT infrastructure for communication (+)

Note: (-) indicates that the indicator contributes to the cost negatively.

Table 3

Example of calculation of direct and indirect costs for ISM 1

	Direct cost			Indirect cost		
Goal	Indicators	Value (rescaled)	Relevant Questions	Indicators	Value (rescaled)	Relevant Questions
1 Information on ISMs	30% received training	1-0.3=0.7	I.Q1a II.Q1a	Ranked as 3 out of 1-4 in difficulties in organizing training due to travel, etc.	(3 - 1) / (4-1)=0.7	I.Q1f II.Q1g
	Ranked as 3 out of 1-4 in interests in taking training	(3 - 1) / (4-1)=0.7	I.Q1d II.Q1d	Ranked as 1 out of 1-4 in frequency of changes in rules and regulations	(4 - 1) / (4-1)=1	I.Q1g II.Q1h
	Ranked as 2 out of 1-4 in the number of participants that need to be trained	(4 - 2) / (4-1)=0.3	I.Q1e II.Q1f	40% know existing training opportunities	1-0.4=0.6	I.Q1h II.Q1i

Note: Relevant questions are listed in Annex I and II.

of cooperation arrangements, regular meetings) are used to calculate the direct cost of achieving Goal 2, "Ensure efficient institutional arrangements". For Goal 3, "Develop operational communication and coordination mechanisms", four indicators (government focal points, request for information, request for assistance, processing time) are used to estimate the direct cost, while two indicators (assistance by development partners, priority of cooperation) are included in calculation of the indirect cost.

Regarding the Goal 4, "Achieve adequate level of human, technical and financial resources", we have not used indicators on human or financial resources in pilot LDCs, because it is difficult to isolate the level of human or financial resource adequate for accessing and using a given ISM, *different* from human and financial resource for another ISM – in many cases, resources are fungible. For this reason, we use the indicator on the information and communication technology (ICT) as a proxy for the cost related to Goal 4.

Indirect costs could be also negative. For example, suppose there is an ongoing government capacity building project by another development partner which contributes to developing knowledge of requirements and procedures to use a given ISM. This could be measured as a negative indirect cost as the positive spill-over impact of such activities could be regarded as efficiency gains.

Trade benefits

Trade benefits indicate the impact on trade by the use of the ISM, assuming that the target level of institutional capacity is achieved. The trade benefits are measured in ranks across ISMs, and then rescaled within the interval of 0-1 to normalize.

It is possible to estimate the impact on export volume if necessary data are available, but as mentioned above, we use survey data because such estimation would require a few hypothetical assumptions on the extent of the potential market opportunity with access to the ISM, productive capacity, and so on.

Table 4

Example of calculation of benefits for ISM 1

Trade benefits			Socio-economic benefits		
Indicators	Value (rescaled)	Relevant Questions	Indicators	Value (rescaled)	Relevant Questions
Ranked as 1 out of 1-4 in the increased trade	(4-1)/(4-1)=1	I.B1 II.B1	Ranked as 3 out of 1-4 in the increased competitiveness	(4-3)/(4-1)=0.3	I.B3 II.B3
Ranked as 2 out of 1-4 in the value addition	(4-2)/(4-1)=0.7	I.B2 II.B2	Ranked as 4 out of 1-4 in the reduced poverty	(4-4)/(4-1)=0	I.B4 II.B4
			Ranked as 4 out of 1-4 in the environmental protection	(4-4)/(4-1)=0	I.B5 II.B5
			Ranked as 2 out of 1-4 in the increased employment	(4-2)/(4-1)=0.7	I.B6 II.B6
Average	0.9			0.3	

Note: Relevant questions are listed in Annex I and II.

Socio-economic benefits

Socio-economic benefits are indirect impacts that can include increase in productivity and/or employment in the corresponding export sector, fiscal revenues, as well as impact on trade of all other export sectors, such as, impact of heightened reputation, knowledge spillover to other ISMs, etc.

This category of benefits can also include broad and longer term socio-economic benefits: impact on other industries through backward and forward linkages to the export sector, contribution to environmental protection, poverty reduction, improved public health, enhanced social protection, and so on.

As in the case of trade benefits, the socio-economic benefits would be measured in ranks across ISMs, and then rescaled within the interval of 0-1. A numerical estimation for socio-economic benefits is possible but would require hypothetical assumptions on the internal and external factors which are often debated among stakeholders.

3.3 Aggregation of costs and benefits

Table 3 describes the calculation of direct and indirect costs from the indicators measured in the survey. To illustrate, suppose that we consider 4 different ISMs, and that 30 per cent of respondents have had training on accessing ISM 1 (see row 1 of table 3). The value is rescaled to 0.7 (=1-0.3) as a contribution to the direct cost for ISM 1, because the more people have been trained, the less costly it is to improve the institutional capacity required to access ISM 1. And ISM 1 is ranked as third among four ISMs that the respondents want to take training on (see row 2 of table 3). The value is rescaled to 0.7 (=(3-min)/(max-min)=(3-1)/(4-1)) as a contribution to the direct cost, as the less people are interested in ISM 1, the more costly it is to organize trainings for ISM 1. Direct and indirect costs are calculated as the averages of all the rescaled values.

Table 5
Example of cost-benefit comparison for capacity building options for ISMs

Cost and Benefit	ISM 1	ISM 2	ISM 3	ISM 4
Total Cost	**0.6**	**0.4**	**0.6**	**0.7**
■ Direct Cost	0.7	0.6	0.8	0.5
■ Indirect Cost	0.5	0.2	0.4	0.9
Total Benefit	**0.6**	**0.4**	**0.6**	**0.9**
■ Trade Benefit	0.9	0.5	0.3	1.0
■ Socio-economic Benefit	0.3	0.3	0.9	0.8

Note: Total cost and benefit are based on equal weights.

Table 4 describes the calculation of benefits for ISM 1. ISM 1 is expected to bring the most benefit in terms of increased trade, and the value is rescaled to 1 (=(max-1)/(max-min)=(4-1)/(4-1)) as a contribution to the trade benefits. ISM 1 is anticipated to have the least benefit in terms of environmental protection and reduced poverty, and the value is rescaled to 0 (=(max-4)/(max-min)=(4-4)/(4-1)) as a contribution to the socio-economic benefits. Taking the average of all the rescaled values, the trade benefits from having improved access to ISM 1 would be 0.9, and the socio-economic benefits would be 0.3.

The calculation is repeated for the other ISMs, and the outcome can be summarized in Table 5, using the information collected for the indicators as shown in Tables 3 and 4.

The direct costs for an ISM are averaged from direct costs of all indicators for that ISM. Similarly, indirect costs for an ISM are averaged from indirect costs for all targets and indicators for that ISM. Then the total cost is a weighted average of direct costs and indirect costs, using the weights on direct costs and indirect costs. For example, in table 5, the total cost for ISM 1 would be 0.6, calculated from direct cost of 0.7 and indirect cost of 0.5 using the same weight on both costs.

For each ISM, the total benefit is a weighted average of trade benefit and socio-economic benefit, using the weights on trade benefit and socio-economic benefit. For instance, in table 5, the total benefit for ISM 1 would be 0.6, calculated from trade benefit of 0.9 and socio-economic benefit of 0.3, using the same weight on both benefits.

The weighting system for aggregation of costs and benefits depends on country specific factors. For example, the weight of the trade benefit could be set larger than the weight of socio-economic benefit to reflect a country's higher valuation of trade benefit.

3.4 Selection of ISMs

A criterion is required to select ISM(s), based on the outcome of the calculation of costs and benefits. This section suggests two different criteria, with examples presented in table 6.

Net benefits criterion

The most frequently used selection criterion in the traditional CBA is to use the net benefit value. The ordering of options with a positive net benefit (= total benefit – total cost) is on the magnitude of the

Table 6

Example of total cost and benefit and selection criteria for capacity building options for ISMs

Cost and Benefit	ISM 1	ISM 2	ISM 3	ISM 4	Selection
Total Cost	**0.6**	**0.4**	**0.6**	**0.7**	
■ Direct Cost	0.7	0.6	0.8	0.5	
■ Indirect Cost	0.5	0.2	0.4	0.9	
Total Benefit	**0.6**	**0.4**	**0.6**	**0.9**	
■ Trade Benefit	0.9	0.5	0.3	1.0	
■ Socio-economic Benefit	0.3	0.3	0.9	0.8	
Selection Criteria					
(1) Net Benefit	0	0	0	0.2	ISM 4
(2) Benefit-cost Ratio	1	1	1	1.3	ISM 4

Note: Equal weights are used to calculate total cost and total benefit.

computed net benefit. Table 6 shows that the net benefit would be highest for ISM 4. Based on this criterion, ISM 4 would be selected to implement institutional capacity building programs.

Benefit-cost ratio criterion

Benefit-cost ratio (= total benefit / total cost) is also a frequently used criterion in CBAs. Based on this criterion, institutional capacity building option for the use of ISM 4 would be again the option that brings the most benefit relative to the cost in Table 6.

3.5 Summary

To sum up, project activities undertaken by UN DESA focused on identifying LDC-specific support measures addressing the limitations affecting export growth in a number of priority exports and on evaluating existing institutional capacity constraints with respect to using those measures in four pilot countries. We developed a CBA methodology to identify institutional constraints and prioritize support measures comparing benefits with costs. The CBA was conducted in four different steps described above (see figure 1):

1. Set goals, targets and measureable indicators of institutional capacity for ISMs
2. Conduct a survey to identify costs and benefits, as well as constraints
3. Aggregate costs and benefits
4. Selection of ISMs.

The CBA was applied by UN DESA in four pilot countries. Due to its simplicity, the use of the CBA can be easily replicated in other LDCs. To illustrate, the following section presents the results from the CBA in Uganda.

4 Applying the CBA methodology in Uganda

In May 2014, the CBA was conducted in Uganda based on survey data collected from key exporters, exporter associations and the public sector regarding their institutional constraints in accessing trade-related ISMs. Nine representatives from the private sector, and 19 government officials participated in the survey. The survey covered 8 products, as well as priority ISMs in 5 areas, namely: SPS, TBT, EIF, DFQF, and specific provisions of the Fish Stocks Agreement (FS).[3]

4.1 Uganda: Costs

Goal 1: Develop knowledge about ISMs

The survey provides rich information to identify where the priority is in terms of removing constraints. With respect to indicators used for Goal 1 (Develop knowledge on how to access ISMs—see Annex I and II for related questions), the survey data indicate that the private sector has a general lack of knowledge of the ISMs. Furthermore, almost no training has been offered on ISMs or how to access them (figure 2a). The percentage of public sector respondents who received training was higher than that of private sector, but is still low (figure 2a). Knowledge in the private and public sector on existing training opportunities is also very low for most of the ISMs (figure 2b).

Survey respondents generally rank the SPS-related support measures highest in terms of interest (figure 2c), number of people needed to be trained (figure 2d), difficulty in organizing training (figure 2e), and frequency of changes in rules (figure 2f).

3 For details on the selection of priority products and ISMs, see UN/DESA 2014, available at http://esango.un.org/ldcportal/web/10447/-/uganda-findings-recommendations-report?groupId=19799

Goal 2: Ensure efficient institutional arrangements

Indicators related to Goal 2 (Ensure efficient institutional arrangements – see Annex I and II for related questions) reveal that institutional arrangements are not adequately set up. There are very few regular meetings between stakeholders (figure 3a and 3b), little knowledge of the existence of official agreement to facilitate the use of ISMs between government entities (figure 3c). SPS and TBT are the most important ISMs that require better arrangements (figure 3d and 3e). All of these indicators are added to the costs with appropriate signs as described in table 2 and 3.

Goal 3: Develop operational communication and coordination mechanisms

Goal 3 focuses on improving institutional capacity related to developing operational communication and coordination mechanisms (see Annex I and II for related questions). Figure 4 reveals that there is ample room for improvement in terms of dissemination of focal point contacts, channels to submit request for information or assistance regarding the use of ISMs. Not many exporters in the private sector know who to contact in the government (figure 4a), or have requested for information on how to access ISMs (figure 4b). A majority of public sector respondents have not received requests from the private sector (figure 4c), provide assistance in using ISMs (figure 4d), or communicate with other government entities and development partners (figure 4e and 4f). Survey respondents agree that it is important to reduce processing time and submission time particularly in the use of SPS, TBT and EIF related ISMs (figure 4g and 4h).

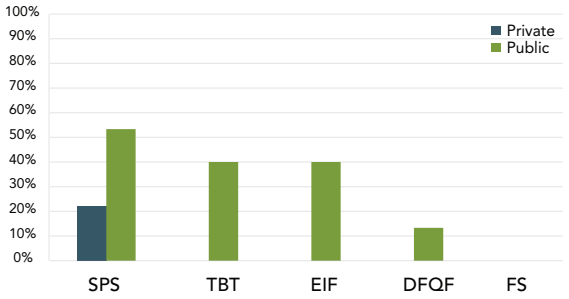
Goal 4: Achieve adequate levels of human, technical and financial resources

As a proxy for the cost related to Goal 4, we measured the difficulties in communication using the current level of ICT infrastructure, to calculate an

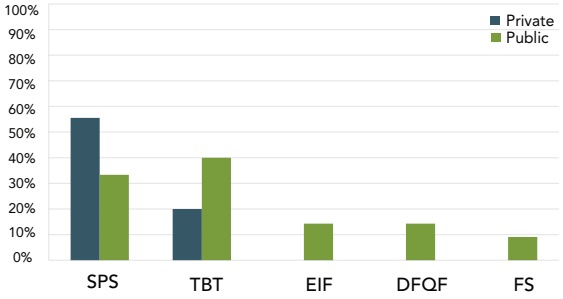
Figure 2

Uganda: indicators in achieving Goal 1, develop knowledge

a. Percentage of respondents receiving training on the ISM

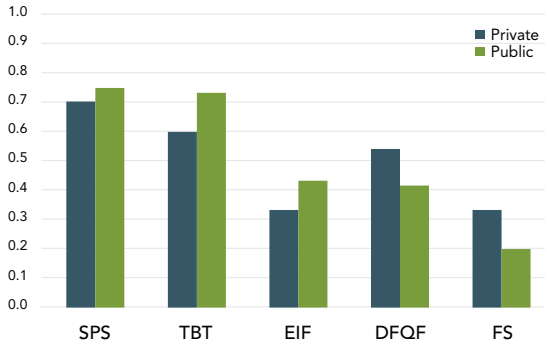


b. Percentage of respondents with knowledge on exisiting training opportunities



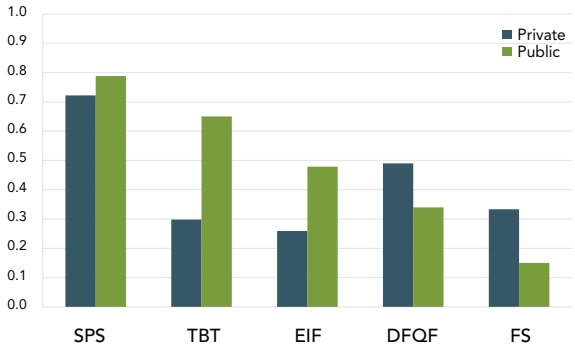
c. Interest in receiving training on the ISM

(0=no interest, 1=high interest)



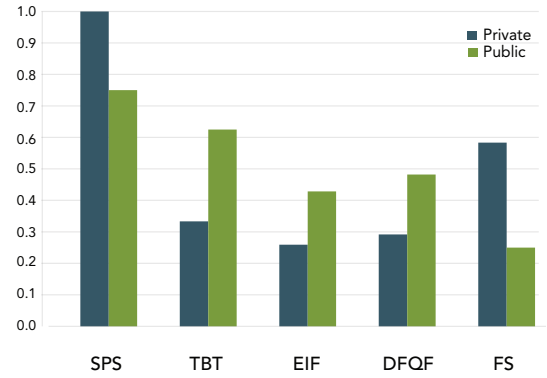
d. Number of people who need to be trained

(0=low, 1=high)



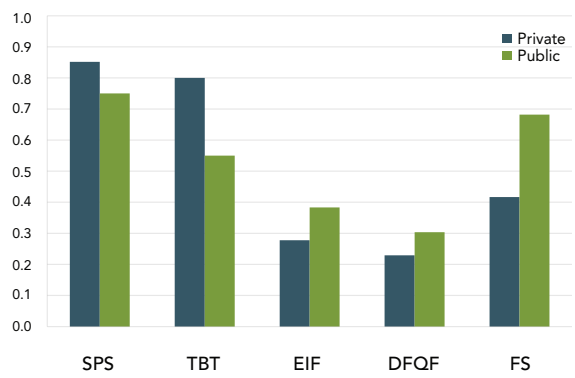
e. Difficulty in organizing training due to travel costs etc.

(0=low, 1=high)



f. How often do the rules and regulations change?

(0=rarely, 1=very often)



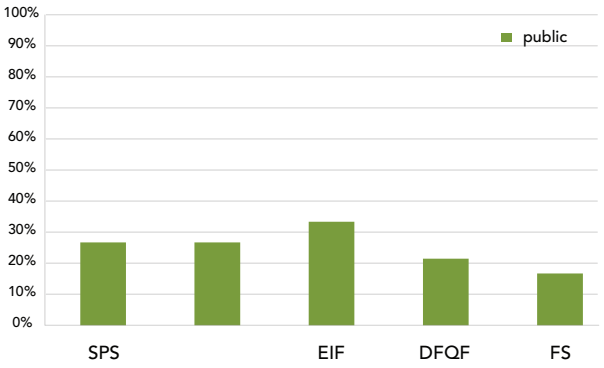
Note: SPS=ISMs on sanitary and phytosanitary; TBT=ISMs on technical barriers to trade; EIF=ISMs on Enhanced Integrated Framework; DFQF=Duty free quota free market access; FS=ISMs on Fish Stock Agreement.

Source: Private and public sector survey.

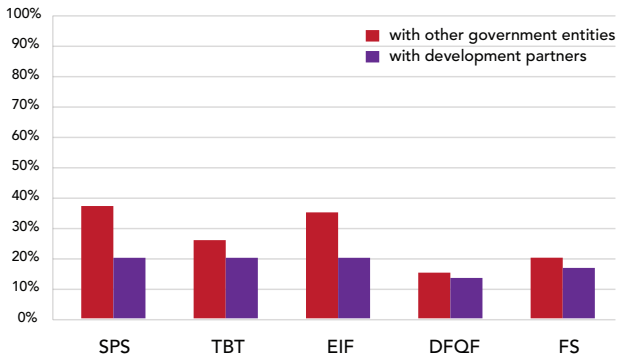
Figure 3

Uganda: indicators in achieving Goal 2, ensure efficient arrangements

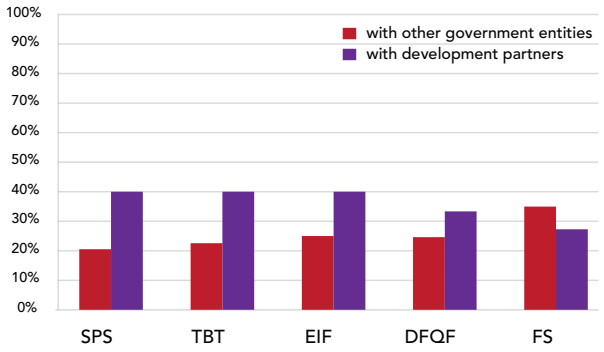
a. Percentage of public sector respondents who have regular meetings with private sector



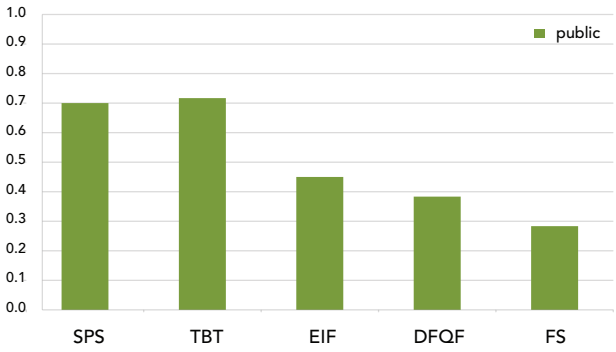
b. Percentage of public sector respondents who regularly meet to facilitate the use of the ISM



c. Percentage of public sector respondents with knowledge on existing official agreement to facilitate the use of the ISM

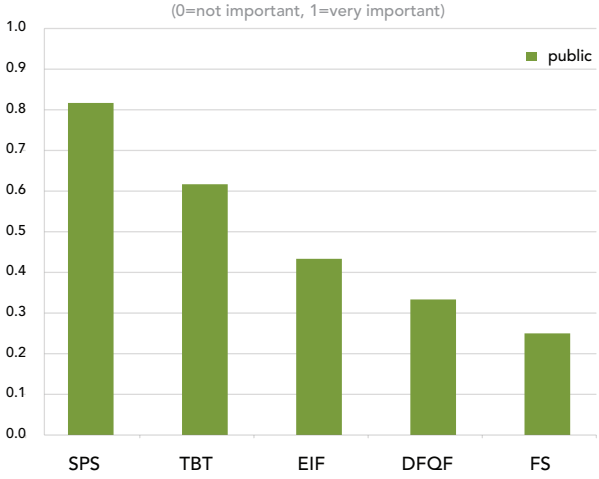


d. Importance of regular meeting between public and private sectors (0=not important, 1=very important)



e. Importance of official cooperation agreement among government entities

(0=not important, 1=very important)



Source: Private and public sector survey.

Figure 4

Uganda: indicators in achieving Goal 3, develop operational communication and coordination mechanisms

Source: Private and public sector survey.

indirect cost to improve the institutional capacity in communication between stake holders. Figure 5(a) suggests that the private sector experience difficulties in the use of current ICT infrastructure in communicating with public sector, particularly about ISMs on FS, followed by those on SPS and TBT measures. Difficulties may include lack of information on the access to such ISMs online, less frequent use of emails between private sector and relevant government offices on that issue, etc. On the other hand, figure 5(b) shows that the public sector experience difficulties in communicating with development partners using the current ICT equipment especially on the SPS issues. These findings suggest that the indirect cost of improving the institutional capacity by removing difficulties rising from ICT deficiencies would be highest for FS for the private sector, and for SPS for the public sector.

4.2. Uganda: Benefits

The relative trade benefits, particularly trade value increase and its spinoffs, are expected to be largest when access to SPS related ISMs is improved (figure 6a). In terms of value addition, private sector respondents expect that the benefit would be large from accessing DFQF, while the public sector expects that TBT would bring the largest benefits (figure 6b). SPS related ISMs are generally ranked high in terms of potential socio-economic benefits, including increased competitiveness, poverty reduction, environmental protection, and increased employment (figure 6c-6f).

4.3 Uganda: CBA results

Based on the survey data presented above, costs and benefits were calculated, and ranked across ISMs (table 7). The final results suggest that institutional capacity building should focus on improving access to SPS related ISMs, either by net-benefit criterion, or benefit-cost ratio criterion.

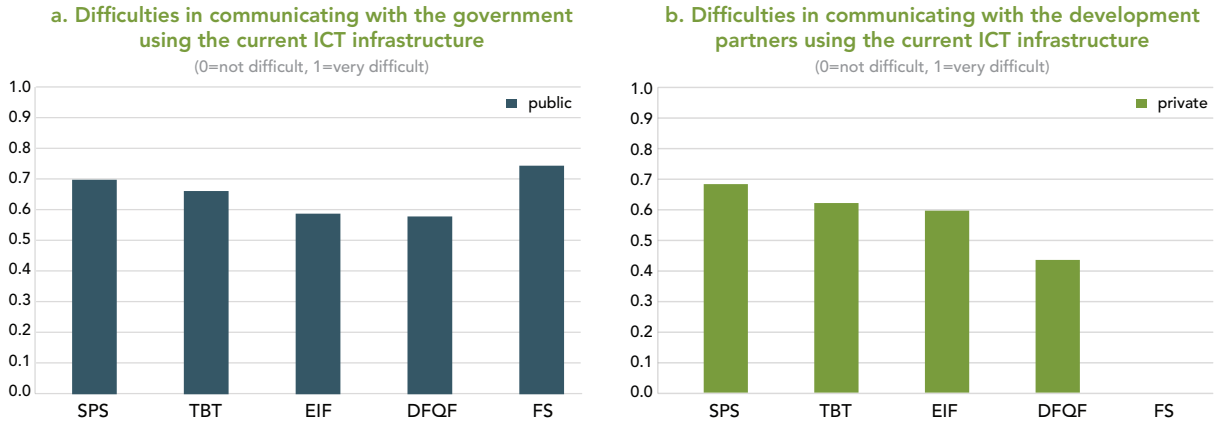
4.4 Uganda: Implementing capacity development activities

The CBA in Uganda suggests that SPS related ISMs would be most important to the economy. The information collected in the survey also underline that public and private sector stakeholders are poorly informed about SPS issues in the international market. Existing information systems, such as those set up by the WTO, do not always reach all relevant stakeholders at the country level.

Based on these findings, UN DESA concluded that there is a need to prioritize removing institutional constraints in accessing SPS related ISMs, and to focus on improving SPS related information flows in Uganda. As a result, UN DESA is developing the

Figure 5

Uganda: indicators in achieving Goal 4, achieve adequate level of human, technical and financial resources



Source: Private and public sector survey.

Figure 6

Uganda: trade and socio-economic benefits of accessing ISMs

Source: Private and public sector survey.

Table 7

Uganda: ranking of capacity-building options

(1=attractive, 5=not attractive)

ISM	Direct cost	Indirect cost	Total cost	Trade benefit	Socio-economic benefit	Total benefit	Net benefit	Benefit-cost ratio
SPS	3	5	4	1	1	1	1	1
TBT	4	4	5	3	4	3	4	4
EIF	2	2	1	4	2	4	3	3
DFQF	1	3	2	2	3	2	2	2
FS	5	1	3	5	5	5	5	5

Note: Cost is in ascending order (1=low cost, 5=high cost); Benefit is in descending order (1=high benefit, 5=low benefit). Direct costs are assigned a weight of 1/3 and indirect costs a weight of 2/3 in total costs. Trade benefit has a weight of 2/3 and socio-economic benefit a weight of 1/3 in total benefit.

so-called ePing toolkit, an online alert system (see www.epingalert.org) which aims to improve communication and information sharing between public and private sector stakeholders.

5 Conclusions

Institutional constraints are preventing LDCs from utilizing trade-related ISMs to the fullest extent. The UN DESA project, 'Building institutional capacity in the use of trade-related International Support Measures', aims to assist LDCs addressing these constraints.

Since the available resources are generally insufficient to address all existing institutional constraints, it is critical to specify which particular institutional capacity constraint should be addressed and which ISMs should be prioritized for improving access. The CBA described in this paper presents an approach to identify key institutional constraints and a methodology for prioritizing ISMs based on information collected directly from public and private sector stakeholders.

The CBA applied in Uganda reveals critical information on the institutional constraints faced for accessing trade-related ISMs and for prioritizing capacity building options. The surveys indicate that both the private and public sector have very limited knowledge on how to access most of the ISMs. Institutional arrangements are not adequately set up, and there is ample room for improvement in terms of dissemination of focal point contacts, channels to submit request for information or assistance regarding the use of ISMs. Trade benefits, particularly benefits on increased trade value, are expected to be highest when SPS related ISMs are more accessible. Based on these findings, UN DESA is implementing capacity development activities, focusing on reducing the information gap in the area of SPS.

The use of the CBA methodology can be further extended to other LDCs that are constrained by limited time and resources to undertake capacity building programs. The simple approach of the CBA can assist policy makers in prioritizing policy options regarding institutional capacity development. The survey data collection included in the CBA is easy to replicate. An additional advantage is, that the survey, if conducted consistently and periodically, could also be a simple and effective tool to monitor the progress made in improving institutional capacity of a country.

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Annex I
Survey Questionnaire for Uganda public sector

Organization:

Name:

Title:

Email:

Cell:

Scorecard 1

Knowledge on how to access ISMs

Question	SPS	TBT	EIF	DFQF	Fish stock
Q1a. Do you receive training on the processes for accessing the ISM? If yes, go to Q1b. If no, go to Q1c.					
Q1b. From whom do you receive the training?					
Q1c. Do you think more training is necessary to understand how to improve access your main export markets through the ISM? (yes or no)					
Q1d. Which ISM would you be most interested in receiving training on? Rank from 1 (most) to 5 (least)					
Q1e. How many people should be trained?					
Q1f. Which ISM would require the largest amount of traveling cost if all relevant stakeholders were to participate in the training? Rank from 1(large) to 5(little)					
Q1g. Which ISM has the most frequent changes in the rules and regulations? Rank from 1(most) to 5(least)					
Q1h. Are you aware of any other existing training you can attend on the ISM? (yes/no) If yes, list the organizers.					

Scorecard 2

Coordination between the government and private sector counterparts in accessing ISMs

Question	SPS	TBT	EIF	DFQF	Fish stock
Q2a. Have you received a request from private sector for assistance in accessing the ISM? (yes or no)					
Q2b. Do you currently provide to private sector any assistance on accessing the ISM? (yes or no) If yes, go to Q2d. If no, go to Q2c.					
Q2c. Have you contacted private sector to inform the availability of ISMs? (yes or no)					
Q2d. Do you regularly meet with private sector to discuss issues on the ISM? (yes or no)					
Q2e. For which ISM would it be most important to meet regularly and discuss about the assistance? Rank from 1 (most) to 5 (least)					

Scorecard 3

Coordination between trade-related domestic public entities

Question	SPS	TBT	EIF	DFQF	Fish stock
Q3a. Have you submitted requests to other government entities for information on how to access the ISM? (yes or no) If yes, go to Q3b. If no, go to Q3c.					
Q3b. Is there a need for improvement in terms of response time and content? (yes or no). Go to Q3d.					
Q3c. To your knowledge, is there an official agreement between your office and other government entities to facilitate the use of the ISM? (yes or no)					
Q3d. For which ISM would the official cooperation agreement be most important? Rank from 1 (most) to 5 (least)					
Q3e. Do you regularly meet with other government entities to discuss issues on the ISM? (yes or no)					

Scorecard 4

Communication on general inquiry between government and development partners

Question	SPS	TBT	EIF	DFQF	Fish stock
Q4a. Is there an official arrangement between government and development partners to facilitate the access to the ISM? (yes or no)					
Q4b. Do you regularly meet with development partners and discuss potential usefulness of the ISM? (yes or no)					
Q4c. Have you contacted development partners regarding information about possible support on/from ISMs? (yes or no) If yes, go to Q4d. If no, go to Q4e.					
Q4d. How many days/weeks does it currently take to receive a response from development partners regarding use of the ISM?					
Q4e. How many days/weeks would be adequate to expect a response from development partners?					
Q4f. For which ISM would it be most important to reduce the response time of development partners? Rank from 1 (most) to 5 (least)					

Scorecard 5

Coordination between government and development partners on the process of application to use ISMs

Question	SPS	TBT	EIF	DFQF	Fish stock
Q5a. How many days/weeks does it currently take to submit a new application to use the ISM assistance?					
Q5b. How many days/weeks of preparation would be adequate to submit new applications?					
Q5c. For which ISM would it be most important to reduce the submission time of applications/proposals? Rank from 1 (most) to 5 (least)					
Q5d. How difficult is it to communicate with the development partners using your current information and communication technology (ICT) skills/equipment? Rank from 1(most) to 5 (least)					

Scorecard 6

Coordination between development partners and government to process requests (only for development partners)

Question	SPS	TBT	EIF	DFQF	Fish stock
Q6a. Is there an official arrangement between government and development partners to facilitate the process of requesting access to the ISM? (yes or no)					
Q6b. Do you regularly meet with government officials and discuss the application process on the ISM? (yes or no)					
Q6c. How many weeks/months does it currently take (on average) to process a new application to receive ISM assistance?					
Q6d. How many days/weeks would be adequate to process new applications, on average?					
Q6e. For which ISM would it be most important to reduce the processing time? Rank from 1 (most) to 5 (least)					
Q6f. Does your agency/country currently provide assistance on the access to the ISM?					
Q6g. Rank the ISMs according to the current trade-related priorities of your agency/country from 1 (high) to 5 (low)					

Benefits: Rank from 1 (high) to 5 (low)

Benefits	SPS	TBT	EIF	DFQF	Fish stock
B1. Increased Trade					
B2. Value Addition					
B3. Increased Competitiveness					
B4. Poverty Reduction					
B5. Environmental Protection					
B6. Increased Employment					

Annex II
Survey Questionnaire for Uganda private sector

Organization:

Name:

Title:

Email:

Cell:

Scorecard 1

Knowledge on how to access ISMs

Question	SPS	TBT	EIF	DFQF	Fish stock
Q1a. Do you receive training on the processes for accessing the ISM? If yes, go to Q1b. If no, go to Q1c.					
Q1b. From whom do you receive the training?					
Q1c. Do you think more training is necessary to understand how to improve access your main export markets through the ISM? (yes or no)					
Q1d. Which ISM would you be most interested in receiving training on? Rank from 1 (most) to 5 (least)					
Q1e. How many people should be trained?					
Q1f. Which ISM would require the largest amount of traveling cost if all relevant stakeholders were to participate in the training? Rank from 1(large) to 5(little)					
Q1g. Which ISM has the most frequent changes in the rules and regulations? Rank from 1(most) to 5(least)					
Q1h. Are you aware of any other existing training you can attend on the ISM? (yes/no) If yes, list the organizers.					

Scorecard 2

Coordination between the government and private sector counterparts in accessing ISMs

Question	SPS	TBT	EIF	DFQF	Fish stock
Q2a. Have you received a request from private sector for assistance in accessing the ISM? (yes or no)					
Q2b. Do you currently provide to private sector any assistance on accessing the ISM? (yes or no) If yes, go to Q2d. If no, go to Q2c.					
Q2c. Have you contacted private sector to inform the availability of ISMs? (yes or no)					
Q2d. Do you regularly meet with private sector to discuss issues on the ISM? (yes or no)					
Q2e. For which ISM would it be most important to meet regularly and discuss about the assistance? Rank from 1 (most) to 5 (least)					

Benefits: Rank from 1 (high) to 5 (low)

Benefits	SPS	TBT	EIF	DFQF	Fish stock
B1. Increased Trade					
B2. Value Addition					
B3. Increased Competitiveness					
B4. Poverty Reduction					
B5. Environmental Protection					
B6. Increased Employment					