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LINKING PRODUCERS TO MARKETS: THE CHALLENGE OF EMERGING STANDARDS—A FINAL SUMMARY AND EVALUATION REPORT OF USAID'S RAISE SPS TASK ORDER

RAISE SPS EVALUATION REPORT # 2

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Prepared for USAID under RAISE Task Order 14, “Assistance for Trade Capacity Building in Relation to the Application of Sanitary and Phytosanitary (SPS) Measures”, (Subcontract #4105-99S-006), under, USAID/DAI Prime Contract # PCE-I-00-99-00002-00, “Rural and Agricultural Incomes with a Sustainable Environment (RAISE),” by

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Funded by USAID’s Bureau of Economic Growth, Agriculture and Trade (EGAT) and implemented by Development Alternatives Inc. (DAI), the RAISE SPS Project (“Assistance for Trade Capacity Building in Relation to the Application of Sanitary and Phytosanitary Measures”) is Task Order 14 under the RAISE (“Rural and Agricultural Incomes with a Sustainable Environment”) Indefinite Quantity Contract with DAI as Prime Contractor (Michigan State University, Abt Associates, Winrock International, and Fintrac Inc. are subcontractors). RAISE SPS assists farmers, processors, exporters, retailers and other participants in agribusiness supply chains enhance their competitiveness through achievement of international market standards. Concurrently, RAISE SPS assists regulatory, scientific, technical, and donor institutions better understand the effect of SPS issues and private sector-driven standards on economic growth and poverty reduction. USAID Missions and Bureaus can seek assistance from RAISE SPS by contacting Jim Yazman, USAID/EGAT Cognizant Technical Officer, at jyazman@usaid.gov.

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1. INTRODUCTION

BACKGROUND TO THE REPORT

The gradual accession of more and more countries to WTO, as well as the proliferation of free trade agreements, has increased the role and importance of SPS and other standards as the foundation of rules-based trading and of market access. As food industry consolidation continues, changes in procurement and marketing practices have increased the importance of standards as a competitive necessity.

Dealing effectively with emerging standards—both public and private—has become indispensable to sustainable participation of all suppliers in integrated value chains and global supply chains. Although in the early nineties this was true mainly for chains that moved food and agricultural products into the most developed markets, over the past decade the ascendancy of supermarkets in emerging and developing country markets has also made compliance with private standards a prerequisite to supplying the fastest growing channels of distribution in many of the countries in which USAID works. The USAID strategy for agriculture focuses on linking producers to markets, which remains a challenge for all suppliers, but especially for smallholders. In this context, it makes sense to summarize lessons learned and action implications for all potential shareholders.

OBJECTIVE OF THE REPORT

Over the past four years, RAISE SPS has conducted research and provided technical assistance that not only helped clarify the nature of the challenge but also points to appropriate development responses. This report summarizes the objectives and achievements of the individual RAISE SPS projects, and critically reviews the reports produced under the RAISE SPS Task Order (around 50 documents, including reports, papers and studies). This report highlights key achievements of the project related to the project's focus, i.e., the world of SPS standards, trade capacity building, raising small farmer income, certification, private versus public sector capacity, and so on. It needs to be noted that these reports do not present a coherent body of literature on SPS standards in developing countries; they rather represent the various – mostly independent – Mission projects commissioned by AID. Therefore it is hard to formulate generally applicable conclusions and this summary report rather focuses on 1) summarizing the objectives and main achievements of each individual project report, 2) identifying and assessing common themes and findings, 3) putting these findings in perspective to the broader literature on standards and economic development, and 4) formulate some critical comments and suggestions for improvement.

The broader objective of the report is to summarize lessons learned in understanding the challenge of emerging standards in food and agricultural trade, present examples of successes and failures in dealing with them, and point the way toward more effective development interventions that will raise the competitiveness of developing country suppliers while mitigating the risks of exclusion of the rural poor (smallholders, workers) in important supply chains.

ORGANIZATION OF THE REPORT

This summary report is organized as follows. After this introduction, we classify the large number of RAISE SPS reports according to the specific topic they deal with ; we summarize these various studies

and shortly describe their objectives and achievements (section two). Next, we review some general issues/themes which are not linked to specific RAISE SPS reports but are important to the overall theme of SPS standards are implicitly present throughout many of the RAISE SPS studies. More specifically, we present a discussion of the methodology used throughout the studies (section three); we shortly discuss the importance of SPS measures and the relevance of the RAISE SPS studies for developing countries (section four); and we discuss the importance of standards as barriers to trade (section five). In the remainder of the report (section six to nine), we highlight the main results and recommendations that result from the various activities carried out by the RAISE SPS Task Order; we identify common themes; link the findings to the broader literature on food standards and development; and provide some critical comments. This part of the summary report is organized according to the identified subject categories from section two.

2. OVERVIEW OF THE RAISE SPS REPORTS, THEIR OBJECTIVES AND ACHIEVEMENTS

The RAISE SPS studies include a large number of reports on varied topics related to food standards in general—SPS measures in particular—and agricultural trade. Some studies analyze the situation in a specific country and/or sector; other reports focus on a specific topic in a broader geographical context.

In order to structure this summary report we have organized the RAISE SPS project reports according to the specific topic they deal with. This is not an exact classification, rather a method to structure the different studies and this summary report. Many reports deal with several of the main identified topics at the same time. We have classified the reports according to their main focus point. More specifically, we organized the reports into five categories:

- SPS capacity in developing countries
- Avian Influenza
- Certification and accreditation
- Modern supply chains: supermarkets in developing countries
- Modern supply chains: small farmers in modern supply chains

Table 1 summarizes how the various RAISE SPS reports fit in this classification and presents for each individual report a short summary of the objectives and main achievements of the specific project. This table shows that the RAISE SPS Task Order has resulted in a wide variety of reports and activities on SPS-related issues; covering a large part of the developing world; and leading to direct actions for improvement, better insights into the issues and recommendations for further actions.

SUMMARY AND CLASSIFICATION OF THE RAISE REPORTS

Report - Authors	Report title, Objectives and Achievements
1. SPS CAPACITY IN DEVELOPING COUNTRIES	
Regional Report #1 T.Bernardo, C.Aguilar, L.Flores, J.Lamb, J.Karpati, J.Vele	**Benchmarking of SPS Management Capacity in Five Central American Countries** ***Objectives:*** to review and benchmark the SPS management capacity of the five countries (Costa Rica, El Salvador, Guatemala, Honduras and Nicaragua), considering the implications for the most important agricultural traded produce and related technical assistance requirements. ***Achievements:*** In all five countries, key public and private sector stakeholders in the agri-food supply chain were interviewed on the basis of a benchmarking survey questionnaire, during the second quarter of 2003. The participants included farmers, producer associations, brokers, distributors, input suppliers, transporters, export associations, importers, retailers, laboratories, food safety officials, animal/plant health officials, ministries of health, agriculture, and trade, port officials, etc. The retail sector (particularly supermarkets) was analyzed to determine the nature and modus operandi of supply chains. A total of eight consultants were involved over the five countries and usually two weeks of time was spent per country.
Evaluation Report #1 P.Bash, R.Lopez-Garcia	**Evaluation of Recent SPS-related Programs in Central America** ***Objectives:*** 1) to evaluate USDA/USAID-funded programs of the last five years addressing SPS conditions in four Central American countries (Honduras, El Salvador, Nicaragua, and Guatemala) after Hurricane Mitch; and 2) to guide the design of technical assistance programs that help food industries comply with SPS requirements and take advantage of trade opportunities ***Achievements:*** During March–April 2003, interviews were conducted with over 100 stakeholders (project implementers, cooperatives, trade associations, government officials, and farmers) who were either involved in the implementation and delivery of the assistance programs or recipients of the assistance. Two consultants were involved and very specific recommendations for increasing compliance with SPS standards and competing in international markets are made
Country Diagnostic Report #1 J.Velez, J.Karpati, L.Flores	**Benchmarking and Diagnostic SPS Mission to Nicaragua** ***Objectives:*** performing a SWOT-analysis of the SPS system in Nicaragua and benchmarking it versus the U.S. system ***Achievements:*** Three persons interviewed public and private sector stakeholders, and international organisations—including USAID/USDA.
Country Diagnostic Report #2 J. Velez, J. Karpati, L. Flores	**Benchmarking and Diagnostic SPS Mission to Guatemala** ***Objectives:*** performing a SWOT-analysis of the SPS system in Guatemala and benchmarking it versus U.S. system ***Achievements:*** Three persons interviewed public and private sector stakeholders, and international organisations—including USAID/USDA.
Country Diagnostic Report #3 T.Deeb, E.Graf	**Zoonotic Testing Laboratory Assessment for Armenia** ***Objectives:*** The purpose of this project was to evaluate Armenia's veterinary testing laboratories—public and private - and to determine their current capabilities. An additional assessment was conducted of the supporting infrastructure needed for an ongoing veterinary testing program, such as training. ***Achievements:*** A systematic three-step process of assessment was followed in which the current state of the overall system was determined, a gap analysis performed, and an action plan for a sustainable veterinary diagnostic testing system developed. This was based on interviews and site visits from 20th March 2004 until 2nd April 2004: Ministry of Agriculture, USDA Extension, Yerevan State University, Central Laboratory of Yerevan, Exlab (a commercial analytical testing centre), Director of the Central Testing Laboratory, Director of the marz laboratory in Sevan, Yerevan local market laboratory and meat inspection service, USDA representative for slaughter facilities, and several commercial enterprises.

Report - Authors	Report title, Objectives and Achievements
Country Diagnostic Report #4 T.Deeb, E.Graf	Design of an SPS-Focused Food Safety Project for Armenia ***Objectives:*** Design of a multifaceted two-year SPS food safety project in Armenia, as an extension of a current development program in order to build on existing client relationships and to expedite the direct assistance to key agribusinesses. The goal of this program should be the certification of 5 to 10 food companies and the improvement of the infrastructure to increase food safety and export to the EU, US and other countries. ***Achievements:*** Evaluation of nine different companies representing a variety of industries, site visits and interviews with several organizations (Government agencies, universities, government laboratories, commercial laboratories USSDA, consulting firms, EU fishery consultant, review of previous ASME and FAO consultant reports—resulting in a recommended food safety project plan.
Country Diagnostic Report #5 H.Winogrond, D.Georgievski	**SPS Assessment of the Horticulture Sector in Croatia** ***Objectives:*** The goal of this project is the promotion of fruit and vegetable sales to the rapidly growing local supermarket sector as well as increased product exports. This was to be accomplished through a demand analysis, which would determine the levels of product demand and identify the most promising sectors, and establish the current level of local SPS programs and EUREPGAP compliance, and make recommendations for programs that will move Croatia forward in these areas. The assessment should identify and describe the sanitary and phytosanitary challenges facing the major horticultural subsectors for export to the EU and for domestic supply to supermarkets and the tourism industry. ***Achievements:*** Interviews were held from 20th of June until the 20th of July, with fruit and vegetable buyers primarily at the level of the supermarkets and wholesalers. A team of two persons was involved.
Country Diagnostic Report #6 D.Humpal, K.Jacques	**Report on Bumpers and Import Sensitivity Analysis for Moroccan Citrus** ***Objectives:*** analysis of the Moroccan citrus export market, the USA citrus consumption and markets, and the sanitary and phytosanitary regulatory issues. Bumpers and US issue analysis for USAID. Specific recommendations are made.
Country Diagnostic Report #7 D.Humpal, K.Jacques	**Report on Bumpers and Import Sensitivity Analysis for Moroccan Tomatoes** ***Objectives:*** Analysis of the Moroccan tomato production and marketing considerations, bumpers analysis, Canadian market analysis, and PD71 analysis of Moroccan exports to the US market. Specific recommendations are made.
Country Diagnostic Report #8 C. D. Clingman	**The Role and Impact of the Private Sector on Sanitary and Phytosanitary Issues in Vietnam** ***Objectives:*** defining the scope of eventual World Bank support to the Government of Vietnam in the preparation of their Food Safety Strategy and Action Plan; and providing support to the Ministry of Agriculture and Rural Development in their preparation to meet SPS requirements for the proposed WTO accession. ***Achievements:*** A one-week (October 2004) World Bank-led mission to Vietnam, including 2 persons during which meetings were held with the World Bank Vietnam staff; the Vietnam Government's Ministries of Agriculture and Rural Development, Science and Technology, Multilateral Trade Policy Assistance Programme, Health, and Fisheries; the French and New Zealand Embassies and the Danish International Development Agency. Interviews with a limited number of private sector participants were also conducted.
Country Diagnostic Report #9 G. Sullivan, Y. Aklilu, P. Hawkes, A. King	**Assessment of Sanitary and Phytosanitary Issues and Marketing Needs for the Livestock-Meat Sector of Ethiopia** ***Objectives:*** 1) conducting a "needs assessment" mission with a focus on SPS-related challenges for Ethiopia's livestock and meat product export industries, 2) conducting a literature review of relevant publications on the challenges of the livestock/meat export industry, 3) identification of critical needs for SPS services and the formulation of an action plan, 4) describing the activities of relevant donor projects currently in place, 5) identifying significant gaps in SPS-related constraints that are not currently well-covered by public, donor, or private programs, and 6) design a capacity-building program that would be supported by USAID and other donors ***Achievements:*** A three-person team worked for two 6-day weeks in Ethiopia, conducting interviews with export abattoir managers, cooperative managers, producer and business association leaders, private veterinarians, NGO leaders, Ministries (Agriculture, Health, Trade & Industry, etc.), USAID/Addis Mission staff, GEM Project experts, experts from Ethiopian

Report - Authors	Report title, Objectives and Achievements
	Universities and ILRI, port authorities, donor project experts (DFID, FAO, Danida, etc..). A "needs assessment" report was created that addresses the current state of affairs in SPS services to the livestock sector, focusing on competitiveness of Ethiopian livestock/meat products in regional and international markets; and documents the existing public and private efforts to alleviate SPS constraints. A GAP analysis focussing on critical areas was performed. A USAID-led capacity building program to alleviate the most important SPS constraints was designed.
Country Diagnostic Report #14 T. Deeb, P. Hanemann	**An Assessment of Ethiopia's Diagnositc Capacity in Sanitary and Phytosanitary Measures Related to Fresh Fruit and Vegetables** ***Objectives:*** to conduct an in-depth assessment of Ethiopia's overall diagnostic capacities related to SPS measures associated with fresh fruit and vegetables, and evaluate Ethiopia's public, private, and academic capacity (facilities, equipment, and training) to detect, monitor, and control plant pests and pathogens, agro-chemical residues, toxins, and microbes that can cause food borne illness as well as the ability to meet private sector standards. ***Achievements:*** A three-step process of evaluation is used to determine the current state of the overall system, to identify areas for improvement, and to outlined a series of recommendations that will enable Ethiopia to have a sustainable plant quarantine and SPS diagnostic system. Evaluation of the specific laboratory conditions, the educational system, training, and commercial capabilities was performed. Interviews and site visits were conducted with: Ministry of Agriculture, Crop Protection, Regional Plant Quarantine laboratories, Ethiopian Agricultural Research Organization, Director of the Testing and Calibration Services at Quality and Standards Authority of Ethiopia, Ethiopian Horticulture Export Association, Alemaya University, Pasteur Institute, USDA APHIS, 2 wholesale fruit and vegetable Markets (Addis Mercato and Dire Dawa), and several commercial enterprises.
Country Diagnostic Report #26 K. Kennedy	The Government of Vietnam's Implementation of the WTO Agreement on the Application of Sanitary and Phytosanitary Measures ***Objectives:*** to meet with representatives of the Vietnamese ministries responsible for SPS regulation and to provide a legal analysis of Vietnam's food safety and animal and plant health legislation vis-à-vis the WTO SPS Agreement. ***Achievements:*** From March 13-23, 2007, Professor Kevin Kennedy and an attorney from the STAR-Vietnam office, Ms. Do Hoang Anh, met with representatives of the six Ministries with primary or lead responsibility for food safety and hygiene and animal and plant health: the Ministry of Agriculture and Rural Development, the Ministry of Fisheries, the Ministry of Industry, the Ministry of Health, the Ministry of Trade, and the Ministry of Science and Technology. Approximately twenty core ordinances, decrees, and decisions across the spectrum of SPS subject areas (animal and plant health, food safety) were reviewed for consistency with the SPS Agreement.
Country Diagnostic Report #33 J.E. Bowman	**Design of a RAISE SPS Collaborative Project in Support of the Vietnam's Dragon Fruit Sector** ***Objectives:*** Helping the newly established VNCI fruit cluster define a high profile, lead project—with the additional objective of defining linkages to and possible co-funding from, the Bethesda-based RAISE SPS Project. ***Achievements:*** During two weeks in August 2004, many interviews were held with public and private sector stakeholders in the fruit industry in order to find out their priorities for a cluster- and export-oriented project that might receive funding from VNCI and RAISE SPS. It was decided to focus only on dragon fruit with the objective of obtaining actual EUREPGAP certification. The report proposes a draft scope of work for VNCI/RAISE SPS fruit cluster activity concerning the proposed core activity and the management of that activity. A proposal for the possible use of RAISE SPS (RSPS), VNCI, and other funds in support of the HortResearch GAP program is included.
Country Diagnostic Report #31 E. Mitcham	**Capacity Building in Post Harvest Handling and Packhouse Management for the Export of Vietnamese Dragon Fruit** ***Objectives:*** Improve post harvest quality of export-oriented dragon fruit. ***Achievements:*** Multiple workshops held with small farmers and packhouse operators. Customized dragon fruit post harvest manual designed and distributed.

Report - Authors	Report title, Objectives and Achievements
Country Diagnostic Report #29 D. Husnik	**Assessment of Vietnam's SPS Management Capacity in the Area of Plant Health** ***Objectives:*** This report describes the SPS management capacity of Vietnam in the area of plant health.
Country Diagnostic Report #32 S. Humphreys	**Market Access Study of Selected EU Markets (UK, Netherlands, France and Germany) for Vietnamese Dragon Fruit** ***Objectives:*** to conduct a market access study on four selected EU markets for Vietnamese dragon fruit. ***Achievements:*** Interviews with 32 different companies in the four countries (UK, Netherlands, France and Germany).
Country Diagnostic Report # 36 J. E. Bowman, N. P. Thao,	**Collaborative Project in Support of the Vietnam's Dragon Fruit Sector-Summary Report** ***Objectives:*** In response to the need for an appropriate model for the implementation of GAP, several donors (USAID, AusAID) and dragon fruit supply chain stakeholders have joined forces and implemented a collaborative effort to address SPS and marketing constraints in order to improve small farmer linkage to export markets. The highest priority of the project is to help the dragon fruit sector meet internationally acceptable export requirements, with the specific objective of obtaining EUREPGAP group certification for a majority of the small farmers in the target area (over 300 farmers in two provinces). Key Partners for the project are: USAID/Vietnam's VNCI Project, HortResearch of New Zealand (funded by AusAID), MARD's Southern Fruit Research Institute (SOFRI), and USAID/W's RAISE SPS Project. ***Achievements:*** The major result of the project's effort is the increased awareness among farmers regarding the challenges of export. The project has organized more than ten workshops in urban and rural settings on GAP, EUREPGAP, SPS requirements, and international market requirements. Media and marketing materials have been distributed and proven to be effective. Concerning the EUREPGAP implementation, the project activities are generating results in two main areas, capacity building, and establishment of the building blocks leading to group certification. A series of workshops were conducted in the province of Binh Thuan in order to help stakeholders become familiar with the branding concept and process.
Country Diagnostic Report # 30 J. Thaw	***US Phytosanitary Requirements for the Importation of Vietnamese Dragon Fruit*** ***Objectives:*** To assist the RSPS/VNCI team in educating stakeholders in the Dragon Fruit Project about SPS-related entry requirements for fresh fruits into the United States, and to present lectures in several venues, in HCMC, two dragon fruit growing provinces, and Hanoi. ***Achievements:*** 4 workshops were organized, leading to specific recommendations for MARD on the implication of an SPS programs for dragon fruit and other major fruits with export potential
Not specified J. Kigamwa	**Kenya Study Tour for Zambian SPS Stakeholders** ***Objectives:*** The main purpose of the tour was for Zambia to learn from Kenya on how it has managed to develop its horticulture and floriculture industry in the face of EU SPS entry requirements. ***Achievements:*** The tour took place from 5-11 March 2006 and included visits to government and quasi government institutions and site visits to commercial farms and a small holder association. Nine participants involved. The report—based on inputs from members of the delegation—summarized the lessons learnt and gives recommendations for the visited institutions.
Country Diagnostic Report #37 D. Humpal	**Middle-East Partnership Initiative (MEPI): Moroccan Agribusiness Associations Support** ***Objectives:*** This report provides a summary of activities undertaken since the start of the MEPI Moroccan Agribusiness Associations Support Activity under the RAISE/SPS Task Order. Five tasks were to be performed from November 2003 until August 2005, namely a market analysis, providing an improved knowledge of US markets for the Moroccan fresh and processed fruit and vegetable industries, improving the organization and operations of professional associations, controlling Medfly, and producing reports and deliverables. ***Achievements:*** All five tasks were delivered according to the work plan - with the exception of the visit by Moroccan Fresh Produce operators to the USA. For the updated market understanding task, two workshops, three US operator visits to Morocco, and three Moroccan

Report - Authors	Report title, Objectives and Achievements
	visits to the US were organized. For the organizational improving task, CDs with the Case Study report and the PowerPoint Presentation on alternative models for professional associations and cooperatives were delivered to USAID, as well as to EACCE for distribution to the Associations. Next to this, a series of workshops and training sessions were organized to improve raw materials supply. For the reports and deliverables task, five quarterly progress reports, five quarterly financial reports and one final report (this report) were provided.
Country Diagnostic Report #34 B. Rabatsky	**Morocco Food Processors Study Tour to New York City and the NASFT Fancy Food Show** ***Objectives:*** A U.S. study tour was organized for stakeholders in the Moroccan food processing industry interested in exporting to the U.S. market. ***Achievements:*** Participants visited various government and private sector contacts in the New York City area and also attended the NASFT Fancy Food Show.
Not specified K. van der Meer, D. Humpal, X. Qin	**Moldova Managing Food Safety And Agricultural Health: An Action Plan** ***Objectives:*** The direct objective of this action plan is to provide the Government of Moldova, donors, and international organizations a comprehensive framework for the analysis, design, and implementation of capacity-building efforts in the area of food safety and sanitary and phytosanitary (SPS) measures. ***Achievements:*** A team of three consultant conducted two missions to Moldova in early 2005 and n September-October 2005. During these missions, a comprehensive review of the country's SPS system was created; and various government agencies, private sector stakeholders, and a number of donor agencies were consulted. In December 2005, the draft Action Plan was presented at a stakeholder workshop in Moldova attended by representatives of the various ministries, the private sector, and donor and international agencies, after which it was revised to incorporate their feedback. The main findings and recommendations were also shared with participants of a workshop on Moldova's agriculture policy held in June 2006.
Not specified S. Jaffee, T. Deeb, T. O'brien, Y. Strachan, R. Kiggundu	**Uganda, Standards and Trade: Experience, Capacities and Priorities** ***Objectives:*** This paper provides an overview of the emerging challenges and opportunities which Uganda is facing in relation to food safety, agricultural health, and other standards impacting agro-food market development and trade. Primary attention is given to 'non-traditional' agricultural and food exports. The aim is to provide a strategic framework for Ugandan policy-makers, donors and other stakeholders to assist in better planning and prioritizing actions and capacity-building measures in this field. ***Achievements:*** The paper draws upon expert and stakeholder perspectives and builds upon existing analyses. It provides a conceptual framework on SPS management challenges and capacity needs and provides a 'birds-eye' perspective on existing Ugandan capacities and experiences in managing food safety, agricultural health and related challenges and opportunities. Strong recommendations fro SPS development are given. A team of five persons was involved.
Not specified J. Gutman, I. Johnson, M. Wilson, K. Cleaver, H. Kim, S. Ganguly, D. The Nguyen, C. de Haan	**Vietnam Food Safety and Agricultural Health Action Plan** ***Objectives:*** Improving food safety and agricultural health is in line with the main themes of Vietnam's Comprehensive Poverty Reduction and Growth Strategy (CPRGS). Within this framework, the Government of Vietnam (GOVN) has requested World Bank assistance in the preparation of an Action Plan for Food Safety and Agricultural Health. The ultimate objective of this Action Plan for Food Safety and Agricultural Health is to improve living standards of people in and outside of Vietnam by improving their access to safe and healthy food and by minimizing the loss in human well-being caused by food-borne diseases ***Achievements:*** This Action Plan is the result of a close cooperation between the Government of Vietnam, local institutions, and international donor organizations. The main mission to prepare the Action Plan took place between March 2 and March 18, 2005. A major consultation to review the draft Action Plan was organized on August 1, 2005, with the participation of the main stakeholders involved in the perishable food chain. A team of six people was involved.

Report - Authors	Report title, Objectives and Achievements
Not specified S. Jaffee, A. Sergeant, D. Cassidy, M. Abegaz, T. Deeb, and M. Sewadeh	**Zambia: SPS Management** ***Objectives:*** This report provides a brief summary of the assessment and recommendations of a joint World Bank/USAID team that visited Zambia between May 15 and 30, 2006. The purpose is to lay out the very broad observations made by the Team and to highlight specific (and costed) recommendations to the GOZ and to the teams managing the ADSP, MATEP, and other projects.
Country Diagnostic Report #38 C. Thorn	**Biotech Trade Policy Education and Capacity-Building: WTO Outreach and Kenya Case Study** ***Objectives:*** In the first phase of the project the goal was to use "awareness-raising" techniques at the WTO. The second phase focused on supporting Kenyan officials and private sector stakeholders in re-writing biosafety legislation with attention to effectiveness, trade-disruptiveness and WTO-compatibility. ***Achievements:*** The first phase consisted of organizing seminars on biotech-related trade issues in Geneva, mainly with trade ministry officials who understood WTO obligations and the importance of WTO disciplines, but who were unfamiliar with biotech trade issues. This has resulted in more familiarity with biotech issues. In the second phase they prepared detailed comments on the draft bill and traveled to Nairobi three times for meeting with key Kenyan officials and private sector stakeholders. They also worked between visits with stakeholders to help them develop a lobbying strategy.
2. AVIAN INFLUENZA	
Country Diagnostic Report #10 J. Gingerich, H.L. Shivaprasad	**Highly-pathogenic Avian Influenza in India: A Situational Analysis** ***Objectives:*** The task of this team was to recommend areas for USAID investments in future programming for Avian Influenza (AI). The principle objectives of this assignment were to assess the current situation of highly pathogenic AI (Bird Flu) in India; to review and evaluate the effectiveness of USAID/India's programming for HPAI; and advise USAID/India on future involvement in HPAI control. ***Achievements:*** The project focuses on identifying the requirements for developing a rapid, effective contribution to Indian and other donor efforts at controlling/containing further outbreaks of bird flu. Interviews were held with representatives of international organizations (DFID, WHO, FAO, etc.), government officials, and representatives from the poultry industry.
Country Diagnostic Report #11 S. Goyal, I. Neu	**An Assessment of the National Avian Influenza Prevention and Preparedness Plan of USAID/Philippines** ***Objectives:*** 1) to assist USAID and partner stakeholders in the poultry sector to further refine and solicit support for an effective Avian Influenza Prevention and Preparedness Plan (AIPPP); 2) to ensure that the Philippines' existing AIPPP addresses and incorporates FAO\OIE guidelines for controlling HPAI; 3) to evaluate the plan against minimum standards for HPAI control and mitigation as defined by FAO\OIE guidelines; and 4) suggesting improvements and assisting the national agency in charge to prepare an investment, staffing and training plan, if needed. ***Achievements:*** The mission took place from January 29 to February 17, 2006. The methodology included a review of documents and reports; discussions with government agencies, task forces, and experts in Manila and in the field; field visits and facility assessments; discussions with non-governmental agencies; discussions with donor agencies; and some presentations.
Country Diagnostic Report #12 B. Krushinskie, J.Lambers	**Avian Influenza Rapid Assessment: Ukraine** ***Objectives:*** 1) to review existing assessment mission documents which have identified needs to resolve existing surveillance, testing and response deficiencies or shortfalls of the GOU; 2) to attend meetings organized by the WB to ground truth the needs; 3) to develop an initial outline of an operational plan to deal with containing HPAI and conduct meetings with all donors, international agencies and the GOU to obtain initial consensus on such plan; 4) to provide a set of priorities for donors, international agencies, and GOU to obtain consensus on the distribution of tasks; and 5) to follow up by developing a final operational plan with USAID and WB that will blueprint the actions of donors and to provide USAID and WB with a blueprint that they can confirm with the GOU and other international agencies and non-governmental organizations. ***Achievements:*** A mission was conducted from February 27-March 10, 2006, resulting in the above described objects to be fulfilled.

Report - Authors	Report title, Objectives and Achievements
Country Diagnostic Report #13 A. Mirande	**Avian Influenza Virus in Azerbaijan: A Situational Analysis for USAID** ***Objectives:*** 1) to assess and provide technical assistance to animal health laboratories in the Ministry of Agriculture with respect to their capabilities to provide rapid diagnostic testing; 2) to outline operational procedures for HPAI outbreak prevention, surveillance and control for the private sector and the public sector and their interaction; 3) to advise on the management of national emergency stockpiles for HPAI outbreak control; and 4) to assess and advise on communication strategies on best practices to prevent outbreaks and deal with sick birds; and to advise USAID and other USG agencies on coordination issues with the Government and other donors and on next steps for addressing AI in Azerbaijan. ***Achievements:*** The objectives were met during consultant missions from 10—19 February, 2006 in Azerbaijan.
Country Diagnostic Report #15 R. Fulton, M. Busquets, A. Hiniker	**Assessment and Strengthening of the Government of Rwanda's National Action Plan Against HPAI** ***Objectives:*** 1) to propose an addendum to the National Plan; 2) to simulate test of National Plan; 3) to advise USAID and other USG agencies on coordination issues with the Government of Rwanda and other donors;4) to advise on management of national emergency stockpiles for HPAI; and 5) to develop a Behavior Change and Communication (BCC) strategy addressing consumers, backyard producers, and the general public, and advise on the use and dissemination of communications. ***Achievements:*** A table top exercise, a simulated outbreak, requiring the response of agencies to the occurrence was conducted on Friday, 26 May 2006. Rwandan personnel were trained on PPE and AI rapid test during three training sessions. A document listing a large number of recommendations for each of the five objectives was prepared.
Country Diagnostic Report #16 L. Detwiler	**Needs Assessment Report: Avian Influenza for Bulgaria** ***Achievements:*** A rapid, technical review of Bulgaria's avian influenza (AI) surveillance, prevention and preparedness program was conducted during the week of June 11, 2006. The main purpose of this review was to assess the needs of the veterinary and first responder sectors in Bulgaria with regards to training. This assessment was conducted to determine what type of training would be most beneficial, the subject matter needed and the best venue to conduct this training. The assessment was carried out by conducting interviews and site visits. They met with officials at the National Veterinary Office, the national diagnostic laboratory, the Poultry Union, USDA and USAID. They visited 6 of the 28 regions in Bulgaria during which they met with the different levels of the veterinary infrastructure, the extension personnel and poultry producers. The poultry operations that we consulted with ranged from backyard operations (15-20 chickens) to some of the largest commercial entities (300,000-500,000 birds).
Country Diagnostic Report #17 D. Neven, L. Detwiler, E. Krushinskie, J. Westergaard, T. Wilson, H. Kiezebrink, E. Lindner, A. Hiniker	**Avian Influenza Surveillance, Monitoring and Training Project for Bulgaria: Final Report for USAID Bulgaria** ***Objectives:*** In order to assure that the training would address real needs, an initial needs assessment was deemed necessary. The objectives were: (1) to conduct a technical review of the current AI monitoring and surveillance program being conducted in Bulgaria; and (2) to prepare a scope of work and work plan for the actual training sessions to be done in Phase II for surveillance programs with veterinary doctors and first/emergency response with veterinary assistants. A training program was designed targeting around 300 public and 180 private participants via in-depth 2-day training seminars. The first day consisted of theoretic lectures, the second day of hands-on practical sessions. ***Achievements:*** A total of 432 veterinarians (officially registered) attended the training in the period September 18-30. These included 283 federal veterinarians and 149 private sector veterinarians.The report also discusses the key success factors of the training and the lessons learned.
Country Diagnostic Report #18 R. Graham, J. Bowman, A. Miles, M. Busquets, A. Hiniker, W. Smiley, N. Kennedy, C. Brown, M. Palmer	**Two Day Training Workshops for USAID Avian Influenza Commodities (Ukraine, Romania, Moldova, Azerbaijan, Georgia, Bulgaria, Pakistan)** ***Achievements:*** This report provides a rapid, after-action summary to USAID of the major events, findings and recommendations from the three RAISE SPS Training Teams. The major training topics concerned the use of Personal Protection Equipment (PPE), the use of rapid sampling and diagnostic kits, the use of IATA shipping kits, skill development for future cascade training and the use of Personal Protection Equipment (PPE). During the timeframe of December 1-15 2006, three Teams were organized and deployed by RAISE SPS to

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	conduct high priority trainings in 7 countries involving commodities to be used in the fight against outbreaks of avian Influenza (AI). Team 1 covered Ukraine, Romania and Moldova. Team 2 covered Azerbaijan, Georgia and Bulgaria. Team 3 covered Pakistan. The report also discusses some recommendations and lessons learned from these training workshops.
Country Diagnostic Report #28 A. Hiniker, C. Brown, A. Miles, P. Marchot, G. Mullins, N. Kennedy	**Training Workshops for USAID Avian Influenza Commodities: Ethiopia, Ghana, Mali, Uganda** ***Achievements:*** Trainings as described in report #18 were held in four African countries.
Country Diagnostic Report #35 J. Bowman, A. Hiniker, A. Miles, J. Jagne, D. Shaul, H. Kiezebrink	**Training Workshops for USAID Avian Influenza Commodities: Afghanistan, Laos, Vietnam** ***Achievements:*** Trainings as described in report #18 were held in three Asia Near East countries. For the training in Laos, a new module was added on poultry culling and disposal.
3. CERTIFICATION AND ACCREDITATION **["The Relationship of Third-Party Certification to SPS Measures and the International Agri-Food Trade"]**	
Global Analytical Report # 1 C.Bain, D.Thiagarajan, L.Busch	**Case-study Ghana** ***Objectives:*** The focus of the project is to ascertain 1) to what extent third-party certification (TPC) was an issue in Ghana, 2) which producers were affected by TPC, 3) what the major concerns and challenges facing stakeholders, especially smallholders, were in implementing TPC, 4) how they viewed the relative costs and benefits of TPC, 5) what was the specific role of their organization/institution in dealing with TPC, and 6) what were the priorities for assistance. ***Achievements:*** Between June 14 and 25, 2004, 18 interviews were conducted with Ghanaian stakeholders involved in the production of fresh fruits and vegetables for export including small, medium and large-sized growers, growers' associations, exporters, marketers, processors, NGOs, and government agencies involved in the promulgation or inspection of food safety standards. The insights lead to specific recommendations for priority investments.
Global Analytical Report # 2 M.Hatanaka, D.Thiagarajan, L.Busch	**Case-study Indonesia** ***Objectives:*** The goals of the study are fourfold: 1) to identify to what extent TPC is being implemented in Indonesia, 2) to assess potential benefits and challenges of TPC, 3) to identify concerns and critiques of TPC, and 4) to recommend the kinds of assistance and aid necessary for successfully implementation of TPC. ***Achievements:*** The study was conducted primarily in West Java, but also in Sidoarjo in East Java, between August 1st and August 16th 2004. A total of sixteen interviews were conducted with various stakeholders involved in organic TPC (including governmental officials, local and international certification bodies, farmers, distributors, exporters, and NGOs). From these interviews, the opportunities, challenges, and concerns regarding organic third-party certification were analysed and specific recommendations formulated.
Global Analytical Report # 3 L. Flores, D.Thiagarajan, L.Busch	**Case-study Guatemela** ***Objectives:*** The general objective of this project is to improve farmers' and exporters' ability to build a stronger, more reputable produce industry through high quality and affordable food safety third party certification. Specific objectives include: 1) identifying and classifying the major third party certification (TPC) schemes and their accreditors currently performing third party food safety certification on fresh fruits and vegetables in Guatemala; 2) identifying the governance structures within TPC schemes; 3) defining the role of the government in the process of accrediting TPC bodies and 4) describing the impacts of TPC on farmers and exporters. ***Achievements:*** Interviews were conducted with third party certifiers currently operating in Guatemala, exporters, farmers, industry consultants, and government stakeholders.
Global Analytical Report # 4 M.Hatanaka, D.Thiagarajan,	**Internet Profile Report** ***Objectives:*** This paper seeks to provide a preliminary analysis of TPC and the power relations embedded within it.

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L.Busch	***Achievements:*** This is an internet-focused research. First, they sketch out the general mechanism of TPC, namely the work of CBs and their accreditors, the organizational structures of TPC, and the surveillance mechanism in the TPC industry. Then, they examine the power relations embedded within the TPC mechanism by focusing on four areas: 1) participation in development of TPC standards, 2) enforcement of the TPC scheme, 3) costs of TPC, and 4) assignment of particular CBs for TPC.
Global Analytical Report # 5 C. Bain, D.Thiagarajan, L.Busch	**Global Supermarket Profile Report** ***Objectives:*** The goal was to describe the extent to which retailers publicly identify their requirements for agrifood standards and Third Party Certification (TPC) ***Achievements:*** a report that summarizes the key findings from their profile of the 50 largest global supermarkets' websites and company reports, and gives recommendations for development agencies and donors.
Global Analytical Report # 6 M.Hatanaka, D.Thiagarajan, L.Busch	**Report of Interviews with Third-Party Certification Firms** ***Objectives:*** This paper examines the potential benefits of TPC as well as some of the challenges it must overcome to ensure its continued expansion and effectiveness. ***Achievements:*** This study is based on nine phone interviews with CBs and one interview with a third-party auditing consulting company.
Global Analytical Report # 7 D.Thiagarajan, L.Busch, M. Frahm	**Case-study EurepGAP** ***Objectives:*** This study was conducted to understand how EurepGAP standards were created, what costs are involved in the certification process, and where the demand is greatest for EurepGAP certification. ***Achievements:*** Interviews were conducted in several European countries with well-known certification agencies, inspection bodies, importers, retailers, non-governmental organizations (NGOs) and regulatory bodies. A review of the current literature was also performed.
Global Analytical Report # 8 M.Hatanaka, D.Thiagarajan, L.Busch	**The Relationship Between U.S. Food Retailers and Third Party Certification** ***Objectives:*** The overall objective of this study was to examine the role of TPC in ensuring food safety in the production and sale of agrifood products from developing countries, to understand the relationship between private retailer standards and TPC, to clarify how supermarket chains identify and procure TPC services, and to develop strategies and make recommendations to resolve issues currently raised by TPC. ***Achievements:*** Telephone interviews were conducted with representatives of 10 major food retailers and 3 wholesale distributors of fresh produce in the United States between November, 2004 and February, 2005.
Global Analytical Report # 9 L. Busch, D.Thiagarajan, M.Hatanaka, C. Bain, L. Flores	**Final Report** ***Objectives:*** This report summarizes the eight preceding reports concerning the relationship of Third-party certification to SPS measures and the international agri-food trade. ***Achievements:*** In this report the authors review the literature on TPC, and provide additional data gleaned from websites of and interviews with retailers and certifiers, as well as three brief field studies in Ghana, Guatemala, and Indonesia. A detailed list of conclusions and recommendations is included.
4. SUPERMARKETS IN DEVELOPING COUNTRIES	
Regional Report # 2 T.Reardon, J.Berdegue, F.Balsevich, L.Flores	**The Rise of Supermarkets in Central America: Implications for Private Standards for Quality and Safety of Fruits and Vegetables** ***Objectives:*** to describe how supermarkets in Central America organize their procurement system for fruit and vegetables—including the change in food standards. ***Achievements:*** Field-research was conducted by a team of four researchers in the period November 2002 - May 2003 in five case-study countries (Costa Rica, Guatemala, El Salvador, Honduras, and Nicaragua) based on rapid reconnaissance surveys of supermarket chains, wholesalers, and suppliers. The report includes a detailed description of the evolution of the retail sector in Central America; and the organizational & institutional changes in the procurement system of supermarkets.
Regional Report # 3 D.Weatherspoon, R.Fotsin, H.Katjiuongua, D.Neven, T.Reardon	**The Rise of Supermarkets in Africa, Private Standards for Quality and Safety of Fruits and Vegetables, and Implications for Producers** ***Objectives:*** to describe the diffusion of supermarkets in Africa and how the retail transformation has been accompanied by changes in the procurement system of supermarkets—with a focus on organizational & institutional changes.

Report - Authors	Report title, Objectives and Achievements
	Achievements: Field-research was conducted, by a team of five researchers in the period May-July of 2003 in four countries (South Africa, Kenya, Zambia, and Uganda) based on rapid reconnaissance fieldwork including supermarket chains, independent retailers, wholesalers, processors, small traders, and consumers. The report describes how the new supermarket-market is emerging in Africa and the type of assistance that is needed to ensure that small farmers can access these new markets.
Country Diagnostic Report #19 D. Neven, T. Reardon	**The Rise of Kenyan Supermarkets and the Evolution of their Fruit and Vegetable Supply Systems** ***Objectives:*** 1) to describe the (endogenous & indigenous) development of the supermarket sector in Kenya; 2) to compare these developments with supermarket trends in Asia and Latin-America; and 3) to analyze how changes in supermarket procurement systems affect farmers. ***Achievements:*** Field-research was conducted by a team of two researchers in the period March - November 2003 and in April 2004 based on 1) in-depth interviews with the executive managers of the top five supermarket chains; 2) a short survey of supermarket stores in 79 of the 87 urban areas; 3) a similar survey of 250 non-supermarket retailers; 4) a survey of 450 households in Nairobi; and 5) interviews with other stakeholders (government officials, industry experts, NGOs, etc.). A very detailed report tackling the identified research question is presented.
Country Diagnostic Report #20 D. Neven, T. Reardon, J. Chege, H. Wang	**Supermarkets and Consumers in Africa: The Case of Nairobi** ***Objectives:*** This study aims at shedding light, from the consumer perspective, on the positive feedback loop between consumers giving their dollar vote to supermarkets and supermarkets using it to create more value for consumers. This research analyses which attributes of retail outlets and the products they sell are important to consumers when deciding where to buy their food, and which socio-economic and demographic factors affect retail outlet choice and shopping frequency. ***Achievements:*** This consumer study is part of a broader study on the rise of supermarkets in Kenya which included primary data collection by a team of four researchers during the period March to November 2003 and in April 2004. The field-research included consumer focus group research and a survey of 445 consumers.
Country Diagnostic Report #25 P. Tam, T. Reardon	**Urban Consumer Preferences for Poultry from Supermarkets versus Traditional Retailers in the Era of Avian Influenza in Ho Chi Minh City, Vietnam** ***Objectives:*** to analyze the consumption of poultry products before and after AI outbreaks—with specific attention to the role of supermarkets. ***Achievements:*** Field-surveys were conducted by a team of two researchers in November 2006, including 704 urban consumers. In addition, rapid appraisals of retailers and processors were done in June 2006. The report describes a general reducion in poultry consumption after the AI outbreak in 2003, and the increasing importance of supermarkets in the retail of poultry products.
5. SMALL FARMERS IN MODERN SUPPLY CHAINS	
Regional Report # 4 F. Balsevich, P. Schuetz, E. Perez	**Cattle Producers' Participation in Market Channels in Central America: Supermarkets, Processors, and Auctions** ***Objectives:*** This paper focuses on the determinants and effects of the participation of cattle producers in the supermarket channel, export processor channel, and traditional auction channel. ***Achievements:*** The authors begin with the analysis of the market channels using qualitative data from 50 interviews of retailers, processors, auction market managers, and other key informants in Costa Rica and Nicaragua, two widely differing cases. Then they analyze patterns and supplies of producers by channel using farm level data from 300 farms in the two countries.
Country Diagnostic Report #21 F. Balsevic, T. Reardon, J. Berdegue	**Supermarkets, New-generation Wholesalers, Tomato Farmers and NGOs in Nicaragua** ***Objectives*:** This paper examines the determinants and effects of farmers' participation in supermarket channels, with and without assistance from NGOs in "business linkage" programs. ***Achievements:*** The report is based on a survey of 145 tomato farmers, and interviews with supermarket chains, NGOs, wholesalers, and farmer organizations in 2004. The authors find that without assistance, the farmers that work with supermarket chains tend to be the "upper

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	tier" of small farmers, better capitalized with various assets. The smaller and less-capitalized farmers that work with supermarkets tend to do so in association with NGO assistance.
Country Diagnostic Report #22 R. Hernandez, T. Reardon, J. Berdegue	**Tomato Farmer Participation in Supermarket Market Channels in Guatemala** ***Objectives*:** The analysis focuses on the determinants of market channel choice, and the associated changes in practices and net incomes for tomato farmers in Guatemala. ***Achievements:*** The analysis is based on field interviews with supermarkets and wholesalers, and a representative survey of farmers. The fieldwork took place in June-August 2004. The analysis shows that farmers selling to supermarkets tend to be in the upper-end of the "small farmer" category.
Country Diagnostic Report #23 D.Neven, M.Odera, T.Reardon	**Horticulture Farmers and Domestic Supermarkets in Kenya** ***Objectives*:** The authors analyze the farm-level impact of supermarket growth in Kenya. ***Achievements:*** Two different farmer surveys were conducted, including in total 63 farmers supplying to supermarkets and 103 farmers operating in traditional-marketing channels. The main findings are: 1) small, rain-fed farms are most constrained to enter the supermarket channel, and 2) the supermarket-channel helps to alleviate poverty through labour market effects.
Country Diagnostic Report #24 D.Neven, H.Katjiuongua, I.Ardjosoediro, T.Reardon, P.Chuza, G.Tembo, M.Ndiyoi	**Food Sector Transformation and Standards in Zambia: Smallholder Farmer Participation and Growth in the Dairy Sector** ***Objectives*:** This study focuses on the determinants of smallholder farmer participation in modern supply chains, and the impact of this participation on growth for smallholder farmers. ***Achievements:*** The analysis is based primarily on interviews with key informants in the private, public and non-governmental sectors and on unique data from a survey of 182 smallholder dairy producers. The results suggest 1) that mainly larger, higher-income and technologically more advanced farmers have entered the modern dairy channel; and 2) that farmers in the modern dairy channel have grown faster relative to farmers in the traditional dairy channel.

3. REVIEW OF THE METHODOLOGY

Most of the RAISE SPS studies are descriptive and use qualitative methodologies based on information collected during interviews with stakeholders and experts, rapid appraisals and workshop discussions. The exceptions are the studies that specifically focus on farmers' participation in supermarket and export-oriented supply chains, which use a more quantitative methodology based on farm-household surveys and econometric methods. Here we summarize some strengths and weaknesses of the methodologies that have been used.

1. The large number of **studies on SPS capacity in developing countries** are based on descriptive information from expert interviews.

The lack of a common methodology and the failure to systematically include the private sector are potentially important shortcomings of the studies dealing with SPS capacity in developing countries.

First, interviews are mainly with experts coming from the public and NGO sector, and including government officials, extension workers, health workers, representatives of international organizations, NGOs, etc.

In some cases, also representatives of the private sector were interviewed. These interviews were mostly limited to representatives of professional business associations and some large-scale industrial private companies. However, hardly any effort was taken to also include the small-scale farming sector in these studies—with the exception of the work done on SPS capacity for dragon fruit in Vietnam.

Second, since these studies were done through independent USAID Mission driven projects at the request of AID, information is not collected on a systematic basis. Every country Mission had its particular preferences and priorities and hence the studies, including the collection of information and data, were not performed systematically. Although many experts in SPS issues are involved in the studies, there seems to be no general methodology for collecting and analyzing data in the different case-studies. This jeopardizes the comparability across different countries and cases and the formulation of generally valuable conclusions and recommendations.

2. The specific **country-studies on Avian Influenza**—conducted in India, Philippines, Azerbaijan, Ukraine, Rwanda, and Bulgaria—relied on qualitative information gathered through interviews with stakeholders and experts during field trips. Potential weaknesses are the time constraints for the data collection and, again, the bias in interviews from the public sector and NGOs.

First, in all cases these field trips were rather short (2-3 weeks) and one of the reports (the Philippines report) specifically mentions the lack of time as an important constraint for the quality of the assessment. However, because AI outbreaks were starting to have devastating effects in late 2005/early 2006, during this timeframe the Task Order was literally being used in an "emergency response" mode—particularly to assess national preparedness capacity in key USAID countries.

Second, the interviews and discussions focused on representatives of government agencies, non-governmental organizations, and donor agencies; including also field veterinarians and health workers. Only in the India case-study the private sector was taken into account in the assessment as some representatives of the poultry industry were interviewed. None of the studies however systematically gathered information from the small-scale poultry farming sector—which in most countries still represents the dominant supply of poultry products.

This is somewhat surprising since the country reports on Avian Influenza themselves mention public-private cooperation to be extremely important to address AI issues more effectively. The establishment of public-private partnerships is mentioned as the second priority area for action in the India report—after the establishment of an integrated bird surveillance system, testing and eradication system. In this respect, it is a bit unfortunate that the private sector was not more specifically implicated in the country studies. Information gathered at this level could have improved insights in the matter and ended in even better recommendations for government and donor action. However, the collection of information from private sector stakeholders was in many of the evaluated countries complicated because producers are wary of international visitors and reluctant to be interviewed. In addition, the bias away from private stakeholders and the overemphasis of the public sector in many countries might result from the specific preferences of Health Officers in the USAID Missions who usually decided on the projects agendas and in most cases overweighed the visits on the side of public sector stakeholders.

3. The global analytical reports on **Third Party Certification (TPC)** are all based on qualitative stakeholder interviews.

From some reports it is unclear which type and how many stakeholders were interviewed. Interviews were sometimes conducted during field visits, sometimes through phone-interviews—which makes the in-depth nature of such interviews questionable. Additional information was retrieved from the internet, and from the websites of TPC agencies.

4. The **studies on the diffusion of supermarkets in developing countries** rely on extensive interviews with a large number of larger and smaller supermarkets in the countries under study. Contrary to the above mentioned studies, these interviews seem to have been based on a common and well-defined methodology. The descriptive information gathered on supermarket diffusion and supermarket procurement systems in different countries results in findings that are comparable across countries.

In some countries, also other “traditional” retailers, wholesalers and processors were interviewed in order to be able to make a comparison between traditional marketing channels and supermarket-driven supply chains. In Kenya and Vietnam, also urban consumers were interviewed in a systematic way to document and understand the growth in supermarket retail in those countries.

5. The five **studies that specifically focus on farmers’ participation in modern supply chains** (driven by supermarkets, exporters or food multinationals) use a more quantitative methodology based on farm-household surveys and econometric methods. In each of the case-studies (Nicaragua, Cost Rica, Guatemala, Kenya and Zambia) a sample of around 150 farmers were selected. Most studies selected a specific number of farmers supplying to supermarkets (or to large multinationals in the case of the Zambian dairy sector) to compare them with farmers supplying to traditional marketing channels.

The methodology of the studies imply some problems of identifying causality; which is important for the conclusions and implications drawn from these studies. These are discussed further in the specific section on these studies.

4. THE RISE OF SPS STANDARDS

Food standards have become increasingly important in the past decade and have come to play an increasingly important role in trade in food and agricultural products (Farina and Reardon, 2000; Jaffee, 2003; Henson and Mitullah, 2004; Swinnen, 2007). The studies identify several important reasons why food standards in general and SPS standards in particular have emerged and have spread rapidly during the past decade—which is line with the literature on food standards (e.g. Gulati et al, 2005; Henson, 2006; Maertens and Swinnen, 2007; Reardon, et al., 1999; Swinnen, 2005; Swinnen, 2007; Wilson and Abiola, 2003)

WTO

The establishment of the WTO in 1995 and the subsequent reduction in tariffs and quotas on world trade implemented by the WTO has caused a reorientation in the agreements and rules to regulate world trade. The placement of the WTO Sanitary and Phytosanitary (SPS) agreement and the Technical Barriers to Trade (TBT) agreement have paved the way for the dominance of standards in world trade.

TRADE LIBERALIZATION AND GLOBALIZATION

Trade liberalization and increased world agri-food trade itself are important factors explaining the increased importance of food safety standards. It is estimated that, worldwide, unsafe food makes at least 2 billion people (this is one third of the global population) ill every year. The globalization of food trade increases the potential to disseminate food-borne hazards around the world with a risk of major outbreaks. An important case of such a major food safety risk, which is discussed and analyzed in detail in the RAISE SPS studies, is the recent outbreak of Avian Influenza in Asia. Also other cases of major food safety hazards—often with lethal consequences to humans—in the EU and US (e.g. E.coli in the US, Dioxin crisis in Belgium, BSE in the UK, etc.) have made governments and consumers well aware of food safety risks.

CONSOLIDATION AND GLOBALIZATION OF THE RETAIL SECTOR

The increased consolidation in food retail—documented by the increased importance and globalization of super- and hypermarket chains—has contributed to the dominance of SPS standards and other food standards. The oligopolistic structure of food retail caused concern for reputation and customer loyalty, which induced supermarkets to be very vigilant on food quality and safety. The risk of selling bad food is potentially catastrophic to a large multinational supermarket. Moreover, non-price competition and new marketing strategies in the oligopolistic food retail sector further contributed to the increased importance of standards—often defined by supermarkets themselves. The RAISE SPS studies focus in detail on the link between supermarkets and SPS standards, and the implications for agri-food supply chains in developing countries, with a specific geographical focus on Central-America and Africa.

NEW SOCIAL MOVEMENTS

New Social Movements (NSM) have developed during the past decades and have pushed for SPS standards. Consumers are increasingly concerned with food safety—especially after a series of major food crises in the EU and the US. However, consumers are not only concerned with their own safety; they also care for animal and plant health, human rights, environmental protection etc. Food standards go beyond food quality and safety standards and also include ethical and environmental issues.

GROWING FOOD SAFETY CONCERNS

The numerous interviews carried out in a large number of countries in the scope of the RAISE SPS studies clearly show that food safety is a real and serious concern to most countries[1]—even to low income countries. Food safety concerns governments (stemming from the interest in public well-being) as well as private actors in the food sector (stemming from the interest in profitable trading opportunities). The majority of private and public actors interviewed in the scope of these studies therefore agree that SPS measures are necessary.

SPS CAPACITY AS A COMPETITIVE FACTOR

Participation in world trade has moved beyond comparative advantages towards SPS capacity. The capacity to comply with international SPS standards (and demonstration of that capacity) has become crucial for countries to participate in world trade. The RAISE SPS studies have gone at some length in describing and documenting developing country SPS capacity in general and the SPS system in particular countries (Nicaragua, Guatemala, Armenia, Croatia, Morocco, Vietnam, Ethiopia, Moldova, Zambia, and Uganda) and specific sectors (livestock, fruit and vegetables). The choice of case-study countries seems to be quite balanced in representing different geographical regions and different income levels across developing countries. Food safety issues are a specific concern in the livestock and horticulture sectors as these products are vulnerable to contamination and food safety risks. The fact that produce is traded and/or consumed fresh (raw) contributes to its potential as a source of food borne illness.

DISTRIBUTIONAL IMPLICATIONS

A major concern of the dominance of food standards and SPS measures in world agricultural trade is that they entail the capacity to change trade flows and affect the distribution of the gains from trade. There is a general concern that developing countries are disadvantaged by SPS standards and face decreased export opportunities. In addition, SPS standards are said to entail the danger of causing a marginalization of the smallest businesses and poorest farmers who cannot meet the standards. These issues are not explicitly analyzed by the RAISE SPS studies (to the exception of some studies that look at implications for small farmers) but are implicitly addressed and questioned.

[1] In the RAISE SPS studies, there is one exception to this concern in food safety. In Croatia, SPS and food safety concern was found to be at a very low level and priority at that time. This is explained in explained in the report by Winograd and Georgievski (2004).

5. SPS STANDARDS AS TRADE BARRIERS

Sanitary and phytosanitary standards in general are concerned with plant, animal and consumer wellbeing and incorporate measures on animal health, plant health and food safety. The international standards for safe trade in animal and animal products are set forth in the OIE (World Organization for Animal Health) Terrestrial Animal Health Code while international standards for plant health are set by the IPPC (International Plant Protection Convention). Food safety is addressed by the Codex Alimentarius Commission that lays down international standards concerning maximum residue levels of pesticides and veterinary drugs, maximum levels of contamination, food additives, labeling of pre-packaged food, hygiene practice, etc.

In the literature there is considerable discussion on whether food safety standards are non-tariff barriers to trade, diminishing the export opportunities of developing countries and offsetting the gains from trade liberalization (e.g. Jaffee and Henson, 2005; Henson, 2006 and Maertens and Swinnen, 2007). On the one hand, some authors argue that SPS measures present barriers to developing country exports because of the high cost of complying with these standards. In addition, standards can be used in a discriminatory way or as a protectionist tool by industrial countries that see tariffs reduced and quotas removed to bar developing country exports. On the other hand, some authors view food standards as a catalyst for upgrading and modernizing developing country agri-food sector and expanding trade opportunities.

The RAISE SPS studies provide numerous examples (from the case-study countries) of situations in which failure to meet international SPS requirements hamper trade. Some examples are:

- From 2001 till 2002 the US banned citrus imports from Spain and Morocco on the basis of Medfly larvae.
- The prevalence of fruit fly throughout Vietnam prevents the export of practically all untreated fruits to Australia, Japan, New Zealand, and the United States
- Rift Valley Fever is an important livestock disease that has caused export bans of live animals from Ethiopia to the Middle East—the main livestock trading partner of Ethiopia.
- The export of processed dairy products—especially cheese—from Nicaragua to the US is hampered by SPS issue, although Nicaragua has a comparative advantage in these products.
- Croatia faces a complete inability to comply with EU SPS standards which presents a major obstacle for exporting to the EU.
- Many SPS- related problems constrain the export from Armenia to the EU and the US.

However one should be careful with drawing conclusions. The studies seem to presume that SPS standards are always trade barriers and do not present a more nuanced view on the relation between SPS measures and trade barriers.

A first distinction needs to be drawn between cases where SPS measures indeed impact on existing trade flows and cases where SPS measures are said to hamper the establishment of (new) trade flows. For

example, the case of livestock exports from Ethiopia to the Middle East and the case of citrus exports from Morocco present examples where SPS problems cause bans on specific imports by important trading partners, resulting in immediate losses for the exporting countries involved.

However, there are numerous cases in the reports where SPS measures are said to hamper developing countries to exploit *potential* comparative advantages (e.g. cheese from Nicaragua, fruit and vegetables from Armenia or Croatia) but where they do not directly lead to losses as these potential trade flows have never been realized. In these cases, it is unclear whether or not SPS measures really act as barriers to trade or as bridges between consumer demand in high-income countries and producers in developing countries. It is argued in the literature that food standards, including SPS measures, may act as a catalyst to upgrade the agri-food industry, exploit comparative advantages and realize profitable trading opportunities (Jaffee and Henson, 2005). After all, standardization and certification can help to reduce transaction costs related to trade between countries with diverging implicit norms on food quality and safety.

A second distinction needs to be made between justified and unjustified use of SPS measures to impede trade. In principle, food standards, certification schemes and food labels can be important instruments in the interest of public health and to facilitate trade. However, there is a potential to use SPS standards to bar imports in the interest of protecting domestic farmers and food companies (Augier et al., 2005; Brenton and Manchin, 2002). Such discriminatory (and scientifically unjustified) use of standards is prohibited by WTO regulations. To preclude such discriminatory use of standards to the disadvantage of developing countries it is critically important that developing countries increase their scientific and institutional capacity for international negotiations and WTO dispute settlement. Unfortunately, this issue was not requested to be incorporated in the AID-funded studies and therefore did not receive much attention in the RAISE SPS reports.

Many of the examples given in the RAISE SPS studies, concern trade restrictions based on real food safety threats (e.g. Rift Valley Fever is an important livestock disease that can lead to serious risks to human health). In such cases, standards are a necessary tool to regulate trade.

It appears important to point out that it may not only be somewhat simplistic but also misleading from a policy perspective to identify any food (including SPS) standard as a trade barrier. Blaming all standards as protectionist instruments that should be removed is not a useful (or realistic) strategy. A more nuanced view on SPS standards as barriers/catalysts to trade would improve the understanding of issues at stake for developing countries.

In this respect the RAISE SPS studies make an important contribution in recognizing that if developing countries are to become increasing partners in international trade then they will have to learn to adopt how to export in a world of increasing standards. They also make important contributions in identifying the shortcomings and making recommendations for the adoption of high standards to take place. However, a more nuanced view on SPS standards as barriers/catalysts to trade could have lead to even better recommendations.

6. SPS CAPACITY IN DEVELOPING COUNTRIES

The main reason behind SPS measures being classified as a potential barrier to trade (especially in the case of developing country exports) is the limited SPS capacity typically found in resource-poor countries. There is a standards divergence between country-specific norms and regulation on the one hand and international standards and the other hand, which is larger for developing countries. This makes the formulation and enforcement of internationally accepted standards to be essential. However, developing countries often face difficulties to put such regulations into practice.

Faced with budgetary, organizational, infrastructure and institutional constraints, developing countries have difficulties in bridging the standards divergence and establishing SPS capacity according to internationally accepted rules.

Thus, the RAISE SPS studies have focused in great detail on describing developing country SPS capacity in general and for some specific cases (including Nicaragua, Guatemala, Vietnam, Armenia, Croatia, Ethiopia, Moldova, Zambia, Uganda and Vietnam). These studies detect the specific strengths and weaknesses in SPS systems and make strong recommendation for improving developing country SPS capacity and donor assistance in this area.

SPS CAPACITY OF THE PUBLIC SECTOR

Public sector SPS capacity differs among developing countries and regions. From the RAISE SPS country specific studies, it is clear that :

- most developing countries have some basic laws and public regulations for animal and plant health and food safety
- SPS inspection and certification systems are present in most countries

There are, however, important differences among developing countries in the following issues concerning public SPS capacity:

- the degree to which public SPS capacity and specific SPS strategies are developed
- the degree to which SPS regulations and certification schemes are aligned with international standards and recommendations
- the degree to which SPS laws and regulations are implemented and enforced
- the way governments are organized and cooperate for addressing SPS

In some cases—e.g. in the Latin-American case-study countries Guatemala and Nicaragua—the legal framework is based on regulations issued by international organizations—most importantly the OIE, IPPCC and Codex and in line with WTO regulations. In other cases basic regulations are in place but are not yet (completely) aligned with international and WTO rules. For example, in the case of Vietnam it is reported that important discrepancies still exist between national and international standards in major

areas of food safety and agricultural health. Also in Moldova, there is a legal, regulatory, and institutional framework for food safety and SPS but it is still tied to the GOST standards[2] of the former Soviet Union. Actions are needed to shift from this GOST-based system to one based on international standards appropriate to a market economy and more effective in protecting human and agricultural health.

For some countries it is reported that there is a lack of sound SPS strategies and crisis management as the dominant approach to address emergent food safety risks and SPS issues. Notably in Zambia and Uganda, most efforts to upgrade regulatory capacities have been in reaction to food safety events or external pressures, rather than part of concerted strategies to protect human, plant and animal health, and enhance international competitiveness on a sustainable basis.

In most developing countries, whether or not they have well-established SPS regulations and sound SPS strategies. governments are very limited in the implementation and enforcement of these regulations. The main reasons for this lack in implementation and enforcement are:

- lack of laboratory and veterinary infrastructure and capacity
- lack of well-trained personnel
- underlying budgetary limitations

Often numerous public agencies are involved in management of SPS and food safety capacity. In some countries—e.g. Moldova, and Uganda - responsibilities are not well-defined and there is no clear delineation of tasks between different agencies. Such situations might lead to overlapping responsibilities, repetitive inspections and high costs, and may allow scope for rent seeking behaviour. Other country studies—e.g. Vietnam, Nicaragua, and Guatemala—report a good cooperation among different public authorities—often at different levels.

In some countries, most notably Armenia and Croatia, the SPS system is particularly weak with very limited SPS regulations that are enforceable. The most severe case of inadequate and insufficient public SPS capacity among the RAISE SPS countries evaluated, appears to be Croatia. The Croatia Horticulture Sector evaluation study found that in this country, at the time of the study there was a severe lack of national grades and public standards, very limited SPS regulations (most of which are not at all in line with international standards) and virtually no implementation or enforcement of the minimal regulations. However, this limited evaluation took place in 2004, and USAID field projects now report that the situation is improving.

SPS CAPACITY OF THE PRIVATE SECTOR

Although food safety and consumer protection was traditionally a public responsibility, with the rapidly increased importance of SPS measures, the private sector has also become involved in SPS issues and is an important player in increasing SPS capacity.

[2] GOST standards were originally developed by the government of the Soviet Union as part of its national standardization strategy and now refers to a set of technical standards maintained by the Euro-Asian Council for Standardization, Metrology and Certification (EASC), a regional standards organization operating under the auspices of the Commonwealth of Independent States (CIS).

The important role of the private sector in the development and sustainability of SPS capacity is very well recognized in the RAISE SPS studies. Some reports argue that improving SPS capacity needs to involve the entire food industry from farm to consumer, and hence also private sector agents. Food safety and SPS capacity entail actions to be taken by the private sector, which is often more dynamic in addressing rapidly changing SPS issues than the public sector. Various types of actors are involved in SPS capacity: producers' organizations, exporters' organization, NGO's, etc. Despite this recognized importance of the private sector in building up SPS capacity, most of the attention in the RAISE SPS body of work was placed on the public, donor and NGO sectors while the private sector was not systematically analyzed.

Multinational companies have a potentially important role to play in upgrading developing country's SPS capacity. Multinationals, because of their better access to finance and ties with their home-economies, might be considered as trendsetters in increasing SPS capacity. This issue is not explicitly analyzed in the RAISE SPS studies but is apparent from a number of specific examples given in the country studies. For example, in the case of Nicaragua, it is mentioned that Parmalat—a multinational milk processing company—sets its own SPS standards and supports farmers in SPS capacity through investment in local milk storage tanks. In the case of Vietnam, numerous medium-large scale fruit exporters were found to have geared up their standards in their own way to be able to selectively export to the E.U.—this in advance of any concerted, formal in-house programs to meet EurepGAP standards.

In countries with a relatively well-developed public and private SPS capacity—such as in Central America—there is a tendency to focus on compliance with the strictest norms, especially by private agents. This seems to be a strategy to safeguard against SPS trade barriers. For example, in Nicaragua, agri-food companies find it very important to comply with the US standards—which are stricter than the standards in other countries in the region—despite the fact that not only the US but also neighboring countries are potentially important trading partners as well.

SOME CASES

The RAISE SPS studies provide many examples of specific cases of insufficient SPS capacity, of which we mention a few. For example, in Vietnam there are clear deficiencies in food processing and packaging—caused mainly by a lack of access to finance by private companies. Also, facilities for storage and transportation of fresh and processed food need upgrading—cold chain infrastructure is only beginning to emerge.

Ethiopia does not have the status required to safely export animals and meat products because it does not come close to meeting the required, internationally accepted OIE standards. It can therefore only export live animals to countries with similar disease status. The requirements for trade in live animals are very strict and require highly sophisticated veterinary services. It is unlikely that a poor country such as Ethiopia can invest in such infrastructure and attain the international requirements. However, the requirements on the export of fresh meat are much less stringent and are based on the health of the specific animal which is the source of the meat, the sanitary conditions in the abattoir, and the way fresh meat is processed and handled prior to export. It will be much easier for Ethiopia to attain the requirements for fresh meat export than for live animal export.

The export of live animals requires international guidelines which mandate disease free zones, strict control of animal movement, vaccination programs, quarantines, animal identification, disease surveillance, etc. Ethiopia lacks basic veterinary services, has a poor and inadequate disease surveillance program, has only one systematic animal disease control program, vaccination programs are limited to

large ranches and for high-value animals, and does not have an animal movement control system or export quality quarantine station.

Nicaragua is making a lot of efforts to enter the US market with dairy products, mainly cheese (the development of the cheese export sector is a very high national priority). But a lot of constraints remain: lack of transport infrastructure, SPS problems, lack of capacity to invest in processing and marketing quality; and general weakness in public sector capacity to control diseases of quarantine significance, etc

From the studies it appears that the case-study country most lagging behind in building up private SPS capacity is Croatia. Interviews with supermarkets in this country revealed that food safety is not a major priority for them and that they are not making specific investments to address food safety issues or increase SPS capacity. Other problems such as 1) lack of consistent volume in supplies, 2) failure of suppliers to meet minimum package requirements, 3) lack of quality and consistent grading methods, and 4) the high costs of local production—are perceived as more urgent supply chain problems than those of food safety. However, most private sector agents agree that SPS issues will become increasingly important in the near future, and several USAID field projects are geared up to help them.

INTERNATIONAL COOPERATION IN BUILDING SPS CAPACITY

As SPS issues are a global concern, international cooperation is tremendously important in this field. The need for international cooperation identified in the RAISE SPS studies is twofold: 1) developing countries need to participate more actively in international SPS negotiations and the establishment of international rules and regulations; and 2) developing countries are in the need of international assistance to increase their SPS capacity.

Most developing countries in the studies are member of international organizations concerned with SPS and international food safety committee's– such as the IPPC, OIE, CODEX and the WTO. However, most resource-poor countries do not participate actively in these organizations. For example, Guatemala is a member of the IPPC, OIE and CODEX but only participates actively in the OIE; Nicaragua—although a member of all three organizations - does not participate actively in any of them. The main constraints countries face for participation in international food safety committees and negotiations or a lack of funding to pay international travels and a lack of trained personnel and experienced negotiators.

Some developing countries receive assistance from international donors and NGOs to increase their SPS capacity. The RAISE SPS studies argue that such aid is much needed. For example, Guatemala is starting a project for a post-graduate program on how to conduct Pest Risk Assessments, in cooperation with the Inter-American Development Bank, OIRSA, MAGA and the USDA. In the case of livestock in Ethiopia, FAO is implementing a program for monitoring and certifying livestock moving into international markets; USAID funds projects to establish a quarantine station at the port for disease inspection of livestock; and several international NGO are working together to install disease surveillance mechanisms in high priority rural areas. Zambia has received recent assistance from the FAO in order to update and revise its phytosanitary legislation as well as on-going assistance by the Dutch Government to minimize plant health risks associated with floricultural/horticultural exports to Europe.

CRITICAL ELEMENTS FOR DEVELOPING COUNTRY SPS CAPACITY

Despite relatively well-developed SPS regulations, enforcement mechanisms, and SPS capacity in some countries, throughout the RAISE SPS studies elements can be identified that are critical for developing

country SPS capacity in general. These elements include: laboratory analysis and veterinary services; education, training and increased awareness; general infrastructure; and control, validation and certification.

LABORATORY ANALYSIS AND VETERINARY SERVICE

One of the basic fundamentals in food science and food protection is the reliance upon scientifically based laboratory analysis. A critical component of food safety and quality systems is testing, which requires well-equipped and modern laboratories. This is problematic in most of the countries that were surveyed. In many countries there is a need for higher laboratory capacity. This need is confirmed by public agencies as well stakeholders from the private sector and international donors active in this area. Delays in laboratory test add additional costs to the private sector. Therefore, in some countries, private companies have started their own in-house laboratory units (e.g., Amanda Foods in Vietnam).

Critical to increasing that scientific laboratory capacity is the modernization of laboratory infrastructure, improved access to supplies, modernizing and bringing up-to-date laboratory techniques and testing methodologies[3], certifying these methodologies, and improving the availability of specially-trained laboratory staff.

In addition, in the case of livestock and the export of live animals, the international guidelines require disease free zones, strict control of animal movement, vaccination programs, quarantines, animal identification, disease surveillance ,etc. All this requires highly developed **v**eterinary services and laboratory analysis**,** which are lacking in many developing countries (especially poor African countries such as Ethiopia—where many livestock diseases cannot even be diagnosed).

EDUCATION, TRAINING AND INCREASING AWARENESS

There is a need for education and training in SPS related issues and for increased awareness of food safety risks at many different levels. First, in some countries, public health and agricultural officials need be made aware off and/or better informed on SPS issues in order to develop effective SPS strategies, design appropriate policies and assign priorities for investment in SPS capacity.

Second there is a need for educated and experienced people to participate in international SPS negotiations.

Third, as mentioned above there is a lack of educated laboratory personnel and specifically-trained veterinarians to perform controls and testing. There is a large role for governments in cooperation with national universities to fill the gap in educated and specifically-trained personnel. For example, in Ethiopia, new veterinary schools haves started to fill the need for specifically trained veterinarians. Also international donors and NGOs can play an important role in improving education and training in food safety and SPS issues.

Finally, farmers and rural households also need to be aware of food safety, and plant and animal health. These are critical elements in improving food safety and agricultural health as a large number of producers and farm workers handle agricultural raw materials on a day-to-day basis. Education and training of farmers on SPS issues is crucial but might be very difficult. Public hygiene education and the

[3] For example, in Armenia the SPS testing methodologies used are still based on the old Sovjet system and are completely outdated.

promotion of better agricultural health practices should be put in place in many countries. Many NGOs and international donors are involved in this. For example, in Ethiopia, CARE international is training local villagers to perform basic veterinary services and supports them with a veterinary kit and a donkey.

Some of the RAISE SPS studies particularly focussed on increasing farmer's awareness of SPS issues. In the case of Vietnam it is mentioned that convincing farmers to actually change their traditional agricultural practices was probably the most difficult challenge. The typical strategy used to invoke change is to first convince select "farmer leaders" who have earned the respect of the entire production community, create "demo farms" on their properties, and invite skeptical neighbors in to observe the results.

INFRASTRUCTURE

Apart from laboratory infrastructure, also other infrastructural problems and shortcoming were identified in many of the country cases under study. Most importantly these include: a lack of road transport infrastructure, and limited capacity in the processing industry (cold storage, infrastructure in abattoirs, vacuum packing, etc.)

CONTROL, VALIDATION AND CERTIFICATION

Control, through inspections or audits, are key elements of food safety and agricultural health systems. Controls are necessary to confirm or verify that products, processes, and/or procedures comply with SPS requirements. Audits can be organized through public sector institutions as well as through the private sector (see further).

Based on the specific strengths and weaknesses of individual countries and sectors, and on the specific situation with respect to government organization, trade relations and structure etc., the RAISE SPS studies make **specific recommendations for** better addressing SPS issues and strengthening a country's capacity to overcome SPS trade barriers. As these recommendations are very country and case-specific, there is no need to discuss them here in detail.

7. THE CASE OF AVIAN INFLUENZA

One of the major food safety risks of the past years has been the outbreak and spread of Avian Influenza—or the H5N1 virus—from Southeast Asia. This has been a major issue as it concerns a highly pathogenic virus that has threatened to spread and affect animal as well as human health worldwide.

The threat from Avian Influenza (AI) is specifically important for low income countries as in many of these countries poultry products are important sources of proteins for the human diet. In addition, in many low-income countries the poultry sector is quite important in the economy, contributing significantly to GDP and agricultural growth. Small-scale poultry-farming or backyard poultry is often an important source of income and contributes to food security for the poorest people in those countries.

Several RAISE SPS studies (see list in Table 1) pay specific attention to the issue of Avian Influenza and analyze the situation in depth in several case-study countries, including India, Philippines, Azerbaijan, Ukraine, Rwanda, and Bulgaria.

GOVERNMENT ACTION (PLANS) FOR PREVENTION AND PREPARATION

Among the studied countries, there is some variation in the degree to which governments have taken action on prevention and preparedness for AI. Most countries do have some form of a national action plan for AI prevention and preparedness formulated by the government—often developed in collaboration with international agencies such as FAO and WHO. Such national AI prevention and preparedness plans are a recent development—mostly dating from 2005/2006—and were in different stages of progress in the specific countries at the time (March 2006) when RAISE SPS received funding to work on the global AI crisis. In Ukraine, the authorities were still in the process of developing a National Program while in Rwanda there was already a National Emergency Plan (but it was not yet approved by the Cabinet and the President). In Bulgaria, India and Philippines the government AI prevention and preparedness plans had already been drafted.

The RAISE SPS country reports generally evaluate these government AI plans as sound, comprehensive and effective. Such plans outline the institutional setup and the activities to be undertaken by various stakeholders to prevent, contain and respond to AI outbreaks—including integrated bird surveillance systems, testing, stamping out, etc. In the case of Rwanda, the report indicates some very specific recommendations to change and improve the National Emergency Plan[4].

The exception is Azerbaijan where there seems to have been very little government action for prevention and preparedness for AI. At the time of the RAISE SPS visitation, there was no government AI action plan or program. There is no systematic bird surveillance even though there was considerable evidence of abnormally high mortality rates among backyard poultry. Thus a geographical H5N1 prevalence study

[4] The most important recommendation for change to the Rwanda National Emergency Plan for the Prevention and Response Against Possible Avian Influenza is to enlarge the “stamping out” zones.

was deemed to be a highly urgent priority for this country. USAID and other donor projects started to provide capacity building in this area in 2007.

CAPACITY FOR EFFECTIVE IMPLEMENTATION

However, despite well formulated action plans, common to all the low-income countries under study is the lack of capacity to effectively implement such action plans. This lack of capacity involves financial, technical and human resource capacity building as described below.

First, in general these studies reveal a pervasive lack of laboratory infrastructure to effectively perform microbiological and chemical testing. This is identified as a major constraint for surveillance, early detection and rapid response in India, Philippines, Ukraine, and Bulgaria.

Second, there is a lack of equipment such as protective clothing, sterile needles, AI test kits, and internationally-approved shipping materials for the transport of samples.

Third, to effectively protect human health against AI outbreaks, there is a lack of equipment, technology and infrastructure in hospitals. The technology to detect the virus in humans is even completely lacking in some of the countries.

Fourth, there is a lack of specifically trained staff, especially among rural veterinarians and health post workers. Often veterinarians do not have correct knowledge on sampling techniques, proper implementation of biosecurity on farms, proper use of protective clothing, stamping out procedures, etc. Also health workers are often unaware of the correct methods to deal with highly infectious patients.

In summary, in all of the study countries there is a need for technical assistance, training, improved infrastructure and equipment in order to be able to effectively implement a national AI prevention and preparedness plan. The Bulgarian study specifically examines the need for training and makes very detailed recommendations for implementation of training programs. As of this writing, the RAISE SPS Project has carried out training programs in 8 (later expanded to 14) countries related to the proper use of donated USAID AI commodities (personal protective equipment, human and animal viral test kits, decontamination equipment, shipping sample equipment). In a “training of trainers approach”, hundreds of veterinarians and human health workers were trained in common sessions. These trainings were deemed by Mission staff and host country counterparts to be highly effective and sorely needed as a critical component needed to enable countries to respond efficiently to sudden AI outbreaks

INFORMATION AND COMMUNICATION STRATEGY

A major issue with respect to AI that was identified in several of the country-specific reports is the need for correct and adequate information provision and communication at all stakeholder levels involved. The lack of systematic communication and reporting strategies are identified as another vital component which needs strengthening in order to prevent, contain, and respond to AI outbreaks.

A lack of adequate information and spread of that information can have important—and diverse—consequences. The Azerbaijan study reports that the government was slow to acknowledge the importance of AI and the severity of the threats caused by the virus. This lead to delayed government action in the development of a strategic response plan, and increased exposure to health risks in the general populace. In the case of India, small outbreaks of AI have been disastrous to the poultry sector because of failure to accurately communicate the health risk to consumers. After airlines, railways and

important public institutions inappropriately eliminated all poultry products, poultry prices undeservedly fell by over 80% because of a lack of consumer confidence.

In general, the AI reports identify that in order to improve knowledge and communication, a multi-sectoral approach is needed, including health workers as well as agricultural extension workers and veterinarians. Improving information and communication may include attention to the education system, specific training, correct use of mass media, distribution of leaflets, etc. Spread of information is crucial for realizing small changes in the behavior of people that could greatly improve the prevention and control of AI. For example, in the case of Rwanda it was found that two simple procedures (night caging of poultry outside the house and increased hand-washing after handling poultry) could greatly reduce disease spread. However, bringing about these changes in society as a whole is difficult, and mass media can play an important role in ensuring success.

COOPERATION AND PUBLIC-PRIVATE PARTNERSHIPS

Cooperation at different levels, including public-private partnerships, is mentioned to be crucial for improving the AI prevention and preparedness in low-income countries but also for rebuilding the poultry sector after AI outbreaks. However, as a result of budget and time constraints, this was not analyzed in depth in the country-studies. Only in one country—India—the private sector was specifically—and only to a minor extent - involved in the interviews and discussions. Potential public-private cooperation is impeded by the fact that in most countries the majority of poultry is kept on small-scale, family-type farms or even in backyards. The poultry marketing chain also includes a large number of small intermediaries and traders. However, as was previously mentioned, the RAISE SPS visitation schedules were highly regulated by USAID Mission personnel, and private sector visitations were kept to a minimum.

INDEMNIFICATION AND COMPENSATION

A final AI related issue that was identified to be particularly important in low income countries is indemnification—paying farmers to destroy their birds. The appropriate compensation of farmers after an actual AI outbreak and “stamping out” actions is mentioned to be essential for obtaining farmers cooperation in affected areas and hence for controlling outbreaks. And in order to sustain growth and investment in the poultry sector, correct—based on real costs—compensation of farmers is crucial. It is suggested that donors have a potentially important role to play in designing indemnification strategies and providing fund-generating mechanisms for compensation programs.

VACCINATION

Related to the discussion on indemnification is the discussion on whether or not to use vaccination. It is argued in several reports (e.g. India, Azerbaijan) that slaughter of infected animals might not always be the best option in poor areas of low-income countries as the economic consequences can be devastating. The RAISE SPS reports are generally in favor of encouraging the use of vaccination in combination with“limited” stamping out in affected areas. However, there are potential constraints in terms of lack of vaccination supplies, good quality vaccines, presence of rural cold chain infrastructure to preserve vaccine quality, etc.

8. CERTIFICATION AND ACCREDITATION

As mentioned before, it is not only important for developing countries to comply with SPS measures; it is also crucial to document such compliance. A particularly important way for such validation is certification.

Certification for compliance with SPS measures is increasingly done through third-party certification (TPC)—rather than first (the suppliers) or second-party (the buyers) certification. The RAISE SPS studies have presented a large number of reports that specifically deal with certification in general and third-party certification in particular. A number of specific case-studies of TPC in developing countries (FFV in Ghana, organic products in Indonesia, FFV in Guatemala) and some general studies of certification bodies identify the main benefits and challenges from TPC.

THIRD PARTY CERTIFICATION (TPC)

Third Party Certification (TPC) is defined as the verification of compliance with a given standards when such verification is not performed by a seller's self audit (first party) or the buyer (second party). Third Party Certification differs from first (the suppliers/sellers) or second (the buyers / retailers) party certification in that it is provided by an independent body.

TPC institutions are most common in industrial countries[5], mainly the EU, UK and the US. These institutions accredit[6] certification bodies all around the world to perform auditing and certification. Certification bodies exist in many different forms; they may be a public agency, and NGO, or a private firm. Different TPC bodies are mentioned and described throughout the RAISE SPS studies: EurepGAP in the EU; British Retail Consortium in the UK; Davis Fresh Technologies and PrimusLAB in the US; the National Association for Sustainable Agriculture in Australia, etc. A detailed description of these agencies is summarized in the "Internet Profile Report" using information from the agencies' websites.

While most certification bodies are located in industrial countries, some developing countries already have their own certification bodies accredited by EU or US institutions. From the three country case-studies it is clear that some developing countries (e.g. Ghana) do not have any national certification bodies accredited by industrial country TPC while in other countries (e.g. Indonesia and Guatemala) accredited certification bodies are present in the country. This has important consequences for the cost of certification in the country.

Most certification bodies set their own standards. They use national or international standards such Codex Alimentarius and ISO norms as a baseline and expand on this to formulate their own standards. These TPC standards are often more stringent than public standards.

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[5] Japan heavily relies on second party certification.

[6] Accreditation is the process by which an authoritative organization gives formal recognition that a particular certification body is competent to carry out specific tasks such as audits.

GROWING IMPORTANCE OF TPC

Third-party certification has become particularly important in the past couple of years. Although TPC is not legally enforced, TPC is becoming de facto mandatory as many traders and retailers demand TPC from their suppliers. A number of key elements that have contributed to the increasing importance of TPC are identified in the studies.

First, the increasing importance of food standards and SPS measures itself has created a need for certifying compliance with the standards.

Second, governments have shifted their position with respect to food standards from command and control systems to auditing systems. Public regulation is said to be increasingly inadequate and not able to keep pace with the globalization of the agrifood chain. This has induced the development of private standards by retailers. These private standards can be build on state standards, defined by a singly firm, an industry group (e.g. EurepGAP) or by a third party (e.g. ISO).

Third, the oligopolistic structure of food retail has induced new features in the agrifood sector. Competition among large retailers has become fierce and supermarkets are concerned with reputation and customer loyalty. New strategies for non-price competition have emerged including market segmentation, new products and services, and the use of private labels and own brands.

BENEFITS OF TPC

It is argued in the reports that TPC is potentially beneficial for all agents in the chain, the consumers, the retailers and producers.

First, TPC may lead to higher food quality and safety. It may also lead to increased consumer confidence in this quality and safety as TPC is objective[7] (carried out by a third party), transparent[8] and consistent (based on documentation and standardized methods rather than on personal relations, reputation and trust).

Second, certification improves access to international markets and therefore increases the prices farmers can get for their produce (as international market prices are usually higher than domestic prices). Suppliers can gain visibility, distinguish themselves from other non-certified suppliers and better position themselves in international markets. In addition, improved trust of buyers for certified produce from a specific origin might increase the demand for those products.

Third, TPC might decrease the potential of international buyers (often large supermarket chains) to exploit suppliers (often small farmers) from developing countries. The quality of produce is documented and cannot strategically be used by buyers to refuse produce or pay low prices.

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[7] In principle, TPC should be objective but questions rise as to which extent TPC institutes are really independent and objective bodies. For example, in the case of EurepGAP, a certification procedure laid down by the Euro-Retailer Produce Working Group (Eurep), one could wonder to what extent the certification procedure is independent and objective as it is tailored to meet the needs of its members (EU supermarkets).

[8] The case-study from Indonesia reports a lack of transparency in the case of certification for organic production. They report a lack of information and understanding on international standards and how the certification and accreditation processes occur.

Fourth, audits performed in the procedure of certification might be an education process for farmers in developing countries. Such audits could lead to better management practices and efficiency gains. Good agricultural practice (GAP) may also lead to better chemical management (leading to better health of farmers), reduced post-harvest losses and increased shelf-life of produce, etc.

Fifth, labor standards—e.g. part of EurepGAP certification—benefits farmers and workers through establishment of minimum wages, providing mandatory medical checkups for workers etc.

DISTRIBUTION OF BENEFITS FROM TPC

However, it is argued that TPC might create benefits but that these benefits are not equally distributed along the supply chain. TPC is said to enable retailers to shift costs associated with food quality and safety to the suppliers. TPC decreases the work and costs for retailers as they don't need to do audits anymore. But it increases the workload and operating costs for the suppliers who need to pay for third party audits.

The RAISE SPS studies indicate that actors involved in TPC disproportionally come from industrial countries while developing country actors are generally excluded. TPC is very expensive and an important issue is whether or not small and poor farmers can become certified. There is a risk that small businesses and poor farmers are excluded. These studies also stress that it is very important yet very difficult for small and resource-poor farmers to become certified. A detailed analysis of this reality is not emphasizes in these reports (see further).

A main part of the high cost of certification in developing countries comes from transport, accommodation and interpreter costs for international certifiers. The reports stress the importance for governments in developing countries to set up their own national third party certification programs and accreditation mechanisms. For, example in the case of certification for organic production in Indonesia, it is estimated that the establishment of national certification bodies could reduce the cost of certification by half. National certification bodies could therefore improve smallholders participation in certification schemes.

The reports conclude that there is an important role to play for NGOs and donors in assisting small farmers to become certified. Such assistance programs could include training of farmers, financial assistance, investment in infrastructure, etc. For example, the case-study from the FFV sector in Ghana concludes that it is possible for small and resource-poor farmers to attain standards as stringent as EurepGAP and become certified if they get the right amount of assistance.

ADDITIONAL CHALLENGES

Additional challenges for TPC come from the lack of harmonization in standards and certification procedures; lack of coordination between accreditor institutions and certification bodies; and lack of training of auditors. This undermines the legitimacy and credibility of TPC. In addition, there is a conflict of interest between auditing and consulting. Apparently some certification bodies see training of farmers as an important role while others see auditors as independent and not in the right position to consult farmers on how to improve and fulfill the requirements of the certificate.

COMMENTS

There are some important comments to be made on these studies.

A first general comment on the analyses is the absence of a clear (and realistic/relevant) framework of reference. Obviously, TPC involves costs (and a certain distribution of the costs), but has also benefits. Moreover, all other (hypothetical) forms of certification also imply costs. In general, certification reduces the costs related to produce refusal and border detentions—which are often borne by the producers themselves. In addition, (hypothetical) second-party certification might be even harder for producers as it entails the potential to exploit small producers exposed to the description of supermarkets and other large food industrials. Also, first-party certification might be unrealistic and entail even higher costs for producers. In this respect, certification in general and TPC in particular reduce transaction costs.

A second comment is that while the reports stress the importance of government and donor assistance for small farmers, they hardly mention the importance of the private sector in all this. From the literature (e.g. Swinnen, 2005) we know that private processors, traders and retailers themselves can act as important sources of farm assistance. Through vertical coordination, processors and traders support farmers by providing inputs on credit, technical and managerial assistance, etc. in return for timely and quality supplies. This system of vertical coordination is increasingly important in developing and transition countries (e.g. Swinnen and Maertens, 2007).

Third, there is an additional, potentially interesting discussion on which the reports do not give much detail. The question whether or not the requirements put forward by TPC agencies are scientifically justified—as required by international WTO regulations. This relates to the earlier discussion on SPS standards and trade barriers. If standards put forward by TPC institutions such as EurepGAP are not based on science, they are a technical barrier to trade (TBT).

9. MODERN SUPPLY CHAINS

As mentioned before, the ongoing consolidation in food retail and the increased importance of large super- and hypermarket chains has started in industrial countries and has contributed to the prevalence of SPS standards and the privatization of standardization, validation and certification. However, also within developing countries, supermarkets have started to emerge and have captured increased shares in food retail at a very rapid pace. The RAISE SPS studies have analyzed the importance and diffusion of supermarkets in developing countries and their specific procurement system in great detail, with a geographical focus on Central-America (Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua) and Africa (South Africa, Kenya, Zambia, and Uganda).

The growth of supermarkets and their changing procurement system has lead to the development of what could be called "modern supply chains". Also FDI in food-processing and distribution in developing countries has contributed to the emergence of these modern supply chains. Characteristic for these modern supply chains are the high food quality and safety standards and the system of vertical coordination in the chains. The emergence of modern supply chains has important implications for suppliers in developing countries. A number of RAISE SPS studies have focused on the implications for local farmers in modern supply chains.

THE SPREAD OF SUPERMARKETS IN DEVELOPING COUNTRIES

The studies very well document the spread of supermarkets in developing countries. In Central America supermarkets have spread rapidly and have captured an increased share of food retail. From 1997 to 2002 the population-weighted average of the share of supermarkets in food retailing has increased from 28% to 36% in Central America. In Africa, supermarkets started to appear more recently. In Southern and Eastern Africa supermarkets have spread rapidly in the past 5-10 years. South-Africa is the leading country with 50-60% of food retail captures by supermarkets. Kenya is next with 20-30% of food retailed through supermarkets. In West and Central Africa supermarkets are just starting to emerge.

In different regions of the world, supermarkets have a similar pattern of diffusion. Supermarkets tend to start in upper income niches in large cities and then spread into middle class and then poorer consumer markets, and from large cities to secondary cities to towns, and from richer/more urbanized zones or countries to poorer and less urbanized. Thus the chains tend to spread well beyond the middle class into the food markets of the poor[9]. This pattern of diffusion is mirrored in "waves" of supermarket spread that one can observe when comparing countries.

Crucial factors for the inflow of supermarkets in developing countries are the liberalization of FDI in retail and—to some extent—income growth. First, rising incomes, urbanisation and relative political stability have encouraged the diffusion of supermarkets in developing countries[10]. Second, FDI is a

[9] A study in Kenya has specifically investigated the reasons why supermarkets can penetrate the market of the poor. This study finds that poor consumers buy food from supermarkets because they perceive it as being cheaper than traditional retail outlets. Also in Kenya, another study estimates that processed food is indeed on average 5% cheaper in supermarkets compared to traditional retail stores.

[10] In the case of Vietnam, it is mentioned that the outbreak of Avian Influenza has directly had an impact on supermarket share of retail in poultry products. After this major zooonotic crisis consumers now seem to have much more confidence in poultry products bought in supermarkets.

crucial element in the rapid rise of supermarkets. In Central America, there was a tiny base of domestic supermarket chains at the beginning of the 1990s, but the lion's share of growth occurred with the influx of FDI from the mid 1990s onwards. In Kenya and South-Africa the supermarket sector emerged without FDI which may reflect an early stage of domestic capital investment before a critical size is reached where FDI flows in. Yet, FDI from South-Africa and Kenya is driving the growth of supermarkets in other African countries. South-African and Kenyan supermarket have spread already into 14 other African countries that have opened up markets for foreign investment. In some countries, governments have given direct incentives for FDI in the supermarket sector. For example, in Zambia, the government provided a strong incentive for Shoprite (from South Africa) to invest, with a tax exoneration of ten years.

CHANGES IN PROCUREMENT SYSTEMS AND STANDARDS INTRODUCED BY SUPERMARKETS

Another crucial element in the diffusion of supermarkets is the changing procurement system of the supermarkets themselves. Major changes in procurement systems of supermarkets drove down costs and facilitated the leap from the traditional upper-income niche markets to the food markets of the middle class and the poor. Supermarkets are shifting away from the old procurement model based on sourcing store by store from the traditional wholesale market through spot market arrangements, toward the use of four key pillars of a new kind of procurement system: (1) using specialized procurement agents (specialized wholesalers) as opposed to traditional wholesalers; (2) centralized procurement; (3) assured and consistent supply through "preferred suppliers"; and (4) high quality and increasingly safe product through private standards imposed on suppliers.

Supermarkets in developing countries increasingly apply stringent food standards. Competition among supermarkets poses strong incentives to apply such stringent food standards so as to make sure that produce is of better quality and safety than that of the competitors. Also the demand from middle-income class consumers in developing countries for higher quality and safety plays a role. The specific procurement system of supermarkets—centralized procurement with preferred suppliers and specialized wholesalers—facilitates supermarkets to demand high quality and safety standards from their suppliers. The rise of supermarkets in developing countries over the past decade has made compliance with stringent food standards—an issue previously at stake only in international markets—also a prerequisite for supplying domestic markets[11].

SMALL FARMERS IN MODERN SUPPLY CHAINS

Rising SPS standards, supermarket development and the emergence of modern supply chains might have distribution consequences and affect the way the gains from trade are shared long the supply chain—with important consequences for local small farmers in developing countries (World Bank, 2005). Although the RAISE SPS Task Order was not mandated to carefully analyze the implications for local smallholders, the impact of changes in the supply chains for small enterprise and poor farmers is a common element in the RAISE SPS studies. Some studies even specifically deal with the issue of smallholder marginalization in modern—often supermarket driven—supply chains.

[11] In addition, the rise in supermarkets is as important as the development of export markets. For example,,in the case of Kenya, it is assessed that the volume of FFV handled by supermarkets is already approaching the volume FFV exported.

DESCRIPTIVE EVIDENCE

A common conclusion, which is repeatedly argued throughout the studies, is that increasing food standards—imposed by international traders as well as local supermarkets—may lead to the marginalization of poor farmers. Also in the studies on "Third Party Certification (TPC)", the concern about certification resulting in small farmer marginalization and exclusion is mentioned repeatedly. Some examples:

- "TPC is a strong trend that threatens to exclude small and medium scale entrepreneurs from market opportunities in their own backyard." (L. Flores, D.Thiagarajan, L.Busch)
- "Small-scale growers will have certainly lost their export marketing position after January 2004 when EurepGAP members, distributors and retailers are required to deliver certified fresh produce exclusively with EurepGAP." (D.Thiagarajan, L.Busch, M. Frahm)
- "Some NGOs argue that TPC will not help small- or medium-sized farmers. TPC increases the amount of work and responsibilities of small farmers. Rather, it will reproduce and further deepen inequalities between larger farms and smaller farmers." (M.Hatanaka, D.Thiagarajan, L.Busch)

The studies on "Supermarket Diffusion in Developing Countries" also address the consequences of this diffusion for local suppliers using descriptive evidence. It is argued that as supermarkets increasingly dominate food markets in developing countries, they also determine the conditions and the potential of farmers to sell to urban markets. The rise in supermarkets and their specific and changing procurement systems has important implications for local producers. First, as supermarkets are rapidly diffusing and consolidating their procurement system to gain economies of scale, producers need to supply larger volumes as was common in traditional retail markets. Second, the application of quality and safety standards by supermarkets poses challenges to producers. For producers, the same issues are at stake in supplying local supermarkets as in supplying highly-demanding export markets.

Information from *interviews* with supermarkets and other retail stores in different Central American and African countries revealed that supermarkets tend to source directly from larger producers who have a better capacity to meet strict quality and safety requirements. However, large supermarket chains also procure from small suppliers, especially for fruits and vegetables and where a government, donor, and/or projects have been put in place to 'upgrade' the small producers to meet the needs of supermarkets.

These studies come to similar conclusions but no systematic evidence is actually presented (with the exception of the few econometric studies focusing on small farmers in modern supply chains—discussed below). Hence, it is not clear to what extent small farmers are really excluded or marginalized or to what extent they can profit from the opportunities in modern supply chains. In the academic literature on standards there is considerable debate on the validity of the arguments about small farmers' exclusion from high-standards trade (e.g. Swinnen, 2006; Maertens and Swinnen, 2007). Some empirical studies found that even very small and resource-poor farmers can participate in (and gain from) international trade and supermarket supply chains—despite high and increasing standards (For example, Minten et al., 2006 for Africa; Gulati et al., 2006 and Rozelle et al., 2006 for Asia and Dries and Swinnen, 2004 for Eastern Europe).

Moreover, even if small farmers are not excluded, poor households may be included through the labor market and benefit in this way from participation in modern supply chains (see Maertens and Swinnen 2007 for evidence on this). Such labor market effects are confirmed to be important in some of the RAISE

SPS studies (e.g. in the study on horticulture farmers in modern supply chains in Kenya) but are not analyzed in detail.

A further critique is that these RAISE SPS studies fail to describe and document the mechanisms through which smallholders would be marginalized in high-standards supply chains—likely because of time constraints. Are small farmers who previously had access the foreign markets increasingly excluded from these markets because of increasing standards? Or does it become increasingly difficult for small farmers to gain market access because of increasing requirements and the need to be certified? Is compliance with SPS standards or certification of that compliance the main constraint for farmers? Answers to these questions are not given as no systematic analysis is performed to fully analyze the exact sources of smallholder exclusion. Yet, insights into these mechanisms might be important in order to develop projects tailored to meet the needs of these small producers.

For example, one of the main arguments throughout the studies is that the cost of compliance with standards and the cost of certification are too high for small and resource-poor farmers. However, the scarce available evidence in the literature suggest that cost of compliance with quality and safety standards is much lower than generally assumed (Aloui and Kenny, 2005; Cato et al., 2005). An attempt to really calculate and quantify these costs could contribute to balancing this debate. However, this might not have been feasible in the scope of the RAISE SPS Task Order because of budgetary and time constraints.

In addition, there are two distinct issues in the marginalization of small farmers. The first ("exclusion") concerns the participation (or exclusion) of small and poor farmers. The second ("rent distribution") concerns the distribution of the gains in high-standards agricultural supply chains. These issues are not fully clarified in the studies—although this might be important for understanding smallholder marginalization.

Key elements to the empirical studies providing evidence of smallholders participating in and benefiting from high-standards trade are the insights into the vertical linkages between small producers on the one hand and exporters, traders, processors, and supermarkets on the other hand. Vertical coordination in the supply chain is key to understating how small producers can participate in and gain from high-standards trade (Dries and Swinnen, 2004; Gulati et al., 2006; Maertens and Swinnen, 2007; Minten et al., 2006; Rozelle et al., 2006). Unfortunately, vertical coordination linkages are hardly addressed in the studies while they are potentially very important for understanding and circumventing smallholder marginalization—a main objective of the RAISE SPS studies.

However, addressing the vertical coordination linkages in modern supply chains would entail a detailed analysis of the private sector—which was not the main focus of most of the RAISE Mission projects (with the exception of the econometric studies discussed below). Instead they very much focus on the role of the public sector and development projects in increasing farmers' access to high-standards supply chains are given and discussed. Some examples include:

> "It is widely recognized that even large farmers, let alone small- or medium-sized farmers in Ghana do not have the resources to meet EUREPGAP requirements. Importantly, however, these interviews demonstrated that *with the appropriate assistance* farmers, including very small farmers, can successfully meet standards as stringent as those of EUREPGAP, maintain the standards, and gain certification" (C.Bain, D.Thiagarajan, L.Busch)

> "Future USDA and USAID technical assistance, marketing, and infrastructure investments are needed to keep SPS compliance costs from excluding small farmers and processors, leaving only large ones to benefit from free trade agreements." (P.Bash, R.Lopez-Garcia).

Because of this focus, the role of the private sector in including more poor and small producers in modern supply chains is largely neglected. Yet, from the literature, it appears that the private sector could (and does) play an important role in this process as many changes are driven by the private sector. A more balanced emphasis on public and private sector stakeholders could have improved the identification of opportunities to link a large number of small farmers to high-standards markets.

ECONOMETRIC ANALYSES

For some countries (Nicaragua, Costa Rica, Guatemala, Kenya, Zambia) and sectors (cattle, dairy, FFV) *econometric analyses* are presented on the issue of small farmers and modern supply chains. These studies analyse the farm-level impact of changes in the supply chain using household survey data and comprehensive econometric techniques.

For all these cases analysed, the studies conclude that it is rather larger and better-off producers who can participate in supermarket or export-oriented supply chains. Farm size, access to irrigation and capital assets—and to a minor extent education—are especially important determinants of participation in modern supply chains. In addition, they find that farmers who are supplying to supermarkets or multinational export-oriented processing companies use more inputs, a more capital-intensive technology, have higher yields and reach higher farm efficiency. Those suppliers have better access to credit and receive technical assistance from the buyers through vertical coordination linkages. (Note: The econometric studies on Kenya produce reinforce this finding about preferential sourcing from a newly emergent class of well organized "medium" scale farmers. However, the studies involving Zambia dairy and tomatoes from Nicaragua/Guatemala indicate more supermarket sourcing from high numbers of "upper tier" small farmers).

However, the studies also show that farm profits are higher for farmers in modern supply chains, except for Guatemala. Horticulture farmers supplying Kenyan supermarkets have grown ten times as fast as the traditional-channel farmers. Survey findings for Zambia suggest that farmers in the modern dairy channel have grown faster relative to farmers in the traditional dairy channel in terms of milk output volume and in terms of upgrading with respect to improved breeds, tools and operational management practices. Tomato farmers in Nicaragua that supply to supermarkets reach considerably higher incomes than farmers supplying to traditional channels. Yet, profits for traditional and supermarket-oriented tomato farmers in Guatemala were found to be similar.

These studies use detailed household-level survey data and comprehensive econometric techniques. Still, there are two important considerations to keep in mind when interpreting the findings of these studies and their implications for policy.

First, questions arise on the identification of causality[12]. The papers on Costa Rica, Nicaragua and Guatemala reveal that actually only larger farms are included in modern supply chains but fail to identify

[12] The collection of panel data including several rounds of survey data collection at different points in time could greatly improve the identification of causality and the analysis of changes over time. Yet, such data collection is time consuming and costly—and likely not within the possibilities of the RAISE SPS. Task Force. Yet, the collected data within these projects could serve as a good baseline for further panel data research.

whether this is due to the exclusion of smaller farmers or due to faster growth among these modern suppliers. In the case of horticulture farming in Kenya it is argued that suppliers to supermarkets come from a new group of medium-sized, fast-growing, recently established farms while small producers are excluded. It was also found that these supermarket-suppliers grow ten times faster than farmers in traditional marketing chains. The paper discusses where this "new group of suppliers" comes from, but only by using qualitative analysis (case-studies). While this qualitative data was gathered directly for most of the modern channel farmers in the sample and provided a richness of historic detail difficult to capture in quantitative analysis, the paper did not econometrically test if these new suppliers were not originally small producers which have been able to climb up because of the profits earned in supplying high-standards produce to supermarkets. Such testing may be warranted to confirm, disconfirm or nuance the conclusions.

Second, it is important to note that one should be careful with the generalization of the results from these five case-study countries. The case-studies are drawn from countries in Central-America, and East and Southern Africa. These regions tend to have dual rural structure with large differentiations in farm size. In other regions, in West Africa, South-East Asia and Central and Eastern Europe, where land is much more equally distributed, some studies (Dries and Swinnen, 2004; Minten et al., 2006; Swinnen, 2005) have found very different effects as small-scale farms are the only potential supply base for supermarkets, processors and traders; and as a consequence such resource-poor farming households *have been* included either through contract farming or through the labor market in the growing modern supply chains. As such, the five specific RAISE SPS studies contribute to a more comprehensive perspective on the issue of smallholders in modern supply chains. Future research—including more cases, from different regions, and more elaborate survey work and data analysis—is needed to draw more comprehensive and general conclusions.

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