The significance and adoption of food quality and safety standards in developing countries – a case study for the EurepGAP standard in the mango export sector in Piura, Peru

Uli Kleinwechter, Harald Grethe

Problem Statement

In recent decades an increasing significance of food quality and safety standards and agricultural health standards in international agricultural trade can be observed. A subgroup of these standards is constituted by standards schemes required by private industry actors, like for example the framework for good agricultural practices EurepGAP. Due to the increasing market share of the standard on the one hand and its high complexity on the other hand, concerns can be raised about the standard´s impact on developing countries´agricultural export sectors, especially with regard to small farmers.
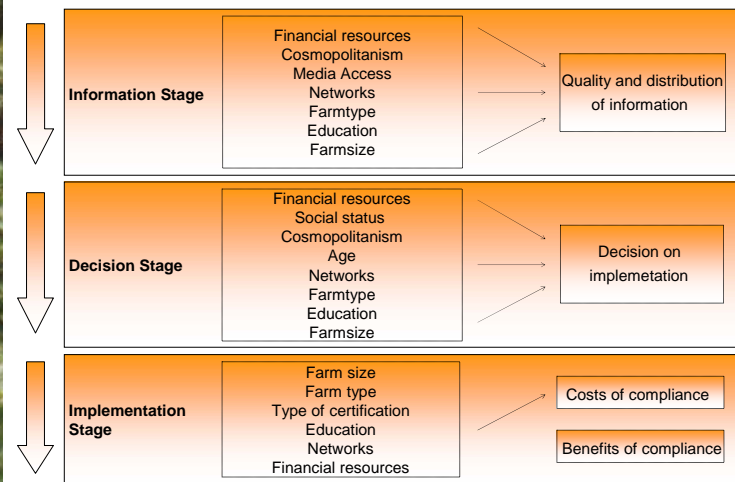
Objectives

• Analyse the process of compliance with the standard. Identify factors that influence the adoption of the standard and assess the significance of these factors.

• Determine, whether differences exist between producers who comply with the standard and those who do not.

• Measure and analyse the costs of compliance, determine influencing factors and assess the impact of the costs of compliance on the adoption of the standard.

• Assess possible impacts of the standard on the Piuran mango export sector.

Conceptual Framework

• Compliance process of three stages, which has to be passed by producers to comply with the standard.

• Dependent and influencing variables at each stage.

Figure 1. Conceptual Framework of the Compliance Process.

Information Stage	Financial resources, Cosmopolitanism, Media Access, Networks, Farmtype, Education, Farmsize → Quality and distribution of information
Decision Stage	Financial resources, Social status, Cosmopolitanism, Age, Networks, Farmtype, Education, Farmsize → Decision on implemetation
Implementation Stage	Farm size, Farm type, Type of certification, Education, Networks, Financial resources → Costs of compliance / Benefits of compliance

Methodology

• The research consisted in a qualitative analysis of the process of compliance and a quantitative analysis to find out about influencing factors.

• In order to identify influencing factors, producers were grouped into two groups at each stage of the compliance process and compared with respect to their socio-economic charateristics.

• Specifically, qualitative analysis was applied to
  • Evaluate the quality of information a producer has and to find out about information channels.
  • Find out about the process of the standard´s implementation in the field.
  • Find out about reasons for and against an implementation of the standard.
  • Describe the costs of compliance.
  • Determine perceived problems and benefits.
  • Complement quantitative analysis.

• Quantitative analysis was applied to
  • Describe distribution of information within the sector.
  • Identify possible influencing factors.
  • Methods: descriptive statistics, T-test, Chi²-test, correlation analysis.

Results

1. The Information Stage

• Large information gap within the sector: Few producers dispose of sufficient information on the standard, the majority has no or only limited knowledge.
• Differences between producers with sufficient and insufficient information with respect to socio-economic characteristics (Table 1).
• Access to information mostly determined by activities of exporter enterprises as information channels.

2. The Decision Stage

• Decisions in favour are rarely made on initiative of producers, but rather at the instance of exporter enterprises.
• Differences between producers who decide in favour and against implementation with respect to socio-economic characteristics (Table 2).

Table 1. Observed Differences between Producers at the Information Stage.

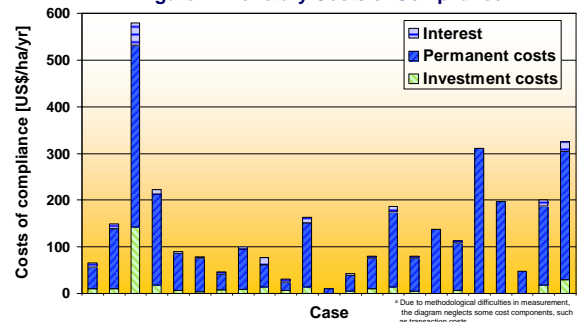|	Quality of information	
Observed variable	*Sufficient*	*Insufficient*
Networks	• Relatively more members of producer organisations • Contract farming or higher	• Relatively less members of producer organisations • Contract farming or lower
Cosmopolitanism	More cosmopolite	Less cosmopolite
Media Access	Better	Poorer
Education	Higher	Lower
Farm characteristics	• Larger • More purely commercial farms	• Smaller • More family subsistence farms
Financial resources	More wealthy	Poorer

Table 2. Observed Differences between Producers at the Decision Stage.

	Decision outcome	
Observed variable	*In favour*	*Against*
Networks	• Relatively more members of producer organisations • Contract farming or higher	• Relatively less members of producer organisations • Contract farming or lower
Cosmopolitanism	More cosmopolite	Less cosmopolite
Financial Resources	Better access to capital	Worse access to capital
Farm characteristics	• Larger • More purely commercial farms	• Smaller • More family subsistence farms
Education	Higher	Lower
Age	Younger	Older

3. The Implementation Stage

• Producers receive strong support from exporter enterprises to implement.
• Most common problem in implementation: high costs.
• Most common benefits: productivity gains, improved marketing conditions.
→ In general: positive perception of cost-benefit-ratio among certified producers.
• Costs of compliance: 144.81 US$/ha/yr in the mean, but high variability: range between 9.95 US$/ha/yr and 579.56 US$/ha/yr (Figure 2).
• Influencing factors:
  - No correlation with socio-economic characteristics could be found.
  Alternative explanations:
  - Starting point
  - Target level
  - Activities of exporter enterprises

Figure 2: Monetary Costs of Compliance[a]

Legend: ☐ Interest, ■ Permanent costs, ▨ Investment costs

[a] Due to methodological difficulties in measurement, the diagram neglects some cost components, such as transaction costs.

Conclusions

• Acces to information constitutes major barrier for the adoption of the standard.
  → Overcoming requires support from exporter enterprises.

• In spite of clear differences between adopters and non-adopters in socio-economic characteristics, the main influencing factor for adoption is vertical integration, i.e. exporter enterprises play key role in the diffusion of the standard.

• Risk for smaller producers: dependency from exporter enterprises, as enterprises manage large parts of the implementation and often are holders of the certificate.

• Through an increased competitiveness of certified producers and the possible exclusion of certain producer groups, the standard can be expected to accelerate consolidation tendencies within the sector.

Contact: Uli Kleinwechter, University of Göttingen (ulikleinwechter@yahoo.com.mx) ; Harald Grethe, Humboldt-University of Berlin (harald.grethe@agrar.hu-berlin.de).