

The impact of food standards on  
inclusive growth in agriculture:  
the case of Bangladesh

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# Management Summary

This report describes policy recommendations on the Dutch “Aid to Trade” development policy and what implications this has for the policy in Bangladesh to mitigate the effect of increased food standards on smallholders. Special attention was given to increased demands around safe food. The study was conducted on behalf of The Embassy of the Kingdom of the Netherlands (EKN) in Bangladesh and the Food & Business Knowledge Platform (F&BKP) and included an extensive literature review and field research in Bangladesh where farmers and actors in the value chain were engaged through Focus Group Discussions, workshops and Key Informant interviews.

From the general literature research, it is clear that there is no easy answer to the question whether increased food standards push smallholder farmers out of the agricultural value chain. In theory, the effect can take place, but it strongly relates to the extent the smallholder farmer has costs to maintain its position in a more high quality agricultural value chain, and the extent to which supportive measures are in place to lower these costs. These “costs of compliance” are often related to investments in measures such as improved inputs, use of machinery and equipment, capacity building and training, and the setting up of management information systems.

It also strongly relates to the type of market a smallholder is producing for (local/rural markets versus urban and international markets), especially in a country with a large national market and a large agricultural workforce such as Bangladesh. And if the “crowding out” effect takes place, the focus on food quality and food safety can create value adding activities along the agricultural value chain that offer increased “non-farm” employment opportunities that could offer farmers an income generating alternative to running their own farms.

More specifically for Bangladesh, the study found that increased demands around food safety currently do not reach the majority of smallholder farmers in Bangladesh, even though most consumers are aware of the importance of food safety. Local agricultural markets are still rather isolated and therefore are influenced very limited by the increasing demand for safe food in more advanced markets.

Current practices to assess the safety and quality of food don't necessarily contribute to improvements. Agricultural products are assessed superficially based on physical aspects and arbitrary tests that result in farmers having subjective arguments with buyers over the quality and safety of products. Producing safe food does not result in additional costs for farmers but is mainly related to behavioural change. Keeping food safe during transport, sales, preparation and consumption is a major issue that currently receives little



attention.

Mitigating measures that projects currently can take to increase food quality and linkage of smallholders, preventing them from being crowded out, are as follows:

- Increase cooperation between farmers, creating business minded organisations that independently ensure basic food quality and safety control before selling food into the value chain.
- Keep making small improvements in production practices and ensure farmers keep learning and changing practices instead of dividing them in small and big farmers. Farmers are unlikely to shift to a best practice cultivation at once because of various risks like loss of crops due early rainfall, diseases, etc.
- Increase consumer awareness that ensuring safe food is not solely a production issue but related to cleanliness during transport, sale in the market and preparation in the kitchen as well.
- Ensure alternative, local, markets for good quality food. Good food is currently being sold to the cities but even at local markets there are opportunities for differentiation.
- Public Private Partnerships can enhance cooperation between companies and smallholder farmers.

The results and mitigating measures resulted in the following recommendations for the current 'From aid to trade' policy of the Dutch government:

- Encourage innovation in brokering to reduce transaction costs between companies and small farmers and tests that determine food quality & safety objectively at aggregation points.
- Focus on creating a local business environment that includes smallholder farmers and is investment friendly.
- Develop a vision on mainstreaming food safety in food security projects to ensure all components of food safety are addressed (e.g. cleanliness during preparation of food).
- Include interventions specific on gender equality so an enabling environment is created that ensures women are seen as capable producers.

There are three suggestions for further studies based on recommendations made above.

- Understanding farmer decision making and how risk and investment play a role in their choice to either adopt a new practice or technology or why not.
- Market introduction strategies for low-cost testing equipment.
- Transition strategy for brokering role of food security programs.



# Introduction

With the new (2013) development agenda Aid, Trade and Private Sector Development, the Dutch government found a way to balance international solidarity (development policy) and enlightened self-interest (trade). The policy focuses amongst others on promoting good conditions for the private sector that eventually will benefit people and environment. The premise is that an increase in private sector activity in developing countries can potentially create employment and will transfer knowledge and skills and therefore contribute to inclusive growth.

Even though this agenda is the main basis for the policy of the Embassy of the Kingdom of the Netherlands (EKN) in Bangladesh, the embassy did encounter situations in the field related to its food security programming, which raised the question whether increased standards in the food sector did result in exclusive growth instead of inclusive growth. Therefore EKN Bangladesh and the Food & Business Knowledge Platform (F&BKP) requested a research on the effects of food quality standards on inclusive growth in the agricultural sector in Bangladesh. EKN Bangladesh wishes to receive a deeper understanding of the assumption that increased demands on smallholders to produce safe and quality food, will push these smallholders out of the market in favour of larger producers.

To research this question, in the period from end of April to beginning of June 2015, BoP Innovation Center executed desk research to look at the findings in different publications on the effect of food standards on food security and smallholder farmers, as well as more general publications on the role of smallholder farmers in more vertically integrated high value chains. Next to this, three field visits were held in Bangladesh, two to visit local communities where the EKN funded Safal and Blue Gold projects are implemented, and a third visit to a farming community that was not involved in any EKN projects. During these field visits, several focus group discussions were held. In Dhaka, key informant interviews were held with important stakeholders at the Bangladeshi government and at NGO's. Also, a small seminar was held to discuss preliminary findings of the field research. The discussions held there are also reflected in this document.

To properly reflect the findings of the research in this document, first we give a description of what is understood as inclusive growth, and the importance of agriculture for establishing inclusive growth in developing countries. Secondly we analyse developments in food standards around the world from both a public and private perspective, and looking at both international as well as national standards. Thirdly, we look into the effect of the increase in food standards worldwide on smallholder farmers and their position in the food chain. Fourthly, we assess the efforts being undertaken to mitigate negative effects for smallholder farmers.



# 1 | Inclusive growth & agricultural development

## 1.1 Concept of Inclusive Growth

Poverty and growth analyses traditionally have been done separately. Inclusive growth is a conceptual strategy to combine these two. Inclusive growth is thus about increasing the pace of growth & development and enlarging the size of the economy. In literature a variety of terms are being used, pro-poor growth, broad-based growth or shared growth. The shared idea within all these approaches is common: a call for growth that combines increased prosperity with greater equity.<sup>1</sup> Inclusiveness encompasses equity, equality of opportunity, and protection in market and employment transitions, which are considered essential ingredients of a successful growth strategy.<sup>2</sup>

In the long run, for growth to be sustained it should be broad-based across economic sectors. To realize inclusive growth, policy should aim for the promotion of productive employment for a large part of a country's



labour force rather than seeking for a redistribution of income. Increased productive employment reduces inequality and improves the living standards for all social layers of society. Several development institutes, like The African Development Bank, focus specifically on the poor and vulnerable groups:

*"Inclusive growth refers to economic growth which results in a wider access to sustainable socio-economic opportunities for the majority of people, while protecting the vulnerable, all being done in an environment of fairness, equality and political plurality."*<sup>3</sup>

From a development point of view, inclusive growth means enhanced resilience of disadvantaged and marginalized rural poor living below the poverty line. Inclusive growth places emphasis away from mere increase in growth rates, to improvement in productivity and standards of living of the poor.

### 1.2 Role of private and public sector

The private sector is indispensable in creating inclusive growth. The private sector, as engine for economic growth, plays a key role in a nation's development to an inclusive society. In many developing countries, the private sector – in particular through its micro-businesses as well as its small and medium-sized enterprises (SMEs) – is the main source of employment. A dynamic business sector is therefore a basic prerequisite for economic growth, poverty reduction, income generation and the creation of decent jobs for all, including women and young people. Governments can play a supportive role in pushing for inclusive growth. The African Development Bank lists<sup>4</sup> a series of broad and mutually reinforcing pillars that promote the concept of inclusive growth.

First, a government can push for improved agricultural productivity. Especially in developing countries, where a majority of the national workforce works in agriculture, stimulating agricultural productivity can benefit the most poor and marginalized groups. In fact, from the 18th and 19th century agricultural revolution in Europe to the Asian green revolution in the '50s and '60s, an economic transformation fuelled by agricultural development led to important shifts from the primary sector to the manufacturing and services sector, which resulted in economic growth and more inclusiveness. Secondly, governments can craft policy for job creation, better infrastructure, access to business opportunities, social protection and wider access to productive knowledge to promote inclusive growth.

Looking more closely at the efforts of the Dutch government, the main policy framework is the 2013 *"Aid, Trade and Private Sector Development"* policy. Within this policy framework the Dutch government decided to combine efforts to boost exports while fighting poverty at the same time. The agenda for aid, trade and investment embraces three ambitions:

1. Eradicate extreme poverty within a generation;
2. To promote sustainable and inclusive economic development worldwide and;



### 3. Facilitate success for Dutch companies doing business abroad.

The assumption is that opening up markets in developing countries by creating a better business climate will spur investments and therefore foster inclusive growth. A better business climate will benefit SME's in both developing countries and The Netherlands, and will increase cooperation between private sectors. Under the Aid & Trade policy the Dutch government also develops activities that focus on the integration of low income countries into global supply chains. Aim is to increase trade beyond national borders and enable developing countries to receive foreign investments, build institutions and to catalyse investments in infrastructure.

Critics argue that the Aid and Trade policy ignores political differences, conflicts of interests and global processes that cause inequality and scarcity; reasons for exclusive growth. There is little evidence that further integration in international chains leads to less inequality. Liberalizing trade through measures like simplifying the rules, and promoting knowledge transfer to developing countries seems, to criticsasters, like promoting the free trade agenda of developed countries.<sup>5</sup>

In recent articles Dutch representatives from international NGOs like ActionAid and Oxfam criticise the policy agenda. They argue that the Dutch government mainly promotes investments in sectors that benefit Dutch companies, like intensive agriculture. In their opinion, this favors exclusive growth since intensive agriculture could cause expropriation of farmland that is traditionally farmed by smallholders, withdraws essential water supply away from local people, causes environmental issues and threatens biodiversity. Other critics are that local entrepreneurs and farmers do not profit from foreign investments. They often lose access to their land and they are not equipped in terms of technology and knowledge to provide for the scale international trade.<sup>6</sup>

It is clear from this criticism that one should not take for granted that a focus on private sector development and increasing the cooperation between companies in developing countries and the Netherlands will automatically lead to inclusive growth. It is important to understand the dynamics on the groups so that positive and catalytic effects of more private sector focus on inclusive growth are maximized, and that special attention is paid to mitigating the possible negative effects that take place.

## 1.3 Importance of agriculture for inclusive growth

In developing countries, smallholder farms play a dominant role. Worldwide, half a billion farms are smaller than 2 hectares, and these farms are getting smaller every year due to a growing rural population and land policies. It is estimated that small farms produce four fifths of the developing world's food.<sup>7</sup> Moreover, the small farms are home to approximately two-thirds of the world's 3 billion rural residents, the majority of people living in absolute poverty, and half of the world's undernourished people.<sup>8</sup> These figures illustrate that smallholder farmers play a large role in farming systems worldwide, and that the agriculture sector in developing countries employs the majority of the workforce. Not unsurprisingly, research has shown that GDP



growth originating from agriculture is by far more effective in reducing poverty than GDP growth from other sectors.<sup>9</sup>

Past successes in promoting agricultural development, such as the Green Revolution in Asia, were grounded in interventions and reforms that supported equitable agricultural growth and were led by small farms. Policies that enabled smallholder participation in the Green Revolution included the equitable distribution of land and secure ownership and tenancy rights, alongside scale-neutral technologies, temporary input subsidies, and large investments in infrastructure such as roads and irrigation.<sup>10</sup>

As in most developing countries, agriculture in Bangladesh is of great importance to improve livelihood for poor and marginalized people. 48% of the Bangladeshi people live in poverty, 47% of the population works in agriculture (17 million smallholder farmers) and 20% of Bangladesh' GDP comes from agriculture.<sup>11</sup> Despite the major development challenges Bangladesh faces, it has sustained an economic growth of nearly 6% and impressive decline in poverty over the years.<sup>12</sup>

How much percent of this growth is attributable to agricultural expansion is not clear. The rate of growth of agriculture and its share in GDP is decreasing. The rate of growth in agriculture came down from 5.24 percent in fiscal year 2009-2010 to 5.13 percent, and then to 3.11 percent and 2.17 percent in 2010-2011, 2011- 2012 and 2012-2013 respectively. This declining trend in growth of agriculture sector can largely be attributed to gradual loss of cultivable land, lack of invention, adoption and dissemination of new technology, and lack of sufficient support for agricultural research and training in the country.<sup>13</sup>

As mentioned earlier, in many countries growth in agriculture was an important first stage of transformation to economies of scale with a well developed non-agricultural and services sector.

In Bangladesh, this transition also seems to take place. In the period of 2005-2010 the agricultural sector in Bangladesh grew 4.4% while manufacturing grew with 8.2% and the service sector grew 6.2%. Also the share of employment fell in agriculture while it grew in manufacturing. As a result rural households in Bangladesh earn more from off-farm activities than from agriculture. 23% of rural incomes comes from agriculture and 77% from the non-agriculture sector.<sup>14</sup>

Important in realizing inclusive growth in such transitions is that smallholder farmers are enabled to get involved in this transition, either through expanding their agricultural operations (through training, access to finance etc.) or through supporting them in finding employment outside of the agricultural sector. The "absorption capacity" of non-agricultural sector is in this regard a critical component.



## 1.4 Inclusive growth in agriculture and the EKN Bangladesh policy

Food security is a key priority for the EKN Bangladesh, as well as private sector development. Not unsurprisingly, private sector development plays an important role in almost all EKN funded food security projects. An improved business mind-set for Producer Groups (SaFaL), Water Management Groups (Blue Gold) or Farm Business Groups (PROOFS) are at the core of these projects. In all projects, local and national value chains play an important role, much more than international value chains. The use of imported inputs or export of agricultural produce happens, but on a relatively small scale.

An improved national business climate in Bangladesh is also an important part of the Dutch agenda. Although not a part of the food security portfolio of EKN, work is done to create a better environment for investment. Besides trade missions and other support, a Netherlands Bangladesh Business Platform is currently being set up.<sup>15</sup>



To strengthen its focus on the important topic of food safety within the current portfolio, EKN is funding FAO to implement a dedicated project focused on improving food safety in Bangladesh. The project focuses on multiple angles: national governance, improved monitoring, development of standards, consumer awareness and improvements within certain value chains. Mainstreaming of food safety in the other EKN food security projects has not happened yet but there is an increasing awareness and cooperation between projects. Supporting the integration of FAO's work in other projects can be an important role for EKN, and an important way to promote a more "private sector development"-led orientation on food safety.



# 2 | Development of food standards

In this short chapter, we will briefly touch upon the increasing importance of food standards for agriculture in developing countries, describe the globally leading public and private food standards and zoom in on food policy development in Bangladesh.

## 2.1 Increasing importance of food standards for developing countries

Worldwide, an increasing attention to the quality and safety of food has led to an increase of both publicly as well as privately initiated food standards. Whereas food standards often find their origination in developed countries, the effect of food standards on developing countries is steadily increasing. The main reasons for this are 1) a stronger national demand for better and safe food from an upcoming middle class, 2) the growth of demand for high value products in local markets and 3) further international integration of supply chains and exports from low income-countries to high-income countries.

Domestic consumption of high value crops such as fruits and vegetables in developing countries increased with 200% in the period 1980-2005, while consumption of cereals stagnated in that period.<sup>16</sup> This growth relates to increasing incomes and urbanization and is reflected in the rapid growth of modern food industries and retail chains in urban market segments in developing countries.<sup>17</sup> Also export of high value products (like fish, vegetables, flowers, fruits and seafoods) by developing countries increased with more than 300% in the period 1980-2005 and now constitute more than 40% of total developing countries' agricultural exports.<sup>18</sup>

## 2.2 Global public and private standards

The first effort to develop a global standard for food safety and food quality was initiated by the FAO and WHO, and led to the establishment of the so-called Codex Alimentarius in 1961. This is a collection of internationally recognized standards, codes of practice and guidelines for food production and food safety. The Codex Alimentarius is recognized by the WTO as reference point for the resolution of disputes in food safety and consumer protection. The standards are globally accepted by 186 states. Next to the heavy influence of the Codex Alimentarius on international trade in food, most states use the Codex as a basis for their national food safety policies. Also, the Codex has been worked out into a number of sector-specific guidelines and



has formed the basis for other standards such as the well-known HACCP standard.<sup>19</sup>

Bangladesh is member to the Codex Alimentarius. In 1985 the Bangladesh Standards and Testing Institution (BSTI) was established. This is the only national institution operating under the Ministry of Industries to formulate national standards and to conduct quality controls for industrial, food and chemical products coherent to regional and international standards.<sup>20</sup>

Next to these public standards, a slow but gradual development of so-called private standards started at the end of the previous century. In 1997, British retailers got aware of consumers' growing concerns regarding food product safety and quality, what led to the development of an independent certification system for Good Agricultural Practice (G.A.P.). Initially this was done for the European market but in the next decade it evolved, due to globalization and value chain integration, into the world's leading farm assurance program, translating consumer requirements into a global system for safe food standards, called GlobalGAP.

Nowadays, GlobalGAP is one of the key standards for the international market for food. Bangladeshi exporters of high-value food products like fruits and vegetables and seafood therefore will be confronted more and more with GlobalGAP standards, especially when they export to Western markets. More specific standards have been developed throughout the years, which are often specifications, or further add-ons on the Codex Alimentarius and GlobalGAP. The table below shows a few selected examples of standards and the area of focus.



Standard	Focus
Hazard analysis and critical control points (HACCP)	Ensures preventive food safety in production processes
ISO 22000	International standards for safety and quality in food processing, farming, storage, packaging
International Featured Standards IFS	Certification of fresh produce packaging and distribution
Aquaculture Stewardship Council (ASC)	Certification for responsibly farmed seafood
Fair Trade	Certification scheme for fairness in the supply chain
Ethical Trading Initiative	Certification for good labour practice

In recent years, some emerging and developing countries have started to develop national standards based on GlobalGAP. This is often done because local retailers also increasingly ask for safe and quality food. These “national” variations on GlobalGAP are often relatively less stringent and therefore are an important stepping stone to realizing compliance with GlobalGAP. The SAARC countries, in cooperation with FAO, are currently working on a SAARC GAP. Consequently, this standard will be used as a basis for country specific standards for SAARC countries. Bangladeshi actors have confirmed their wish to develop a specific BanglaGAP based on SAARC GAP. This BanglaGAP is currently also under development, and is expected to be presented for approval in 2016.<sup>21</sup>

## 2.3 Food policy context in Bangladesh

In Bangladesh unsafe food is an urgent matter; food safety problems are frequently reported and have a serious impact on public health, trade in food and agricultural products and consumer confidence. Major reasons for unsafe food is unhygienic practice in food handling and the use of toxic food adulterators. According to a report from the Directorate General of Health Services (DGHS), on an average 3,850 people died from diarrhea each year from the period of 2003 to 2009 attributed mainly to unsafe food. The list of toxic food adulterators is endless and occurs in the fruit, fish, milk and vegetable sector for quicker ripening, colouring and longer lasting storage time. A report from the Ministry of Health and Family Welfare (MOHFW) of government of Bangladesh reveals that nearly half of the food samples have been found adulterated, as tested by Institute of Public Health (PH) from 2001 to 2009.<sup>22</sup>

The government of Bangladesh ensures safe food through approximately 15 laws, and these laws are imple-

mented by a large number of public institutions. This scattering of legislation and institutions led to a suboptimal situation, where laws were frequently broken and enforcement capacity was too limited to put this to a halt. In addition, Bangladesh consumers have a lack of awareness about the consumer rights they have, and lack specific knowledge on what exactly constitutes safe food. To improve this situation, the government of Bangladesh developed the Safe Food Act in 2013, which was eventually approved by parliament early 2015.<sup>23</sup> The law aims to reduce food adulteration in all stages of the supply chain and to put an end to multi-ministry controlled mechanisms for food safety issues.



# 3 | Effects of food standards on smallholder farmers

Smallholder farmers in developing countries are increasingly integrated into global markets, and the development of food standards worldwide has an increasingly influence on these smallholder farmers, even if they only produce for the national markets. The impact of these developments for small farmers has been frequently debated. Even though several thought leaders agree that potentially these trends can have a positive effect on smallholder farmers, others argue that food standards are reinforcing global inequality and poverty.<sup>24</sup>

A key concern is that the process of vertical coordination will exclude smallholder farmers. Three reasons are mentioned for this. First, transaction costs favor larger farms in supply chains, since it is easier for companies to contract with a few large farms than with many small ones. Second, when some amount of investment is needed in order to contract with companies or to supply high value produce, small farms are often more constrained in their financial means for making necessary investments. Third, small farms typically require more assistance from the company per unit of output.<sup>25</sup>

However, there is considerable debate and uncertainty on the validity of these arguments, and more generally on the welfare implications of high value chains. While quality and safety standards can make production more costly for smallholder farmers, at the same time they can reduce transaction costs in trade, both domestic and internationally. For example, a positive catalytic effect for smallholders can occur when the introduction of higher quality requirements has coincided with the growth of contracting and technology transfer. Contracts for quality production with local suppliers in developing countries not only specify conditions for delivery and production processes but can also include the provision of inputs, credit, technology, management advice, etc.<sup>26</sup>

## Costs of compliance as critical point

In trying to summarize the different findings in the literature, the 2014 IFPRI discussion paper titled “Food Safety and Developing Markets” investigates the assumption that the most important negative effect of food standards is related to the costs involved with complying with these standards, and that the investment needed to cover these costs could potentially crowd out smallholder farmers.

Costs are mostly made for measures such as

1. setting up a management/quality control system (for example for HACCP) which imply both non-recurring costs (i.e. for purchasing software) and recurring costs (i.e. for annual audits)
2. training staff and farmers/farm workers on good agricultural practices and new procedures, and



### 3. investments in better inputs, storage facilities and machinery.

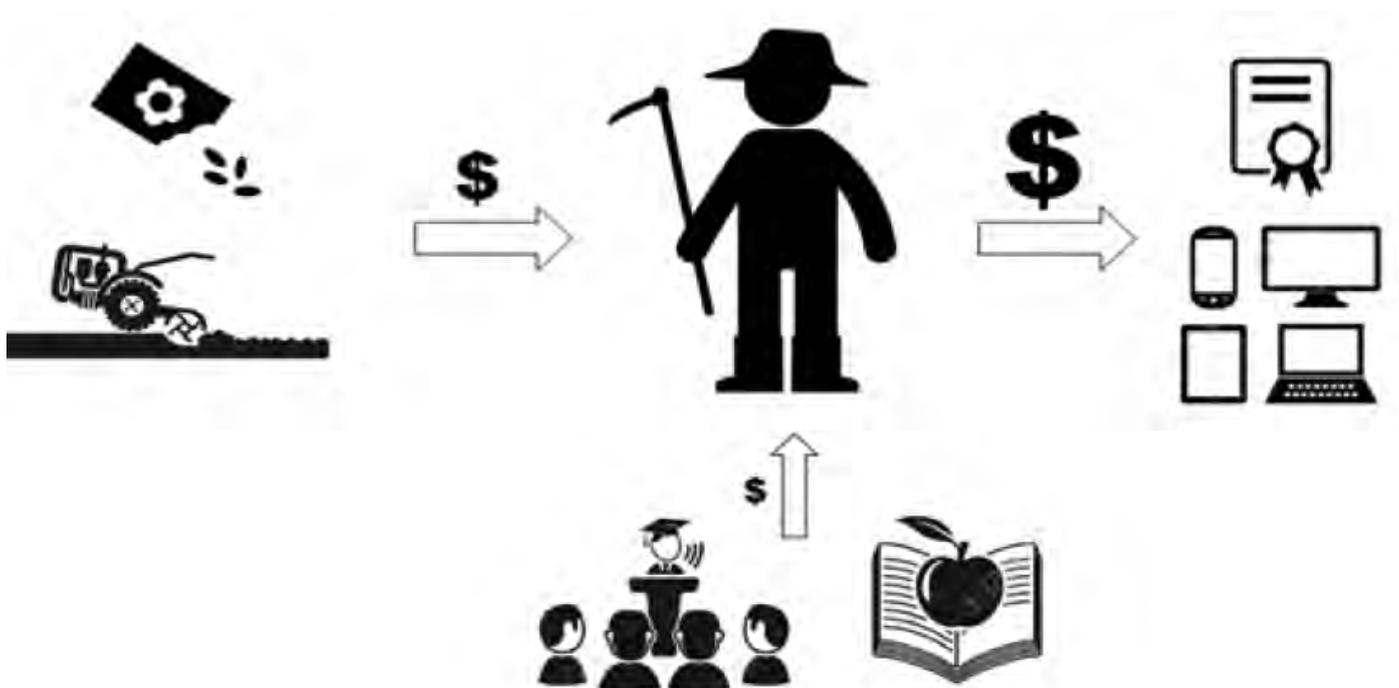
The height of these costs for these type measures differ; whereas training is frequently provided for free or at subsidized costs (through government and NGO programs) the cost for inputs and machinery are generally higher, and this goes even more so for setting up (computerized) management systems and annual audits.

#### Food standards a barrier or catalyst?

It is clear that the general assumption mentioned above is the main reason why food standards could form a barrier to more inclusive growth. At the same time, the IFPRI literature review showed evidence for potential positive catalytic effects of food standards on inclusive growth. In general, IFPRI found that the potential positive effects that smallholder farmers can have from increases in food standards are related to reduction in income risk and increased production efficiency, rather than from a possible price premium related to the compliance with the food standards.

With regard to the increases in production efficiency, complying with food standards to a large extent means improving your production practices to get these in line with general Good Agricultural Practices. These changes in production practices can not only improve production quality, but also production quantity and the efficiency in terms of kg of product produced per unit of inputs. Farmers might produce more products and therewith also have the potential to earn more income.

Bringing production practices in line with Good Agricultural Practices does not automatically mean that a smallholder farmer has to make more costs. The basic aspects of good agricultural practices often mainly have to do with a better understanding of how to grow your crop. A specific example where a smallholder



*Different ways in which food standards can add costs to production for farmers, and size of costs involved*

farmer can even reduce cost of production is the use of pesticides; often smallholder farmers have little knowledge of pesticide use. To be on the safe side, they spray too much pesticides on the crops, often not knowing that this way they surpass the maximum residue levels and therewith endanger the health of the consumer. Using pesticides in a more knowledgeable way will most likely lead to a decrease of the use of pesticides and to savings on costs.

With regard to reductions in income risk, the following can be stated. On a value chain level, the implementation of food standards is likely to promote vertical integration in the chain. Even though this vertical integration can potentially push smallholders out of the value chain (i.e. an aggregating party such as a supermarket rather works with one large farmer than a group of smallholder farmers) successful integration of smallholder farmers in the chain lowers the general income risk that farmers encounter. Smallholder farmers would then receive a contract in which some minimal safeguards are built-in, instead of the general situation in which smallholder farmers have to rely on the uncertainty of price setting in spot markets and dependency on (unreliable) middle-men. This creates the basis for a more stable income, which could encourage the smallholder farmer to consider investments in the farm more easily, creating the basis for further growth.

### Importance of perspective of target market

As can be concluded from the previous parts in this chapter, it is not easy to say whether in general food standards have a positive or negative effect on the position of smallholder farmers. It is however safe to say



that an important influencing factor is the costs of compliance with standards.

The extent to which these costs need to be made, again strongly relates to which market the farmer produces for: when a smallholder farmer produces for the international market, the standards that they have to comply with demand that compliance with food standards has to be officially “proven”. This means that also smallholder farmers for instance will need some form of a management systems, and product traceability. These kind of measures will have a certain costs that the smallholder farmers will need to be able to bear. Below a generalized overview of how important the different measures are for the different target markets, and the extent to which this adds costs to the operations of the farmer.

	Type of intervention			
	Knowledge \$	Improved input \$	Improved machinery \$\$	Establish management system \$\$\$
Local	++	+	0	0
Urban	++	+	+	0
International	++	+	+	++

In Bangladesh, most smallholder farmers do not produce for international markets, but often for their local markets, and in some cases for urban markets. These markets do not have the type of food standards that require that the farmer shows proof of compliance with food standards, therewith also not having to make too much costs to comply. It therefore seems that this cost-effect of food standards on smallholder farmers will be less in Bangladesh than in comparable countries that have a higher share of exports for agricultural goods.

This will also differ per sector. The only agricultural sub-sector in Bangladesh where exports play a substantial role, is the aquaculture sector. Here, the cost component will therefore be more important to smallholder farmers, especially to show compliance with (international) standards. In the next chapter, we show an example of how Vietnamese smallholder farmers in aquaculture deal with this challenge.

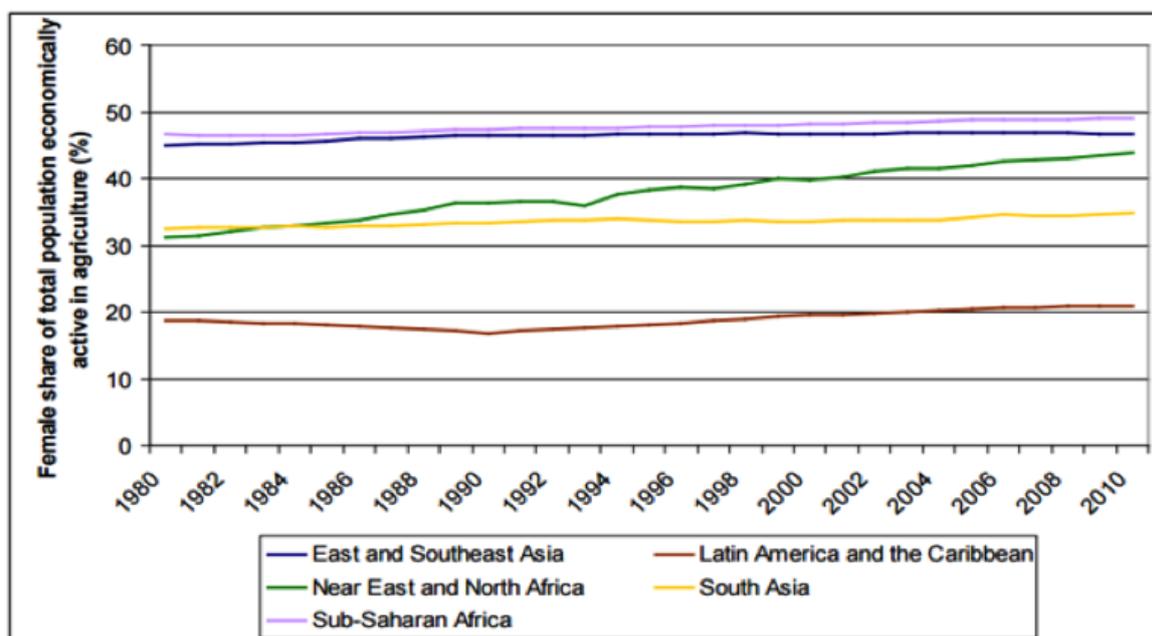
Having said this, the trend, also in Bangladesh, is that food standards will play a more important role, and markets shift more and more from the rural, local markets (where relatively less people will live) to the urban markets (where relatively more people will live) and to international markets. This trend will also imply that smallholder farmers will more frequently have to comply with food standards.

### Impact on women

To realize true inclusive growth, it is important to understand what the impact of increasing food standards is on the position of women as farmers and as farm employees. Especially because women make up an important part of the workforce in the agriculture sector, as can be seen in the graph below. In fact, in Bangladesh, this percentage has even surpassed the 50% mark around 2010 and beyond.<sup>27</sup> FAO expects that a better position for women in agriculture could substantially improve food security worldwide: they expect that closing the gender gap in agriculture could reduce the number of hungry people by 12 to 17%.<sup>28</sup> Not much has been written about the position of women as farmers, much more is written about the position of women as workers in the value chain. As we expect that agricultural value chains become more complex, a good impression of the role of female workers in these chains becomes more important.

In general, it can be said that the position of female workers is different from men. Their position is often much weaker than the position of the men. Whereas men more easily obtain employment contracts, women often remain involved in the value chain in an informal way in unstable and flexible jobs. In the Senegal tomato sector, for example, 2% of female workers and 28% of male workers have permanent contracts. This undermines their socio-economic position as this form of employment often lacks social security and other benefits, and by the nature of their employment contracts, women are often the first to lose their jobs during economic downturns.<sup>29</sup> Formal contracts are usually not part of labour agreements in rural Bangladesh. Although only less formalized agreements exist, a similar trend as described is common. Men will find work easier than women because of a perceived higher productivity.

Also, research shows that women frequently receive lower wages than men do. This can be explained by the fact that women in general do relatively unskilled labour, often influenced by the tradition that women stay



with the household (and hence do unskilled work such as tending to the livestock) whereas men are traditionally more involved outside of the home, for instance in market-related activities that require more skills. Lastly, because of the temporary nature of their employment, their opportunities to acquire new technical and entrepreneurial skills are limited, which increases the risk of redundancy if their jobs are automated.<sup>30</sup>

These literature findings indicate that it is important to develop dedicated interventions focused on the position of female workers and female farmers. Focus should be more on how specific skills held by women could be used. An example is the Vietnamese company The Fruit Republic, that produces safe fresh produce. They find that female producers and employees have a strong sense of quality and quality control. Also, they take their work more seriously and have eye for detail and work with precision. These are all characteristics that are critical to improve food quality and food safety. More about the Fruit Republic case can be found in the next chapter.

### Effects on consumers

Even though this research explicitly does not focus on the effects of food standards on inclusivity of low-income (BoP) consumers, we do believe that it is important in this part of the report to shed some light on this topic, also because smallholder farmers themselves often are the BoP consumers we refer to.



One effect is the price effect of safe food. In general, one can assume that retailers and other parties selling food to end consumers, pass on the extra costs that are incurred along the value chain for making a product more safe to the consumer, leading to relatively higher sales prices of safe food. This will mean that low-income consumers have relatively less access to safe food than consumers with higher incomes. In this way, low-income consumers encounter an add-on negative effect to the so-called “poverty penalty”.

However, there are different ways of off-setting this price effect. Food standards can lead to an increase of production because of higher productivity, reduced post-harvest losses because of better packaging and decreased costs related to pesticides or chemicals for adulteration (e.g. formalin). This makes it difficult to assess how strong this price effect is in practice. Initial findings from the focus group discussions and interviews in the field research indicate that people perceive that safer food is not necessarily more expensive to produce for local markets.

Another likely effect is that low-income consumers (for instance because of lower literacy rates) are less aware of the importance of food safety and on what constitutes safe food. For them, it is more difficult to make an informed choice on what is a safe food product and what is not, most likely leading to a relatively higher incidence amongst low-income consumers to buy food that is not safe. In the interviews with the Food Safety project it was indicated that cleanliness at local markets and in the kitchen plays a major role but people are often unaware of this.

The FAO Food Safety project has already acknowledged that this is an important point. In 2010, it supported the establishment of the Bangladesh Food Safety Network (BFSN) by 5 local NGO's. The focus of the network and its members is on raising awareness on the importance of safe food.

### 3.2 Field research findings

#### Current quality demands focus on physical aspects

The awareness of importance of food safety and quality in Bangladesh is being fuelled by frequent media attention for food scandals and incidents. It was therefore expected at the beginning of this research that an increased focus on ensuring food safety and quality would be present with buyers and other relevant value chain actors. Quality demands were discussed during the field research in different interviews and workshops with smallholder farmers and buyers across different sectors like poultry, dairy, fish, vegetable, mugh-bean, etc. In these discussions it became clear that there are almost no demands for smallholder farmers in relation to food safety.

More in general, there are some quality demands, but these often have to do with appearance, and are hardly tested. Instead, the food is often assessed in an informal way. Although it is not possible to generalize these findings for entire sub-sectors, the table below provides an overview of the demands frequently mentioned in conversations.

Sector	Quality demands
Horticulture	Quality is determined based on physical aspects. The main aspects buyers consider are color & size. Damaged produce is also considered to be of lower quality.
Dairy	The only sub-sector where actual food tests were run at a collection center level. Tests were performed to check for added water, formalin and alcohol. The price is determined based on the fat percentage.
Aquaculture (shrimp & tilapia)	Price is determined by weight. This is a disincentive to package in ice immediately after harvest. Ice increases the weight and buyers are less interested to purchase the product.
Poultry	Eggs and meat of local (indigenous) varieties are in high demand because of better taste. rural, smallholder farmers focus their production on this instead of producing cheaper, foreign varieties of broilers. Quality therefore seems to relate to variety. Safety of the food is not tested in any way.
Field crops (mughbean & sesame)	Quality and price are based on the presence of dust, color, fat percentage (sesame) and maturity (mughbean). Test are performed manually and in informal and arbitrary way (e.g. rubbing seeds on hand to determine fat percentage).

With dairy as exception, all other sectors have quality standards that are not related to food safety. On the contrary, some standards actually discourage safe food, like the shrimp and fish buyers that do not want products packed in ice or vegetable buyers that need the right color which encourages adulteration. Different buyers also discussed the demands of their own clients. These demands further in the value chain were also related to physical aspects. One of the fish buyers indicated his clients did not want fish that have been fed with poultry waste but no controls were in place to make sure this was the case.

Although there doesn't seem to be increased market pressure to produce safe food, farmers were aware of

major issues around food safety. When asked about do's and don'ts they are aware of key issues around the use of chemicals, hygiene and biological alternatives. This can be attributed to a large part to training and awareness raising from NGO project staff and government.

So farmers are aware of what safe food constitutes, but there is no direct trigger for them to improve their farming practices to ensure a higher level of food quality and safety. It seems that the main channels to improve this are either through more value chain integration and higher demands from retailers and other quality demanding market actors, or through a stronger level of enforcement of food safety standards through government interventions.

### Limited investment required for smallholders to produce safe food

As discussed before, it seems that smallholder farmers can make great improvements in food safety and quality without having to invest much. Much has to do with improving production practices and changing behaviour. A good example of this is better hygiene practices during production, harvesting and handling, to ensure that germs and chemicals do not impact the final product. The Food Safety project is working on key points that are important to ensure food safety in different value chains. An example, for the horticulture chain, can be seen in the figure.

Most of these recommendations are easy and cheap to implement for farmers of every size. They do not increase the cost of production or the profitability. During interviews it was repeatedly mentioned by government officials and project staff, that small farmers are more open to learning and adopting different practices than bigger farmers. Reasons for this are that small farmers are more aware they lack knowledge and feel every small gain is important.

When discussing adulteration, stakeholders that were interviewed for this research, indicated that they encountered adulteration more often with larger farmers than with smaller farmers. Smaller farmers do not always have the knowledge or incentive to adulterate. Food from these smaller farmers is considered safer and often preferred on local markets. Initiatives exist to brand and market this locally produced food.

### Farmers are not easily grouped in 'small' or 'big'

The exact trends in the number of smallholders and farm size are difficult to determine for Bangladesh. In



In 1996 the total area cultivated by smallholders was 69% and smallholders made up 95% of the farms. With the decrease in land size per household from 1.4 in 1960 to 0.3 acre in 2000, Bangladesh seems to follow the same trend as other developing countries with decreasing land sizes and an increase in the number of smallholders.<sup>31</sup>

With smallholder farmers representing such a large share of the national food production capacity in Bangladesh, it is unlikely that smallholders are crowded out, even by normal economies of scale. It seems impossible for a country with such a large domestic market and growing consumers demand as Bangladesh, to be fed without smallholder farmers providing a large share of this market demand for food. This advocates a vision that makes smallholders as productive and profitable as possible within their limitations and their relative profitability compared to bigger farms might only be of limited influence because of the vast size of the domestic food market.

During the field research, farmers from different agricultural sectors were asked to identify the difference between a 'small' farmer and a 'large' farmer in a series of workshops. These discussions have shown that it is important not to focus on a single characteristic like land size to make the distinction. The farmers identified the area under cultivation as one characteristic, but also included characteristics such as the use and access to natural resources, time dedicated to production, the use of quality tests and levels of knowledge. A summary of these identified characteristics is provided in the figure below.



The idea of smaller and bigger farmers had to be clearly explained before they were able to distinguish different characteristics. Farmers themselves do not put each other in fixed categories and moving from extensive agriculture to more intensive agriculture is a gradual process that involves making progress in different areas. Although the extremes are easy to use for strategic discussions, it needs to be recognized that reality does not always fit in these boxes, and that the size of a farm or farmer is a dynamic concept.

This has been confirmed in different Focus Group Discussion where farmers have been asked to describe the changes they are making, and planning to make, over the seasons. One of the fish farmers indicated that

she started using fingerlings instead of fry to increase her production this season. Her next step is to increase the pond size. A group of dairy farmers indicated they started taking care of their cows more carefully and started to provide vaccinations. Their next step would be to grow green grass to improve the diet of the cow. A good understanding of how farmers can make these changes and grow from a 'small' farmer into a 'big' farmer is crucial to design the right interventions.

### Understanding key decisions and mitigating risks

Farmers do not easily switch to prescribed best practices after a training or seeing a demonstration plot, they continuously change their practices based on new information and perceived risk. There are many choices during production and for each of those the farmer needs to be convinced because there is an additional investment required.

As an example of this line of thinking, in the figure below, some options are described for a vegetable farmer. In the case of land preparation, ploughing with a tractor is often cheaper but the field needs to be near a road. In some areas the tractor will not prepare the land properly and a power tiller is needed. The use of fertilizer is also dependent on the crop and the risks involved. This could also lead to different options for the farmer where more basic and more effective, expensive options are encouraged. Only for land preparation, this already leads to at least six options that need to be taken into consideration. If these options are confusing, falling back to what is known and has worked is an easy solution. This same line of reasoning needs to be taken into account when assisting farmers in working on food safety and food quality.

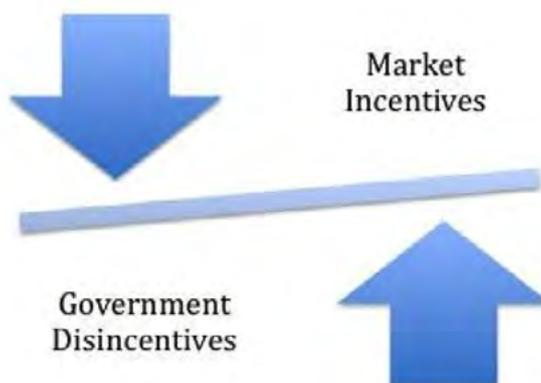


Risk has been identified as a key reason for farmers not to switch to certain practices. Farmers are scared of losing their entire investment, whether it was their money or from a lender. This came up in interviews with farmers cultivating mughbean and sesame in the South. If the monsoon starts too early, they lose their entire investment. It can be useful to provide farmers with different options based on the expected outcomes. An example is included in the figure below for dairy. Farmers can choose different options based on their willingness to invest and the risk they are willing to take. This provides an easier comparison between what different changes in production practices are needed to create a different level of profit. Although farmers might not fit exactly in one option, each next step is something they can aspire to.

2 Liters / day	5 Liters / day	10 Liters / day
<ul style="list-style-type: none"><li>• Indigenous breed: BDT 15.000</li><li>• Straw: no cost</li></ul>	<ul style="list-style-type: none"><li>• Crossbreed: BDT 40.000</li><li>• Straw &amp; UMS: BDT 25 / day</li></ul>	<ul style="list-style-type: none"><li>• Crossbreed: BDT 100.000</li><li>• Straw &amp; concentrated feed: BDT 75</li></ul>
<ul style="list-style-type: none"><li>• Income: BDT 60 / day</li></ul>	<ul style="list-style-type: none"><li>• Income: BDT 155 / day</li></ul>	<ul style="list-style-type: none"><li>• Income: BDT 320 / day</li></ul>

### Right to safe food versus Market incentives

A market driven perspective on improving food safety and food quality would imply that the safe and quality food would have to have higher price, or at least a price premium compared to less safe or quality food. During different discussions in the field research, it was argued that safe food doesn't deserve a premium, but rather it should be seen as a right. This is in a way reflected by the fact that Bangladesh is the only country worldwide that has the right to safe food anchored in its constitution.



This means a focus on only creating market incentives for safe food is not enough. During the interviews and discussions, a consensus was found that a balance should be found between creating market incentives that ensure visionary companies and farmers switch to producing and marketing safe food, earning premiums and becoming role models within the sector. On the other hand strong disincentives can be created by the government or even market actors. This could include not buying produce that is expected to be unsafe like in the dairy value chain. Both incentives and disincentives need to be established for local and national level value chains.

### Women perceived to produce safer but less quality food

In different Focus Group Discussions the differences between male and female farmers have been discussed. Many of the traditional disadvantages female farmers face, were mentioned during the discussions by the farmers themselves. These ranged from less knowledge and capital, relying on husbands for the sale, to less use of proper inputs / vaccines. Women often are seen as labourers for the husband and have little autonomy in making decisions related to production or sale.

When asked whether men or women produce safer food, women were given the advantage most of the time. Whether this was because they used organic fertilizer (vegetable), didn't use poultry wastage as feed (fish) or they kept materials for milking cleaner (dairy). Women are seen as more careful and caring about the impact production practices have on the food produced. Although this was not recognized by the buyers, this does provide an interesting opportunity for marketing food produced by women.



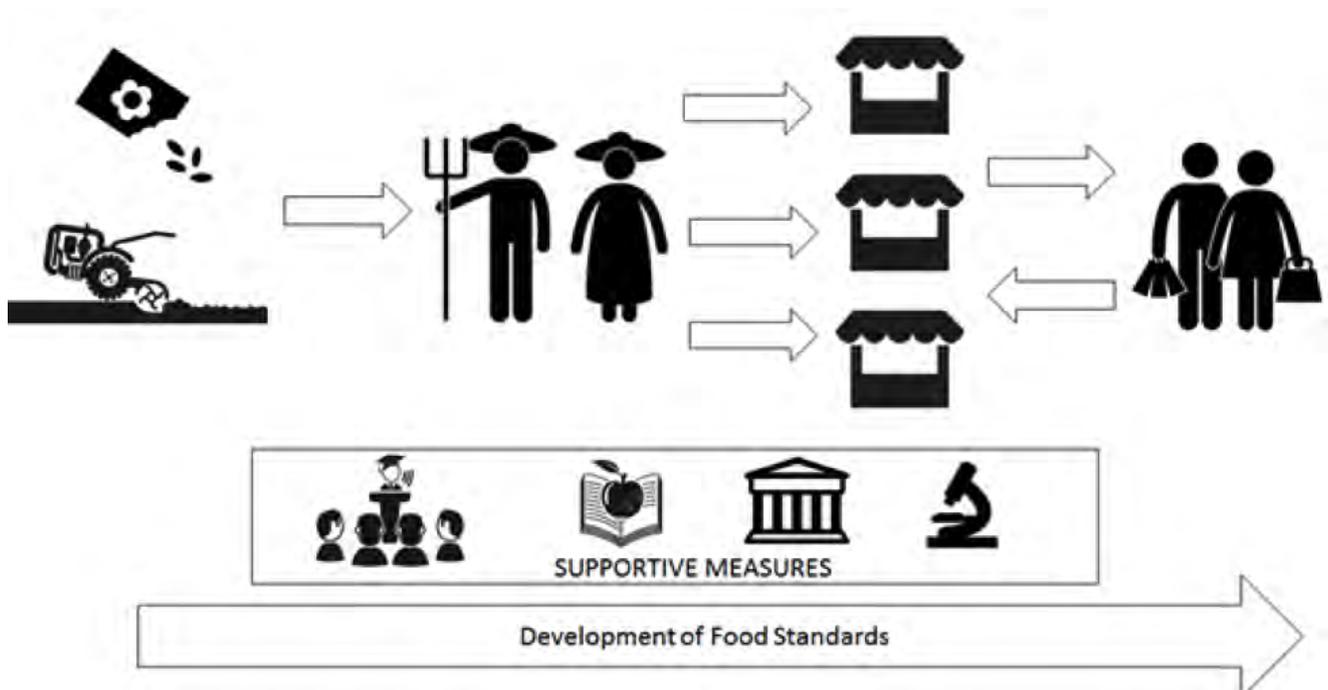
# 4 | Solutions to mitigate negative effects

In chapter 4 we have set the framework for analysis of the effects of food standards on smallholder farmers. we will use the same framework as basis for possible solutions to minimize the negative effects and maximize the positive effects of food standards for smallholder farmers.

This means that we will first discuss the more general solutions. Next, we will discuss the need for general supportive measures. Thereafter solutions for improving access to better inputs and technology are discussed, as well as solutions to better reach the market for safe and quality food, and how this market should be monitored for safe and quality food. Lastly, we will focus more specifically on the role of consumers and the role of women in the value chain.

## 4.1 General solutions

An important aspect when it comes to supporting smallholder farmers in reaching food standards is cooperation. It sounds like an open door, but quite often very little cooperation takes place across the value chain.



Cooperation can have several forms, but here we distinguish three key areas for cooperation.

The first is cooperation between smallholder farmers. In isolation, an individual farmer has little power in the value chain and will have difficulty to reach the economies of scale that are needed to survive in a high quality food value chain. For instance, to reach international markets, it will be essential for farmers to cooperate in the form of cooperatives or farmers groups. An interesting example of how such a group acquired GlobalG.A.P. certification for aquaculture in Vietnam can be found below.

Cooperatives do not have a good image in Bangladesh and many farmer organizations are only formed by NGOs to function as a vehicle for training delivery and asset transfer. They are not capable of functioning as a business organization, acting on behalf of their members. Trust is a major issue between buyers and farmer organizations, with farmers breaching contract when the market prices are higher, and the buyer breaching the contract when prices are lower.

The second mode of cooperation is public private partnerships. Cooperation between governments and the private sector has proven to be very successful in various countries. Public-private partnerships can for instance be focused on training farmers or on jointly building the capacity to test food safety. The key idea behind public private partnerships is that this way public investments can leverage contributions from the private sector, catalysing the public investment to an extent that could not have been reached without the involvement of the private partner. For instance, if the government and companies join forces in training farmers on Good Agricultural Practices (which is beneficial for all parties involved) much more farmers could be reached.

However, it seems that in Bangladesh the prevalence of public-private partnerships is rather limited. An example from Bangladesh is the cooperation between retail chain Agora and the Bangladeshi government (see textbox below), even though it was not clear to the authors at the time of writing, what the outcomes have been of this partnership and whether it is still active.

**Agora is a medium-sized Bangladeshi food retailer. Agora has recently developed a system to assess the capability of smallholder farmers to provide them with safe food. The implementation of these assessments in the past years has identified areas for capacity building with smallholder farmers. Training of suppliers has taken place, a.o. with government support from BSCIR.**

A third relevant mode of cooperation is the cooperation between smallholder farmers and the companies they supply their produce to. This way of cooperation will help smallholder farmers to cope with the increasing need for vertical integration in the chain. It might not always make that much sense for sourcing companies to support (smallholder) farmers, because this comes at a certain cost and effort.

At the same time, a reliable supply chain is key to retailers and processors. Working with smallholder farmers



instead of large farmers could be a way to spread the risk of side-selling or other ways of losing a supplier, as working with smallholders would mean many small risks with a big group of smallholder farmers, versus a few big risks with a small group of large farmers. However, these relationships need to be built over time to show that institutional relationships are possible and benefit both parties to ensure trust is built.

An example of this (supported by the Inclusive Business Hub) is the aquaculture firm Shiblee Farms, that helped local smallholder fish farmers in receiving training and getting better access to needed inputs. Also, the SaFal program is currently making the first steps in the program to get a small group of farmers certified for the international markets through ASC.

**Shiblee Hatchery & Farms Ltd. aims to engage 100 landless families as fish farmers of cage-cultured tilapia, along the Adhamanki River. Shiblee Hatcheries runs a supply network, delivering chemical-free fish to high-end clients in Dhaka.**

**Shiblee Hatchery has provided the fish-farmers with hatchlings, technical advice and assistance to access finance and equipment, while also providing a secure market for the fish. Over time, the model will evolve into a micro-entrepreneur system, where farmers run their fish farm more independently, and engage with Shiblee for quality inputs and sale of quality fish, based on a franchise system.**

The last point to mention here as a general consideration, is to take notice of the pace with which solutions should be implemented in the cooperation with smallholders. As the development of food standards in Bangladesh is rather slow and gradual, this also allows for a gradual and incremental process of working with smallholders on these changes.

## 4.2 Capacity building

As was concluded earlier, it seems that knowledge on how to produce safe and quality food is one of the main barriers for smallholder farmers to reach higher standards. Capacity building therefore seems key for mitigating the effects of food standards.

The need for capacity building has been widely acknowledged and is an intervention that is often the key component of any program focused on improving food safety and quality. The FAO Food Safety program in Bangladesh is a clear example of such a strategy. Again here, working on capacity building in a Public-Private construction would be key to maximizing effectiveness. Not only by leveraging co-investments of the private sector, but also by involving the private sector in such a way that the capacity building is in line with the needs and wishes of the private sector to improve the connection between smallholder farmers and actions further down the value chain. The Agora example is a good example of such a combined effort.



Such capacity building should not be organized in isolation. The FAO Food Safety project could benefit from closer collaboration with the other food security projects that EKN Bangladesh is funding.

### 4.3 Access to inputs and machinery

When people talk about access to improved inputs and machinery, often the issue of financing comes up. However, access does not only relate to affordability, but also to accessibility and applicability. Sometimes quality inputs are simply not available, or the size (especially when it comes to machinery and equipment) is not suitable for smallholder farmers. Innovation is a key issue here that is often overlooked.

An example of innovation in inputs can be found in textbox below. Another example of innovation in machinery is the work of Mueller, a Dutch company producing cooling technology for dairy. They regularly produce large milk cooling facilities catered at large scale farmers. However, in Ethiopia they developed a small scale milk chiller (with a capacity of around 3-4 milk churns) powered by solar energy.<sup>32</sup> Also, the PROOFS program



in Bangladesh is currently working with Dutch company Mooij and its Indian partner SV Agri on the development of small-scale, solar powered potato storage units. These kind of innovations make the use of machinery and inputs to improve food quality and safety more within reach for smallholder farmers.

**Aflatoxin is a big food safety threat in the production of cereal crops. The Institute for International Tropical Agriculture (IITA) and US Department of Agriculture developed a substance called Afla-Safe (after years of research), a substance that can be scattered by hand in the field prior to crop flowering. The Afla-Safe substance eliminates the mould that produces the aflatoxin. Use of Afla-Save in Nigeria has brought the incidence of aflatoxin contamination down to 80-90%. At a cost of \$1.5 per kg, with a recommended usage of 10 kg per hectare, the solutions is affordable to most smallholder farmers.**

### 4.4 Innovative ways of marketing safe and quality food

Not only in developed countries, but also in emerging economies such as Bangladesh, there is a potential for farmers to reach consumers in high-end markets, that demand high quality products. But often this entails that the smallholder farmers have to comply with certification schemes, which add a substantial cost to reaching these markets.

Instead, smallholder farmer groups could focus on dedicated marketing to local markets. Locally produced food has a good image across the country because less adulteration is expected. Using this as an opportunity in market places to brand locally grown food will help producers and consumers in the area. This can be done by creating special corners in marketplaces, collection centers and other aggregation points, and by supporting farmer groups in developing their own branding and marketing strategy.

An example of this is the work of local NGO Siyavuna in South-Africa's KwaZulu Natal province. There are large groups of smallholder farmers in this province, but these farmers fail to reach the fairly sophisticated system of supermarket chains in South Africa. Instead, Siyavuna has supported three cooperatives in setting up their own Kumnandi (which is local language for good food) brand, and set up a sales system where their branded products are sold at semi-formalized market outlets in the province's capital.<sup>33</sup>

Another example is Janta Meals in India. This companies produces ready to eat meals, with the aim of providing the working class in urban India with healthy, nutritious and affordable meals. Lower income migrant population depend on food from street vendors where the food is unhygienically prepared and lacks in nutritional value. Other options are too expensive. Living away from home and working long strenuous hours makes cooking at home difficult. Janta Meals has set up small restaurants in informal areas and slum areas



where meals are sold starting at Rs. 20 Janta Meals recruits women from the areas where the restaurants are set-up to ensure that the meals prepared fit with the dietary preferences of the local consumers. Janta Meals has quickly grown into a recognized brand of cheap, affordable and above all hygienically produced meals.<sup>34</sup>

### 4.5 Quality and safety control

The enforcement capacity of institutions in Bangladesh to ensure food safety and quality is controlled, is rather limited, and is organized in a centralized way. The question is whether control should not be organized more decentralized and in closer cooperation with farmers and companies involved in the value chain.

Knowing what is aggregated by smaller farmers before it enters value chains is very important in this regard. Having a chain of custody and ensuring food is safe at aggregation points can win trusts of companies and consumers. In none of the sectors, except dairy, tests are done on contamination or use of chemicals. The exception was a BRAC collection point for milk where tests were performed to ensure milk was unadulterated: no alcohol, water or formalin was allowed. The price paid to the farmer was determined by the quality of the milk measured by the fat percentage. All this was done in an easy to verify way that left no options for the collection center or farmer to argue about the safety and quality of the product.

More focus on transparent determination of the quality of the products, taking into account food safety standards, can be a major boost. Although current equipment seems to be expensive and is not locally available, innovation in this area should be welcomed. When determining color of vegetables, fat in oil seeds, maturity of mughbean farmers run a big chance of being cheated. Arbitrary judgement of the buyer determines the quality. An improvement in defining the quality including tests for food safety would be a win win for the farmers and actors along the value chain. Simple refractometers can be bought for \$25 and are an easy way to assess the quality of vegetables. Also test kits for dairy using simple strips to measure presence of certain adulterating substances are in the market.

Another stepping stone for improving the basis for proper quality and safety control would be to make use of the increasing number of farmer groups that are established across the country. If these groups organize simple quality management systems to ensure members comply with certain basic requirements, it will add value to their organization. Even a basic registration of chemical use will be helpful. With adulteration often happening further in the value chain, this reduces one of the main risks during the actual production. Other points of interest could be identified based on the keys the Food Safety project identifies. A basic control system at the group level will encourage adoption of these behaviours as well. This is also a basic first step towards more formal certification if a group would be interested in this.

## 4.6 Improving the awareness of consumers

A sustainable demand for more safe and quality food starts with the consumer. Do consumers know what constitutes safe food, are they able to recognize and value it? Even though this was not researched, the impression is that the awareness of safe food with Bangladeshi consumers could be improved. Awareness raising campaigns with consumers could improve their knowledge on safe food and therewith also their consumer behaviour. If consumers start asking for safe food in a more structural way, parties in the value chain are also more encouraged to work on raising the safety and quality levels. This could be realized through different interventions such as advertisements leaflets and other media, preferably executed at place where consumers making decisions, such as open air markets, street stores and supermarkets.

Also any type of local certification of safe food could help improve the position of consumers. The development of a BanglaGAP certification could help in this regard. Rural low-income consumers often know where their food comes from and how it is produced. Therefore they know whether the food is of good quality and is safe. For urban low-income consumers, this is often not the case as they are disconnected from local production, and don't know where their food comes from. A certification or brand that ensures them that the food is produced under good standards, could help these consumers make informed decisions. The Mekostar brand of the Fruit Republic company in Vietnam (see text box below) is a good example of how such a brand could be established.

**Mekostar is a brand of The Fruit Republic in Vietnam, a trade company having one of the most professional fruit and vegetables packinghouses, post-harvest handling and cooling facilities in Vietnam. The company works with small farmers on a contract basis. The intention of the company is to make the Vietnamese consumers proud again about their own products. The company supplies its clients with fresh produce branded as healthy, tasty and good looking.**

## 4.7 Maximizing the potential of women to improve food safety

As was discussed in chapter 3, women in Bangladesh's agricultural sector tend to be involved in activities in which they have little autonomy and mostly do unskilled work. At the same time, these women are recognized as being more precise, accurate and having an eye for detail and quality. It will be difficult to change the traditional roles of men and women in the average small farmer household. At the same time, the increased connection of Bangladeshi agricultural value chains to the international market, as well as the vertical integration that is consequently taking place, there will be more and more job creation taking place in value addition activities in the agricultural value chain, such as sorting, packing and processing of agricultural

products.

Since women tend to deliver better results in these type of activities compared to men, further sophistication of agricultural value chain could mean more room for the added value of women in these chains. Having said this, the pitfalls identified in chapter 3 need to be taken into account: women should receive the same wage as men in equal positions, and women should have the same access to training/education activities. Also, they should have equal opportunities to receiving a fixed contract as men do. Below two examples how companies and organizations have managed to successfully integrate more women in the agricultural value chain, specifically focused on food safety and food quality. Both examples come from the BoP Innovation Center “Women as Inclusive Business Partners” study. More examples can be found on the project website.<sup>35</sup>

The company Fruit Republic in Vietnam specifically brands its food (see the Meko Star example) as safe food products, and therewith it benefits greatly from the fact that the women producers and employees are known for their strong sense of quality and quality control. They take their work more seriously, have an eye for detail and work with precision. Production groups with female leaders have proven to the Fruit Republic to be the most entrepreneurial and successful.<sup>36</sup>

In India, the NGO Pradan focuses its interventions in the poultry value chain specifically on women. Traditionally, poultry rearing is seen as a woman’s activity, with low capital investment (no agricultural land required) and low economic return. Also with little complexity: it takes 3 to 4 hours/day and is thus easy to combine with households tasks. As producers, the women have essential skills incl. eye for detail, organization, hygiene and work ethics. The fact that they can manage two systems simultaneously: high tech broiler rearing for income and traditional backyard poultry for home consumption, offers an excellent basis for them to beco-

**Dutch company Eosta supports initiatives that improve the working conditions for female farmers and female workers with its ‘1 cent for the future’ fund that supports such initiatives based on fund-generation per product sold. For example, the Chinese organic ginger producer Weifang Jiahe formed a union for female employees. This union tackles issues such as access to health services, maternity leave, protection against sexual discrimination as well as a clean and safe working environment and accommodation. Organic fruit and vegetable and spices producer Amfri Farms in Uganda established a daycare center for children of female employees and started a health care project in the Northern region. Mango exporter Fruiteq in Burkina Faso offered additional resources for school equipment and a training for women on improved sanitation and hygiene. They also constructed water wells so that women do not have to walk 4 km every day for clean and safe drinking water.**



me broiler rearing entrepreneurs.<sup>37</sup>

The latter cases show that involving women more actively because of their eye for detail and hygiene and other specific traits, also means that some flexibility has to be taken into account. The women often are at the same time running households and taking care of children. Allowing room for them to also fulfil these tasks will need flexible arrangements, such as part-time jobs, access to day care centers and easier access to household needs such as drinking water. In the textbox on the previous page examples of how Dutch company Eosta supports development of these types of measures with the producers they source from.



# 5 | Policy recommendations

The policy recommendations in this chapter are divided into two sections. The first section focuses on the extent to which the criticisms on the aid to trade agenda (and more specifically those focusing on vertical integration and sophistication of agricultural value chains) are valid and how potential negative effects could be minimized. The second section includes specific recommendations for Bangladesh. The chapter ends with a section on recommendations for further research to strengthen policy decisions.

## 5.1 Impact on international policy - from aid to trade

With Bangladesh set to become a middle income country and a thriving private sector with extensive distribution networks, the Dutch “from aid to trade” policy certainly fits the current context in the country. The EKN projects in Bangladesh make a practical, hands-on contribution to international agricultural trade. This happens for instance on the input side where Agrico is working with PROOFS to introduce new varieties of potatoes and on the output side where SaFaL farmers are exporting mangos to a Walmart owned supermarket chain in the UK. Although these examples highlight the possibilities for farmers in rural Bangladesh, they also show that extensive project support is needed to operationalise these (international) market linkages, which is also demonstrated by trade figures that show a low integration of Bangladesh in the international trade of agricultural products.

As was discussed in previous chapters, and what was the presupposition that had led to this research, there is a risk of smallholders not being included in (international) agricultural high value chain, when foreign or local buyers prefer to source their products from larger farmers. Increasing product demands from a food quality or safety perspective could further accelerate the development of more sophisticated agricultural value chains as well as vertical integration in those chains. This will not make it more easy for smallholder farmers to stay involved in these chains, as the costs for doing so are likely to increase.

Not only for the smallholder farmers themselves, also for buyers the transaction costs of dealing with a large group of small farmers can be prohibitive. Agricultural development projects incur part of the transaction cost on behalf of the farmers and the company with the activities that they implement to bring both parties closer together. Without these projects being there, trade will still happen but not necessarily reach the target group of these development projects, which are small farmers in Bangladesh. Increased private sector innovation in reducing these transaction costs and perceived risk of doing business with smallholder farmers



could possibly reduce the need for projects such as the ones funded by EKN Bangladesh to facilitate these linkages between (international) private sector and Bangladeshi smallholder farmers.

Another point to make here, is that the professionalization of the agricultural value chain in Bangladesh will lead to more value addition to products, meaning more grading, cleaning packaging and/or processing. All these activities will create jobs that can provide “non-farm” employment for smallholder farmers that (have to) decide to abandon their farming activities, and look for jobs in the urban areas. This way the potential “crowding out” effect of more professional and integrated agricultural value chains is (partly) forestalled.

A focus on the local business environment is also important. A lot of food bought by the BoP consumers comes from local markets and is produced locally. These short value chains need to be upgraded as well to ensure accountability with actors in the chain and awareness for consumers. Strong farmer organizations, a conducive local environment (e.g. producers / buyers network) and good quality service provision for farmers is essential for this to happen. All projects in Bangladesh have opportunities to do this through their farmer organisations.



To create success in increasing gender equality, interventions need to be more extensive than upgrading the knowledge of women in specific value chains. Women are not considered to be in leading roles and function as a labourer for the husband. For these dynamics to change, it is important to create financial ownership, ensure decision making power, and create a perception with buyers that women are capable producers / business people. Also, more focus should be on how women can combine this work with their responsibilities towards the children and in the households. Employers should be more accommodating to their situations.

### 5.2 Impact on Bangladesh policy - MASP EKN

Food safety has an important role within the current project portfolio of EKN Bangladesh and projects are aware of the importance to produce safe food. Many of the major risks around food safety arise during transportation, sale in local markets and preparation of the food. The current scope of most projects does not include major interventions on these issues. Creating a clear vision on how food safety can be mainstreamed across projects is an important next step. This should answer questions like: What to do in sectors that are not part of the Food Safety project? Who should lead awareness raising on food safety? Should educating consumers be included in all projects? Setting clear expectations will support the production and consumption of safe food in the project areas.

For future food security projects, it is recommended to make food safety and quality a more integral part of project objectives. The FAO Food Safety project is a very timely project with interesting training and other material being developed, but the risk in organizing the thematic presence like this, is that there will be too little “spill-over” effect of FAO Food Safety project outcomes to other food security projects.

With multiple opportunities for innovation, creating a good investment climate is important. The \$50,000 minimum investment is an issue for small, innovative companies that want to test or pilot new technology. Restrictions on taking capital out of the country are strict, making it difficult to transfer money back after a pilot has failed. Similar issues exist for investment funds that want to set-up in Bangladesh. Once their money is in the country, it is almost impossible to take it out.

Encouraging innovation at aggregation points is a major opportunity. Being able to test on different aspects during aggregation will be of huge benefit to farmers. It is harder to tamper with the results and the quality of produce can be determined in an objective way. Cheap tests that will support food safety tests can ensure buyers start taking this into account more. These type of tests are available, such as the low cost testing kits for dairy of Dutch company Agriprom. R&D in other sectors could lead to big opportunities within the country.

Stimulating more cooperation in the agribusiness sector in Bangladesh could help accelerate these acti-

vities. Examples from other countries have shown that the most successful examples are the ones that are implemented in public-private partnerships. The number of PPPs in the Bangladeshi agricultural sector seems to be limited, so here seems to be room for improvement. A “challenge fund” focused on Bangladeshi agribusinesses, encouraging to develop business models in collaboration with public actors, could be a step in the right direction.

### 5.3 Recommendations for further studies

There are three recommendations for further studies that can support further fine-tuning of the opportunities set out in the previous two paragraphs.

- **Understanding farmer decision making:** current assumptions on changing behaviour in agriculture depend heavily on the farmer making rational choices based on profit. Experience in other sectors (WASH, nutrition) of changing behaviour has shown that is not always that easy. Behavioral economics has shown that not all economic decisions are made 100% rational but include things like loss aversion where a possible loss is given more weight than a possible gain. An increased understanding of decision making on household level will support better design of interventions.
- **Market introduction strategies for low-cost testing equipment:** increasing opportunities to measure food quality and food safety objectively will allow traders to set prices based on these characteristics. Farmers will not have to deal with subjective tests and can count on a price fair for the quality of the product they deliver. When this is done at aggregation points, it is also ensured that food is not contaminated or adulterated when it enters the value chain.
- **Transition strategy for brokering role of food security programs:** transaction costs between retailers, food processors and exporters with small farmers are high compared to bigger farmers. The introduction of innovative business models that can keep these coordination costs low and build trust between producers and buyers will be key to reducing direct brokering support. Examples, like Fruit Republic, exist in other countries and could be a model for Bangladesh.



# References

1. Commission on Growth and Development, World Bank 2008 <http://siteresources.worldbank.org/INT-DEBTDEPT/Resources/468980-1218567884549/WhatIsInclusiveGrowth20081230.pdf>
2. Commission on Growth and Development, World Bank 2008 <https://openknowledge.worldbank.org/bitstream/handle/10986/6507/449860PUB0Box3101OFFICIAL0USE0ONLY1.pdf?sequence=1>
3. AFDB report: Inclusive Growth (2014) [http://www.afdb.org/fileadmin/uploads/afdb/Documents/Publications/Inclusive\\_Growth\\_-\\_An\\_imperative\\_for\\_African\\_Agriculture.pdf](http://www.afdb.org/fileadmin/uploads/afdb/Documents/Publications/Inclusive_Growth_-_An_imperative_for_African_Agriculture.pdf)
4. AFDB report Inclusive growth (2014) [http://www.afdb.org/fileadmin/uploads/afdb/Documents/Publications/Inclusive\\_Growth\\_-\\_An\\_imperative\\_for\\_African\\_Agriculture.pdf](http://www.afdb.org/fileadmin/uploads/afdb/Documents/Publications/Inclusive_Growth_-_An_imperative_for_African_Agriculture.pdf)
5. Article The Broker Online: <http://www.thebrokeronline.eu/Articles/Dutch-development-policy-lacks-an-alternative-economic-vision>
6. Article De Volkskrant: <http://www.volkskrant.nl/opinie/dankzij-minister-ploumen-is-er-juist-meer-armoede~a3792367/> & Article De Volkskrant: <http://www.volkskrant.nl/opinie/handelshulp-stopt-migranten-niet~a4042253/>
7. FAO, 2011. Save and Grow: A Policymaker's Guide to the Sustainable Intensification of Smallholder Crop Production. Rome.
8. IFPRI (International Food Policy Research Institute). 2005. The Future of Small Farms: Proceedings of a Research Workshop, Wye, UK, June 26–29, 2005. Washington, DC.
9. World Bank report: What can agriculture do for development? (2008) [http://siteresources.worldbank.org/INTWDRS/Resources/477365-1327599046334/8394679-1327606607122/WDR08\\_02\\_ch01.pdf](http://siteresources.worldbank.org/INTWDRS/Resources/477365-1327599046334/8394679-1327606607122/WDR08_02_ch01.pdf)
10. Hazell, P. 2009. "Transforming Agriculture: The Green Revolution in Asia." In Millions Fed: Proven Successes in Agricultural Development, edited by D. Spielman and R. Pandya-Lorch, 25–32. Washington, DC: International Food Policy Research Institute.
11. CIA factbook: <https://www.cia.gov/library/publications/the-world-factbook/geos/bg.html>
12. World Bank, results (2013) <http://www.worldbank.org/en/results/2013/04/15/bangladesh-bolstering-economic-growth-to-reduce-poverty>
13. [http://unnayan.org/reports/meu/MEU\\_March\\_2014/Final%20MEU\(Edited\)\\_29%20March14.pdf](http://unnayan.org/reports/meu/MEU_March_2014/Final%20MEU(Edited)_29%20March14.pdf)
14. <http://www.thedailystar.net/business/non-farm-activities-generate-the-bulk-rural-income-73341>
15. Overview Dutch Embassy's services in Bangladesh <http://bangladesh.nlembassy.org/doing-business/trade-and-investment/funding-and-other-support-services.html> & <http://www.nbbp.org/>
16. World Bank World development report (2008) [http://siteresources.worldbank.org/INTWDR2008/Resources/WDR\\_00\\_book.pdf](http://siteresources.worldbank.org/INTWDR2008/Resources/WDR_00_book.pdf)



17. Reardon, T., C. Timmer, C. B. Barrett, and J. Berdegue (2003). "The rise of supermarkets in Africa, Asia and Latin America." *American Journal of Agricultural Economics*, 85(5):1140-6
18. Dolan, C. and J. Humphrey (2000). "Governance and Trade in Fresh Vegetables: The Impact of UK Supermarkets on the African Horticulture Industry." *Journal of Development Studies*, 37(2): 147-76. and Henson, J., A.-M. Brouder, and W. Mitullah (2000). "Food Safety Requirements and Food Exports from Developing Countries: The Case of Fish Exports from Kenya to the European Union." *American Journal of Agricultural Economics*, 82(5):1159-69.
19. <http://www.codexalimentarius.org/standards/list-of-standards/>
20. <http://www.bsti.gov.bd/>
21. <http://www.thefinancialexpress-bd.com/2014/05/14/33873/print>
22. Brac report Food Safety in Bangladesh: Current Scenario, Challenges and Prospects (2015) <http://health.brac.net/media-news/238-food-safety-in-bangladesh-current-scenario-challenges-and-prospects>
23. <http://www.thedailystar.net/safe-food-act-to-be-effective-from-feb-1-61978>
24. For instance see Jaffee, S. and S. Henson (2005). "Agro-food Exports from Developing Countries: the Challenges Posed by Standards." In M. Aksoy and J. Beghin (eds.) *Global Agricultural Trade and Developing Countries*, The World Bank, Washington DC. , Augier, P., Gasiorek, M. and C. Lai Tong, 2005. "The Impact of Rules of Origin on Trade Flows," *Economic Policy* 20(43), 567-623., Reardon, T. and J. A. Berdegue (2002). "The Rapid Rise of Supermarkets in Latin America: Challenges and Opportunities for Development." *Development Policy Review*, 20(4): 317-34 and Unnevehr, L. (2000). "Food Safety Issues and Fresh Food Product Exports from LDCs." *Agricultural Economics*, 23(3):231-40.
25. Reardon, T., C. Timmer, C. B. Barrett, and J. Berdegue (2003).
26. For instance, see Swinnen, J. F. (ed.) (2007). *Global Supply Chains, Standards and the Poor*. Oxfordshire: CABI Publishing, Jaffee, S. and S. Henson (2005), Swinnen, J., F. M. Maertens, A. van de Plas (2010). "Governance and Smallholder Farmer Competitiveness in High Value Food Chains." Paper prepared for the World Bank-SPIA-UC Berkeley conference "Agriculture for Development – Revisited" UC Berkeley October 1-2, 2010, Minten, B., Randrianarison, L. and Swinnen, J.F.M. 2009. "Global Retail Chains and Poor Farmers: Evidence from Madagascar." *World Development and World Bank*, 2005. "The Dynamics of Vertical Coordination in Agrifood Chains in Eastern Europe and Central Asia. Implications for Policy Making and World Bank Operations," World Bank, Washington DC.
27. <http://www.fao.org/docrep/013/am307e/am307e00.pdf> page 8
28. FAO, 2011, *The State of Food and Agriculture, 2010–11: Women in Agriculture: Closing the Gender Gap for Development*; Rome, 2011 <http://www.fao.org/docrep/013/i2050e/i2050e.pdf>
29. FAO report: "Agricultural value chain development: Threat or opportunity for women's employment?" <http://www.fao.org/docrep/013/i2008e/i2008e04.pdf>
30. Ibidem
31. FAO report: *The State of Food and Agriculture (2014)* <http://www.fao.org/publications/sofa/en/>
32. <http://uk.paulmueller.com/about-mueller/the-environment/mueller-bop>
33. <http://www.southernafricatrust.org/changemakers/may2014/page2.html>
34. <http://www.jantameals.in/about-us/>



35. <http://bopinc.org/our-projects/women-as-inclusive-business-partners-all-cases>
36. <http://bopinc.org/our-projects/women-as-inclusive-business-partners-all-cases>
37. ibidem



