

# Horticulture Fact Sheet

**Working Document**



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This working document has been prepared by Wageningen UR Centre for Development Innovation in collaboration with the Sustainable Trade Initiative (IDH) for the “From the Islands of Success to Seas of Change” WHAT WORKS WHEN SCALING INCLUSIVE AGRI-FOOD MARKETS? event held on April 11-13, 2012 in The Hague, The Netherlands. The event was organized and supported by the following partner organizations:



The views expressed in this document are those of CDI and IDH and do not necessarily reflect the views of the partner organizations.

## Key Highlights:

- Vegetable crops, including root and tuber crops, are the second most important group of crops produced worldwide, after cereals.
- In some countries agriculture-growth potential is more strongly linked with diversification into high-value horticulture crops ( e.g. Morocco nucleus farms).
- Horticulture can be significant in terms of inclusiveness of small farmers: It can be very profitable with very limited landholding. It can be managed by family labour, without entailing additional labour costs.
- In East Africa the horticulture sector is growing fast. There are successful examples in which local producers, engaged through contract farming agreements (outgrowers) with large exporters, have been equipped with necessary capacity, market access, financing, and in turn have diversified their crops and source of revenues (example: Africa Juice).
- Traceability is also crucial to promote inclusiveness and scale it up. Interesting examples are offered by Eosta (the Nature & More "trace and tell" system) and Fairfields.
- Export oriented agriculture has produced a series of important spinoffs to the local economy (crop rotation, diversification of crops, introduction of more sustainable practices, such as for instance drip irrigation for the fields).
- Overall the impact on farmers' livelihoods has been positive. Successful new business models are based on: The presence of a strong intermediary to drive procurement, quality and efficiency, a combination of training with technology packages to improve farmers' productivity and livelihoods, the establishment of a clear ethical link between buyers and producers.
- It is important to look at the opportunity of inclusion through employment of land less labourers in large estates.
- The main challenge for scaling up inclusion of small farmers in horticulture is their difficulty in meeting food safety standards and in turn reluctance of supermarkets and exporters in engaging with them.
- Inclusion of smallholder farmers can be favoured and scaled up through the services of an 'ethical agent' who brings specific expertise in facilitating the flow of information and overcoming coordination problems along the chain.
- Scaling up inclusive business in horticulture requires a safe platform of dialogue with all actors engaged (e.g. EOSTA: Sustainable Pineapple Association).

## 1. Main highlights of horticulture production, trade and consumption: Which are the potential and challenges of the sector?

- Vegetable crops, including root and tuber crops, are the second most important group of crops produced worldwide, after cereals. Their global production exceeds 1 billion ton every year. "Root and tuber crops" correspond to a wide cross-section of subterranean storage organs such as root, tuber, rhizome, corm and bulb crops. Root and vegetable production has quite kept pace with population growth in the last decades. Today more than ever, the production systems around the world raise a number of economic, social and environmental concerns.<sup>1</sup>
- About 180 types of fruits are commercially grown worldwide, representing a global production of almost 600 million tonnes per year. While on average 60 per cent is consumed in the country of production, 30 per cent is processed and 10 per cent is exported without transformation. Melons constitute around one fifth of fresh fruit production worldwide, followed closely by citrus fruits, bananas, apples, pears, grapes, peaches, pineapples and mangoes. For fruits which are processed into juice, oranges represents over one third of the total, followed by apples, grape fruits, grapes and pineapples.<sup>2</sup>
- In many African countries, a range of horticultural products, including beans, bananas, potatoes, cabbage, chillies, onions, papayas and mangoes, passion fruit are cultivated by small scale farmers who sell their products to intermediate traders and transporters.
- **In some countries agriculture-growth potential is more strongly linked with diversification into high-value horticulture crops, see box 1.**

### Box 1. Focus on High impact initiatives

In 2007, Morocco shifted its focus from supporting staples to investing in a few high-value crops that could accelerate GDP growth while raising income for smallholder farmers. The country is more than halfway to its target of converting 300,000 hectares of land from cereal to citrus-fruit and tomato cultivation, among other high-value crops. In the fruit and vegetable sector, the government has developed an aggregation program for smallholders. The program revolves around a nucleus farm, with 50 hectares of land leased by the government to a commercial farmer who makes a commitment to work with surrounding smallholders through an "outgrower" program. Morocco created an agricultural-development agency to encourage and direct these investments and manage the contracts. One of the government's key roles has been ensuring equity in the relationship between outgrowers and nucleus farmers. More than 30 aggregation partnerships have been launched since the program began, in 2009. Another success story comes from Ethiopia, which decided in the 1990s to invest in sesame and cut flowers for export. Close collaboration between the government and the private sector enabled strong year-on-year export growth in an otherwise stagnant agricultural sector. Oilseeds and flowers are Ethiopia's fastest-growing exports, the latest statistics show. Ethiopian export horticulture is developing at a unique and unexpected high speed. In 2000, only 9 ha of land were under flowers, and this has increased to over 1,200 ha in 2008, with more than 80 flower growers. More than 90,000 jobs have been created in and around these flower farms. Ethiopian exports of fruits, vegetables and herbs have been limited but, with new investors coming in, these are

<sup>1</sup> Sustainable Agriculture Initiative - <http://www.saiplatform.org>

<sup>2</sup> Sustainable Agriculture Initiative - <http://www.saiplatform.org>

now growing strongly. Both in Europe and the Middle East a growing interest exists for products from Ethiopia. The Government of Ethiopia gives high priority to the development of the horticulture sector and in 2008 the Horticultural Development Agency has been established with a specific focus to promote and support the further development of the horticulture sector.

Senegalese and Malian small farmers have scaled up horticultural production and formed export clusters, as demonstrated in the Niayes region in Senegal and the Office du Niger zone in Mali. Thanks to the large irrigation possibilities along the Senegal and Niger Rivers, horticultural sectors in these two countries have high growth potentials. From 2006, Senegal quadrupled its fruit and vegetable exports to Europe, while Mali almost doubled, albeit from small bases. Policies in the two countries should take into account the sector's entrepreneurial visions and needs. Deepening public-private sector dialogue will help the private sector seize emerging agribusiness opportunities.

## 2. How is inclusiveness tackled? Which approaches and models are demonstrating (elements of) success?

### **Horticulture can be significant in terms of inclusiveness of small farmers:**

1. It can be very profitable with very limited landholding. For instance as emerged from the New Business Model case study on the flower sector in Kenya (illustrated in box 2): "Flower growing is relatively high value and, by comparison with flowers grown under cover on an industrial scale, the 'summer' flowers grown within a smallholder farming system are relatively low risk and low cost. Smallholder growers needed only to dedicate a quarter of an acre of their farm to flower growing in order to reap the equivalent rewards of more than two acres of tea, the next most profitable cash crop."<sup>3</sup>
2. It can be managed by family labour, without entailing additional labour costs. Again in the case of flowers, they offer a good opportunity for a second household income led by women, since flower cultivation is not intensive or strenuous. In another crop, such as green beans for instance, small farmers apply high skills for cultivation that would not suit large estates.
3. Demand for horticulture products is strong and is increasing.

### **In East Africa (particularly in Ethiopia and Kenya), the horticulture sector is growing fast.**

There are successful examples in which local producers, engaged through contract farming agreements (outgrowers) with large exporters, have been equipped with necessary capacity, market access, financing, and in turn have diversified their crops and source of revenues (see box 2).

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<sup>3</sup> Source: A. Buxton, B. Vorley, S. Homer and W. Van Bragt (October 2011) NMB case study: The Role of ethical agents: Fresh Flowers in Kenya

## **Box 2. Highly inclusive outgrower scheme in the flower sector in Kenya: the case of Wilmar**

An interesting case in point is the one of Wilmar Agro Limited, a Kenyan company which aggregates out-of-season ('summer') flowers from 2500 contracted smallholder growers for the Dutch flower auctions, using a highly inclusive outgrower scheme. Indeed, although a profit-driven business, the business owner had a strong social mission and was investing in his growers' wellbeing with a network of dedicated extension agents, bank accounts for each grower, and monthly producer group meetings, the company promoted natural resource management (including water harvesting and composting systems for food security crops). Wilmar not only cared about his growers, but also recognized that they were the heart of his business. Against growing success, the grower base expanded. At the time this project started, tea and coffee had been falling in the value for some time –and flowers offered a quicker turnaround than investing in commodities that would only yield a return after some years. For these reasons, an increasing number of farmers in the areas on which Wilmar worked had been keen to start growing flowers. Wilmar's development was however, limited by their market. The Dutch auctions established prices based on supply and demand – more growers and more volumes inevitably meant lower prices for all. Wilmar needed new markets, and given the Dutch auction's monopoly on the flower trade, these needed to be more direct routes to supermarkets. Box 8 analyses the shift from supplying wholesale to supplying retail.

Source: A. Buxton, B. Vorley, S. Homer and W. Van Bragt (October 2011) NMB case study: The Role of ethical agents: Fresh Flowers in Kenya

## **3. What are key incentives in the approaches that drive that success?**

**Inclusiveness should be seen as an integral part of how you do business.** “By focusing on how you can maximise the benefit for local communities and the environment, businesses can help to address some of these challenges while also increasing returns for their shareholders”. This is the philosophy behind the creation of AfricaJUICE, a tropical juice company in Ethiopia. The idea behind was born in 2005, when some agricultural experts working in Ethiopia recognized the potential that certain regions had for high value horticultural production. BusinessMinds, an incubator company that develops, finances and operates sustainable commercial ventures in Africa, joined these highly experienced horticultural and agro-processing experts in mid 2006 to help turn the idea into a viable and sustainable business model (see box 3).

## **Box 3. The africaJUICE Tibila Share Company: aiming to become the first Fair Trade tropical juice company in sub-Saharan Africa**

The africaJUICE Tibila Share Company in Ethiopia is a tropical fruit production and processing facility for export into the European and Middle Eastern markets. As an integral part of developing a successful business, the aim was to create a project at the leading edge of sustainable development and a model of how foreign direct investment could be delivered in one of the poorest countries in the world: through Fair Trade operations, adherence to International Labour Organisation standards, community participation in the business, promotion of over 1200 ha of community outgrower farmers and a low carbon-footprint operation. BusinessMinds created africaJUICE BV, both as a vehicle to deliver the first project and with a vision to develop further fruit production and processing companies across Africa, and sourced, negotiated and finalised the equity and debt financing for the business plan. At the same time, it entered into negotiation with the Ethiopian government and in November 2008 signed a Joint investment Agreement which led to the creation of the africaJUICE Tibila Share Company in Ethiopia as the operating company to implement and operate the first project on the ground. The company took over operations of a 1300 hectare former state-owned farm in April 2009. The first juice was produced in November 2010 with production expected to reach over 15,000 tonnes per annum by 2015. The potential of this business

model lies in the fact of having identified a growing, under-served market which offers substantial product and geographic expansion opportunities, and is built on a replicable execution approach. Another novelty of this business model is that BusinessMinds, through AfricaJUICE BV remain involved in the business to monitor and ensure its sustainability. Africajuce BV owns about 81 per cent of the equity, 14 per cent is owned by the government and 5 per cent is owned by the local cooperatives. In addition, africaJUICE aims at providing local communities with a genuine share of the success of a project by, for example, offering a stake in the new business so they become part-owners and can use the income generated to invest in their own development.

#### **Box 4. Why farming with Small farmers groups: The experience of Hillside Green**

- Hillside Green is a family export company that was founded in 1998 with a clear mission; to farm and export fresh and healthy fruits & vegetables to the global market. Hillside specializes in three product segments: Exotic vegetables, Fruits, Asian Vegetables. Hillside Green produces 30% (of all its products) on its own farm, 50% are produced by smallholder farmers, 10% is through individual contract farmers and 10% through middlemen/ brokers. The benefits of working with smallholders include:
- Smallholder farming is more cost effective. This is because risks are spread and shared by both exporter and farmer
- The cost of producing vegetables is taken by labour. In rural Kenya there is employable cheap, especially the unemployed youth
- Creating farming opportunities for the rural results in transfer of disposable income to the farmers. Usually there is here is marked transformation of life style in the rural areas where horticulture farming is practiced – eradication of rural poverty.
- Farmers groups farming has an effect of addressing food shortages and ascertaining there is food security areas where horticulture is taking place as farmers have access to easily earned incomes compared to seasonal crops such as maize and wheat farming.
- This strategy works to mitigate food security shortages as farmers are trained to embrace good agriculture practices such as crop rotation.
- There is evidence of mentorship taking place as young energetic farmers are taking the challenge and indeed commercializing farming.
- Areas endowed with horticulture farming have signs of appealing to Ngos, and support to scale up farming as opposed to areas where large scale farmers have dominated.
- Smallness of parcels of land means the farmers are able to consolidate production, through the farmers group concept, the exporter(hillside) the seeds, the agronomical skills, the training, the market, the transport for the commodity, and many a times the credit facility to be able to keep the production wheel spinning.
- Where farmers groups are well organised and there are set systems of internal governance, other stakeholders such as chemical sellers, fertilizer companies, or loan providers will usually come on board thus synergizing the relationships. This certainly minimises exporter's responsibility, more important it is a catalyst for increased productivity.

- Key strategy for hillsides commitment to work with small scale farmers is to facilitate a change from taking farming professionalising it as a source of employment to the many youths looking for jobs. In any case Kenya is agricultural economy, and it's our belief that farming with smallholder is key to economic growth.

Source: Eunice Mwangera, CEO Hillside Green

**Inclusiveness should build on transparent and long term relationship.** The africaJUICE T.S. company works with about 1200 hectares of outgrowers and has launched the Outgrower Incubator Project. The objective of the project to develop a group of Fair Trade registered outgrowers (about 1000 by 2015), organised in a self-sustaining cooperative structure, which can supply passion fruit and other tropical fruits to the company under Fair Trade terms. Existing outgrower farmers have signed agreements with africaJUICE which incorporate key Fair Trade principles and include a minimum price and an offtake guarantee as well as a fair and transparent pricing mechanism that is linked to the realized prices for passion fruit juice and concentrate in the global market. This outgrower organisation is also supported in accessing to commercial debt finance in order to make its investments and to grow the size of the cooperative structure. In particular an Equity Share Scheme will be implemented by end of 2012 to allow access to larger loans for drip irrigation.

**Traceability is also crucial to promote inclusiveness and scale it up.** As emerged from the literature, inclusive models have been implemented successfully with perishable commodities such as fresh fruit and vegetables which require traceability and have higher food safety risk profiles. Many Companies are increasingly engaged in promoting traceability and more transparency in the supply chain of horticultural products. Interesting examples are offered by Eosta and Fairfields (see box 5 and 6).

#### **Box 5. Eosta: The Sustainability Flower**

Eosta is an international distributor of organic fresh fruits and vegetables. The company made important efforts to promote ecological and social responsibility launching the Nature & More "trace and tell" system. Within the system, a unique set of protocols on product, ecological and social quality has been developed. A Sustainability Flower has been designed as a web based navigation tool to communicate to retailers and consumers, the ecological and social performance of Eosta's growers. It provides quantitative and qualitative data in terms of: respect of human rights, fair trade and employer safety, energy use, wildlife protection, watercourse protection, sustainable soil management, bio diversity.

#### **Box 6. The experience of Fairfields**

Many fair trade initiatives in various product groups (e.g. bananas, cut flowers) have been in existence for years and have a well-recognised Max Havelaar label. Fairfields company is making a new contribution under this international Fairtrade label to this growing area: fresh fair produce.

The initiator of this initiative was an expert of the sector that acknowledged that there were no spinoffs on business initiatives in horticulture for the local producers. FairFields In collaboration with ICCO has explored opportunities for small farmers in developing countries to expand their sales to the international market with a new product in the Fairtrade segment.



Fairfields currently import snow peas, sugar snaps and haricots verts produced by Kenyan small-scale farmers for the European market and sell it at a stable price. That way the farmers receive a fair price for their produce, enabling them to support themselves and organise production for the coming season. Moreover, the farmers' group receives premiums for the sold Fairtrade products. These premiums are saved up for investment in local social products or production improvement measures that benefit the entire farming community. The mission of Fairfields is to allow traceability and more transparency in the supply chain of fresh products so that the consumers can find out exactly which farmers' group grew a specific produce. They provide full information on the origin of their products in order to give food a face and a story. In Kenya, Fairfields has been working since 2008 in collaboration with Tropical Fresh to support about 200 farmers. The impact so far has been significant in using the premium income of the cooperative to invest in social improvements (maintenance of the local roads), in addition important initiatives have been made to set up centralised agro-vegetable shops which provide pesticides and fertilisers.

They are planning to extend their model to Ethiopia in 2012 and in the long term they are looking at expanding their fair trade to Guatemala and other countries in order to give small farmers a chance to participate on the worldwide market and deliver their products to the European consumer.

#### 4. Which are the challenges to increase inclusiveness of small farmers?

**The opportunity for inclusiveness of small farmers depends however on the type of crop involved: each horticulture chain needs its own approach.** The case of Willmar of engaging smallholders in flower production is quite an isolated example. Normally, in the horticulture sector quality and safety issues as well as the importance of economies of scale make it more profitable to run the business on large estates. It needs well developed infrastructure (drip irrigation, greenhouses, and good agricultural practices).

**The space for smallholders is constrained by market requirements in terms of consistent quality and availability which calls for organisation and aggregation of supply and quality control.**

The case of BioExotica in Ghana, a supplier of EOSTA, shows for instance that growing pineapple is not well suited for smallholders especially due to need of meeting the necessary quality requirements set by supermarkets. In addition it is crucial that the cultivation is done close to the farms (for packaging, pre-cooling, transport, etc.) In BioExotica the business model is centred on a big farm (they have about 40 hectares under production out of 110 hectares of land), for the remaining hectares the plan is to attract smallholders to grow pineapple in the farm through renting individual plots.

Where the issue is not about food safety, it is about reliability of supply and the adherence to phytosanitary standards. Quality and reliability are as good as the worst supplier. In addition for retailer it is crucial to ensure continuity of the supply. If the scale of production is higher it can be less vulnerable to supply problems.

Also according to the experience of Fairfields, the main challenge is to monitor and offer buyers products with standards for traceability, product safety and quality (many farmers source products from

other farms when they are short of supply) and products which demonstrated residue-free production. It is crucial that the exporter, in the case of Kenya, Tropical Fresh Produce invests in monitoring and testing activities. In particular, Fairfield and Tropical Fresh Produce will invest more in setting up a proper Field Management System with agronomists in charge of training on good agricultural practices and monitoring and testing farmers' activities. In order to guarantee residue free production and good quality produces in Ethiopia, Fairfields plans to set up collaboration with large Dutch farm which will provide training to small farmers in good agricultural practices.

## 5. What is the scale of impact that is being achieved, in terms of Expansion of local/regional market and food security? And improved farmers'/workers' livelihood?

### **Export oriented agriculture has produced a series of important spinoffs to the local economy.**

One important spillover of export oriented horticulture is that products for Europe need to be grown with rotation, therefore this leaves space for crops suitable for local sales (for instance sweet potato or ginger). In addition, through the provision of inputs and training by the exporter, the soil quality improves. There are positive spinoffs also thanks to the introduction of more sustainable practices, such as for instance drip irrigation for the fields (see box 7). This enables farmers to water and feed the plants more specifically and therefore more sustainably. This has two immediately demonstrable advantages: conserving water for the farming communities and providing better nutrition for the plants, and therefore more even cultivation and production and better ability to estimate the harvest, which generates more income spread over the production year. This is the experience also of africaJUICE outgrowers which in rotation with passion fruit plant vegetables for the local market. Outgrower farmers involved in passion fruit production are provided commercial loan from local bank to finance water delivery system and drip irrigation system. This allows them to diversify their income through the planting of onions and tomato for the local market.

### **Box 7. JAIN IRRIGATION SYSTEMS' INCLUSIVE BUSINESS MODEL**

JISL is the world's largest processor of pureed mangos and third-largest in dehydrated onions, and over the years, has expanded into bananas, guava, pomegranates, papaya, and tomatoes. The company has establishments in India, the Middle East, Europe, Australia, Central and South America, and the United States. Within India, JISL is the largest provider of micro-irrigation systems — with a 55% share of the drip irrigation market and a 35% share of the sprinkler market. Centred on agriculture, JISL's business model makes almost a full circle through the value chain. The company provides farmers with micro-irrigation systems (MIS), seeds, and other inputs to produce more and better crops and then purchases fruits and vegetables through its food processing division. In this way, Jain's inclusive business reaches farmers as both consumers and producers.

DRIVERS FOR JAIN IRRIGATION SYSTEMS' INCLUSIVE BUSINESS MODEL: • Market opportunity for MIS which increases productivity and income for farmers, enabled by government subsidy • Need to ensure consistent quality and quantity of produce for processed foods for export • Buyer and consumer concerns regarding food safety and farm-level practices • Water scarcity and low productivity of farmers in JISL's supply chain.

RESULTS OF JAIN IRRIGATION SYSTEMS' INCLUSIVE BUSINESS MODEL: • 35,000 tons of onions procured from 1,800 contract farmers in 2008, of which 90% are small farmers; JISL expects to increase the area under

contract farming to 6,000 acres by 2012; • Ensured market and increased income by \$300-400 per acre for onion farmers; • Farmers using MIS are increasing net incomes by \$100 to \$1,000 per acre due to efficiency gains; • Estimated reduction of 500 million cubic meters of water per year through JISL drip and sprinkler irrigation, compared to flood irrigation.

Source: IFC (2011) Inclusive Business Models — Guide to the Inclusive Business Models in IFC's Portfolio

**Prospects for scaling up regional market access:** The EU is still the largest global importer of fruits and vegetables. The entry barriers for new suppliers are high due to stringent quality requirement and high food safety standards. The European market of horticulture products is almost saturated (it grows at less than 1 per cent a year) while the potential for local /regional market in East Africa countries is growing by more 4 per cent a year and additional growth may be achieved through import substitution.<sup>4</sup> Income levels and population particularly in the East and Southern Africa region are still growing and as a result the demand for fresh fruits and vegetables in the urban areas is still on the rise. For instance, Jittu Farm (a vegetable and fruit producer) in Ethiopia provides big buyers (Carrefour Middle East and other players in the Netherlands) with high quality horticultural produces and sells the sub-standard products on local market.

The experience of Central America shows more mixed results in this respect. While the sale of substandard vegetables from Ecuador has addressed growing demand of urban consumers, in terms of regional markets it has penalised farmers of Honduras and Peru which were not able to compete efficiently with vegetables from Ecuador. Ecuador's produces are much more advanced in terms of quality and more competitive in prices.

Hillside Green has grown rapidly by differentiating products for Europe, Middle East and local market. It is a leading exporter to Dubai, Kuwait and Qatar, and also exports niche products into UK, Holland (Avocado) and, Norway (Asian vegetables). Currently the company is targeting the COMESA regional market.

**Overall the impact on farmers' livelihoods has been positive:** The Sustainable Food Laboratory Case study on upgrading the horticultural supply chain in Ethiopia (see box 8) shows that farming families earned roughly twice as much income from sales of white beans for export than they would have earned from the next widely grown crop in that area, sorghum. With average incomes of just US\$630/year, income from beans provided a significant percentage (15-20%) of household cash income. With 81% of Ethiopians living below the poverty line, this was an essential means of buying cheaper foods at the local market. Other positive results in terms of impact on yields and farmers' yields are shown by the africaJUICE Outgrower incubator Project (Box9).

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<sup>4</sup> Dave Boselie (Wageningen University & Research), Lemma Desalegn (Ethiopian Institute for Agricultural Research) (March 2011) Exporting fruit and vegetables from Ethiopia.

### **Box 8. Upgrading the horticultural supply chain in Ethiopia chains and working towards a ‘new business models’: lessons learned**

The Sustainable Food Laboratory, Rainforest Alliance, the International Institute for Environment and Development, the International Center for Tropical Agriculture, and Catholic Relief Services have launched the New Business Models for Sustainable Trading Relationships project (2008-2012), which aims to develop, pilot, and learn from new business models to facilitate trade between small-scale producers and formal markets in several value chains. In the horticulture sector the team worked in Ethiopia, with approximately 15,000 farmers to improve trade of white beans into retail markets in the United Kingdom. The most important lessons which emerge from this project are the following:

- **Set up a neutral intermediary:** On the demand side, the CRS facilitation team worked closely with Agricultural Commodity Supplies (ACOS), a rapidly-emerging export company with strong trading relations in Europe. Intermediaries such as ACOS are crucial in connecting Africa. The presence of a strong intermediary to drive procurement, quality and efficiency was key to successfully link informal smallholders to modern markets. The value of the intermediary is that it provides a major aggregation point and a viable business link to industrial scale importing companies.
- **Combine training with technology packages to improve farmers’ productivity and livelihoods:** At the farm level, CRS worked with researchers and farmers to increase levels of production by organizing farmers into marketing groups, and then providing them with a technology and training package on good agricultural practises. Farmers who used the upgrading package successfully increased bean incomes from \$160 to \$230 for a typical half hectare plot. The combination of seed and training in good agricultural practices led to production increases of 50-100% over baseline figures, a change from baseline productivity 0.7 mt /ha to 1.4 mt / ha.
- **Get the trade ethical story right:** Buyers increasingly demand for products that could show a clear ethical link between buyers and producers, especially product stories that associated ‘fair trading relations’ with smallholder producers. By introducing higher-yielding varieties and by providing training in good agricultural practices, the team was confident that they would be able to show clear farmer benefits, thereby creating a compelling ethical story that would help market the beans in the future.

Source: Don Seville et al. (2011) DRIED BEANS IN ETHIOPIA: INCREASING FOOD SECURITY THROUGH TRADE

### **Box 9. africaJUICE Outgrower Incubator Project: Evidence on increase in yields and farmers’ income**

Two years after the creation of the africaJUICE Tibila Share Company, a review of progress in yields and farmers’ income from passion fruit growing have given the following results:

- Performances of plots in terms of yield vary from 3.7 to 0.3 tons / ha /month. The best performer, achieved 3.7 tons / ha / month, substantially higher than the target of 2 tons per ha per month.
- Income exceeded 10,000 ETB (about 430 eur) per month. The benefits from passion fruit growing has been directly translated to social development – better education for children, better healthcare and better housing. The best performer will now plant additional passion fruit, without financial support of the project.
- Average productivity of all the plots is around 1.6 tons / ha / month, which is however expected to increase with more care for the plants, as farmers have realized the value passion fruit can bring.
- Taking average productivity of the plots and labour and other operational costs, farmers can achieve gross margin of around 45% on average. Based on these gross margins, the smallholder farmers can aim to achieve an annual gross margin of close to 100,000 ETB (eur 4290) per year.
- On the basis of these promising results, the company aims at having over 700ha of passion fruit grown by local farmers by the end of 2015. In addition it aims at expanding outgrower project to other crops: pomegranate, citrus, acerola, avocado covering more than 2000 ha.

**It is important to assess the benefits to rural economic development and poverty reduction of smallholder versus wage labour models in the horticulture sector.** Interestingly, ongoing research by Oxfam UK shows that the flower industry in Kenya offers good opportunities of inclusions through employment of land less labourers. When comparing strengths and weaknesses of farm incomes for smallholders relative to wage employment on large-scale flower farms, evidence shows that the poorest segments of small farmers (landless farmers, women) could be better off thanks to a reduction in risk, a minimum wage guarantee, and a provision child care.

**Which is the impact of certification on farmers?** Certification if appropriately managed, does not only offer income opportunities but as well the chance to introducing sustainable agricultural practices with positive impacts on farm economics, the environment and social networks. However, two questions still remain unanswered: to what extent small-scale farmers in developing countries are likely to be squeezed out of global value chains and which capacities need to be built to enable smallholders to seize opportunities from access to higher value markets ruled by Private voluntary standards. Even though small-scale farmers contribute major shares to fresh produce destined for export and for the local processing industry in many developing countries and even if they derive significant levels of income in return, smallholders are especially challenged with achieving certification. The main concern is that the costs of compliance render smallholder production unfeasible. As a consequence, customers who previously bought from small-scale farmers, may switch to either sourcing from larger farms or from fully-integrated own production.

Until recently discussions on the effects of standards on small-scale farmers centred on the risks of exclusion, nurtured by figures from Kenya showing dramatic declines in smallholder participation in vegetable exports. However, evidence is growing that compliance with standards can as well enhance competitiveness of smallholders and support their participation in global supply chains. Even if data are not yet available, reports on increased productivity as well as reduced input costs and rejects are not any more only anecdotic. These findings can be confirmed by recent studies reporting for example that "... the returns on the associated investments in terms of export sales growth are considerable. ... Given that firms in the survey tended to procure a significant proportion ... from small outgrowers, ... we might reasonably expect appreciable 'knock-on' benefits to small producers."<sup>5</sup>. Experience suggests that in order to scale up certification (i) standard regulations have to be adapted to the actual risks of smallholder production; (ii) technical and managerial capacities need to be built; and (iii) initial investments as well as recurrent costs of compliance need to be made affordable for smallholders or, at least partly, be borne by business partners reaping fruit from smallholders' low-cost, labour-intensive production.

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<sup>5</sup> Henson, S., Masakure, O. and Cranfield, J. (2009): Do Fresh Produce Exporters in Sub-Saharan Africa Benefit from GLOBALGAP Certification? International Food Economy Research Group, InFERG Working Paper No. 2\_FT, University of Guelph, Canada.

## **Box 10. Challenge and opportunity for smallholder inclusion: the case of GLOBALGAP**

With a view to easing compliance for small-scale farmers, GLOBALGAP has envisaged group certification. A group certificate implies some advantages: auditing costs and centralised investments (e. g. pesticide store) can be shared among group members; exchange of information and capacity building can be delivered more straightforward through the groups; and, the motivation to comply is boosted by the groups' peer pressure on members since failure of one member would affect the entire group. It can well be assumed that group certification is more feasible for small-scale producers and can hence contribute to reducing the risk of smallholders' exclusion from (global) value chains. There is evidence from a recent post-pilot evaluation in Ghana and Kenya that the majority of pilot farmers increased their incomes through increased productivity, reduced production costs and rejects and that the membership in several pilot groups increased. In addition, farmer groups also realised considerable non-financial benefits. As reported in other studies, benefits of GLOBALGAP include the production of quality produce, improved field hygiene, better knowledge of pesticide use, and wider farm management benefits. In truth, many of these so-called non-financial benefits are quantifiable; access to trade credit or higher quality inputs will improve farm efficiency and yields. Further benefits have been gained through supply chain relationships that might accompany certification. For example, contracts enable some [smallholder groups] to access trade credit through designated input sellers for seeds, fertiliser or chemicals. A major issue in the promotion of GLOBALGAP certification is that the benefits are difficult to predict while costs incur immediately. However, aspiring to promote certification, it is necessary to inform farmers on probable benefits and costs of group certification to assist them take informed business and investment decisions. This especially holds true for resource-poor and risk-averse smallholders. While the pilot project without doubt achieved some remarkable results, the actual impact will only be measurable in a couple of years. Are the smallholder groups capable of maintaining certification? Can the groups sustain their ICS without external (donor) support? Has certification contributed to better access to markets for small-scale farmers? Do smallholders benefit from certification and integration into the food supply chain? Emerging lessons suggest that in order to scale up group certification, it is necessary to identify: convincing incentives by analysing realistic cost-benefit ratios and solutions for sustainable financing of initial investments and recurrent costs of compliance and (iii) buyers (exporters or PMOs) capable to assuring access to markets, committed to contracting smallholder farmer groups and willing to supporting certification through embedded services. In addition, the focus needs to be placed on group selection and group development.

Source: GIZ (2011) Integrating Smallholders into Global Supply Chains GLOBALGAP Option 2 Smallholder Group Certification Generic Manual: Lessons learnt in pilot projects in Kenya, Ghana, Thailand and Macedonia

## 6. What are the constraints and opportunities to further upscaling?

- **Main obstacles for scaling up inclusive business in horticulture:**

- General supply side constraints: low productivity, insufficient technology and know-how, underdeveloped domestic markets, poor basic infrastructure and ineffective administrative procedures.
- Lack of systemic government support-(e.g. in Kenya there is no agricultural policy that promotes horticulture industry despite its importance as foreign currency earner)<sup>6</sup>
- African farmers and exporters face stringent food-safety requirements (e.g. residue level, traceability, sanitary and phytosanitary standards) in developed-country markets.
- Difficult for small farmers to adapt quickly to the pull culture of supermarket
- High risk involved in producing without certainty of retailers' demand.
- Steeped cost of keeping to and harmonizing the changing industry standards (global gap, BRC, Fair trade etc)
- Highly priced costs of inputs and weak seed systems. To help strengthen the seed sector, and to support a more sustainable seed transfer process, it is crucial to provide farmers with seed loans.
- Sustainability challenges: Water usage, waste and carbon foot print. Sea freight can be a possible alternative to air freight for horticultural produce to the international markets

**The efforts to improve inclusion are expected to be done at the supplier rather than retailer level.** According to the evidence emerging in East Africa and Central America, trading with supermarkets is not always a highly profitable option for smallholders, once all the extra costs and risks are factored in. Despite a stated willingness to open their business to produce from developing countries, most supermarkets are extremely unwilling to adapt their operating procedures to the real restrictions faced by smallholders and SMEs, beyond the pilot period.<sup>7</sup>

**Horticulture is a particularly difficult area as traceability and integrity are crucial.** Supermarket gain or lose all their reputations with fresh products. The main concern of supermarket is product integrity and risk reduction. Developing-country small and medium enterprises that supply produce from smallholders face huge challenges in aligning their businesses with those of a demanding, high-value, high-specification supermarket. Indeed supermarkets are a 'pull' market, with high expectations for consistent orders and no deviations tolerated from agreed volumes and specifications. For an SMEs to be successful in supplying supermarkets beyond a limited pilot, the retailer would expect them to make the progression to deliver technical innovation, new product development and year-on-year cost reductions and efficiencies.<sup>8</sup>

According to distributors, the limited quantity of certified produces bought as well as the stringent margins applied do not allow farmers to improve the sustainability of their crop (for instance by investing in good agricultural practices). In addition, planning of production and related investment (e.g. passions

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<sup>6</sup> Interview to Eunice Mwangera, CEO Hillside Green

<sup>7</sup> A. Buxton, B. Vorley, S. Homer and W. Van Bragt (October 2011) NMB case study: The Role of ethical agents: Fresh Flowers in Kenya

<sup>8</sup> Ibid.

fruit's harvest is about 9 months after plantation) are hampered by the uncertainty related to retailer's demand.

As per Oxfam and Sustainable food Lab analysis<sup>9</sup>, in order to underpin sustainable trading relationships that ensure both corporate and smallholder value, it is crucial to establish **Fair and transparent governance of the supply chain**. This allows to achieve better quality and consistency of production, and more stable benefits for producers. The agreed terms of trade, quality standards, and pricing structure (such as premiums for high quality and penalties for poor quality) must be clear throughout the chain from the outset. Clear on-farm management standards and incentives are important in promoting sustainable social and environmental practices on the farm.<sup>10</sup> For instance, Cuatro Pinos, a Guatemala-based co-operative, offers non-member producers a 'turn-key' advanced fixed-price contract and provides inputs on credit and technical assistance. This fixed price contract has been shown to consistently return 7–10 per cent above the spot price market.

Scaling up calls also for **Strategies to share risks** (such as bad weather, transport losses, and last-minute changes in customer demand) **more equitably** throughout the chain. These include micro-insurance schemes against bad weather, supply chain risk-management funds, and shared investments to improve the functioning of the chain. For example, Cuatro Pinos of Guatemala and LA Salad of the USA jointly managed an innovative risk-management mechanism. By taking a fixed percentage of all sales, this allowed the companies to guarantee payment to farmers, even when they did not receive the goods ordered due, for example, to logistical or weather problems. In a case study of indigenous vegetables in Kenya, the presence of a Saving and Credit Cooperative (SACCO) as a sub-committee of the farmers group allows the farmer organization to pay the farmers upon delivery despite the supermarkets delayed payment. The SACCO is based on farmers' contributions but also benefits from NGO support (Family Concern) in case of accumulated delays.<sup>11</sup>

Another interesting example is offered by a supermarket chain in Sri Lanka which succeeded in reducing its prices to customers while simultaneously increasing the incomes of its suppliers of passion fruit by improving chain efficiency (box 11).

### **Box 11. Cargills Ceylon Ltd – Lead actor in a buyer-driven value chain**

Cargills is a supermarket chain in Sri Lanka interested in securing reliable supplies that can be retailed competitively. With the support of existing service organizations, the company initiated an out-growers programme designed to meet its annual requirements of passion fruit by giving farmers an assured market at remunerative prices (not less than 120% of production costs). Cargills provided free seeds and its agricultural extension staff provided technical support from production to harvesting, including training in technologies that would reduce post-harvest losses. Chain efficiency was further improved by: (a) eliminating middlemen; (b) improving logistics to reduce transport and handling costs; and (c) improving capacity utilization at the processing plant.

<sup>9</sup> Oxfam (2010) Briefings for business No 6, "Think Big. Go Small. Adapting business models to incorporate smallholders into supply chains". International edition

<sup>10</sup> Oxfam (2010) Briefings for business No 6, "Think Big. Go Small. Adapting business models to incorporate smallholders into supply chains". International edition

<sup>11</sup> IIED (2011) Reconnecting Markets: Innovative Global Practices in Connecting Small-Scale Producers with Dynamic Food Markets, Edited by Estelle Biénabe, Julio Berdegué, Lucian Peppelenbos and John Belt



The number of farmers in the programme has increased from 50 in 2001 to 350 in 2010 and production has increased from 50 to over 300 mt. The farm-gate price paid to farmers is 67% higher than the traditional supply chains for fruits and vegetables (from USD 0.13/kg to USD 0.22/kg). Farmers working with Cargills are receiving 55% of the final retail price, compared with only 27% through the traditional channels.

In the proposed National Agro-enterprise Development Programme (NADEP) in Sri Lanka, Cargills has agreed to: (a) register all contracts in the names of the farmers, women as well as men; (b) use part of the sales proceeds to establish a community welfare fund; (c) manage a network of 100% farmer-owned primary processing centres (washing/sorting/primary processing) with a view to maximising local value-addition to increase farmer incomes and, at the same time with Cargills managing the processing centres, the managerial risk is reduced; location of these processing centres near the production areas will enhance chain efficiency by ensuring that poor quality fruit is rejected early and by reducing costs of transporting excess water as only pulp will be transported; (d) provide employment to project-trained landless people; and (e) play a lead role in developing the dried fish value chain to exclusively benefit women.

Source: IFAD Thematic Study: Pro-Poor Rural Value-Chain Development

**Scaling up inclusive business in horticulture requires a safe platform of dialogue with all actors engaged**, which on one hand could give assurance to retailers that they can work with smallholders, and overcome their concerns of side selling and food safety while at the same time farmers are given guarantee of minimum purchases from supermarket. Working in this direction, EOSTA is launching the Sustainable Pineapple Association which aims at creating a platform of about 3 growers and 3 supermarkets. The objectives of the platform will be to:

1. Support farmers to grow more sustainably through good agricultural practices training and proper machineries.
2. Create a knowledge center (which can disseminate information on best practices)
3. Engage supermarket to commit to minimum supply (via a purchase contract with growers)

The underlying idea is to replicate this initiative also for other crops. Indeed, a percentage of the export price from pineapple will be used to finance similar platforms for instance for mango, pomegranates..).

**Inclusion of smallholder farmers can be favoured and scaled up through the services of an 'ethical agent'** who brings specific expertise in facilitating the flow of information and overcoming coordination problems along the chain. An 'agent' is distinct from an 'intermediary' who handles the product and therefore adds cost to the product. It is also distinct from a 'facilitator' who tends to focus on only one part of the value chain. His role is to mediate between parties in the supply chain: at the buyer end, explaining the difficulties of production changes and at the grower end, protecting growers from the early scepticism by potential buyers (see box 12).<sup>12</sup>

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<sup>12</sup> Ibid.

### **Box 12. The role an Ethical agent: the case of fresh flowers in Kenya**

As part of the New Business Models for Sustainable Trade project, IIED, Sustainable Food Lab and other partners supported a flower company in Kenya (Africa Flower) to build the capacities necessary to sell smallholder flowers to UK and US supermarkets. ASDA, the UK subsidiary of Walmart, wanted products with a unique selling point and preferably Rainforest Alliance certification. They wanted a good development story but with products that would fit within their existing buying model. Fitting within existing supermarket business models required, for Africa Flower, a challenging transition from a push business model to a pull business model. It was necessary to improve management capacity and resources as well as the systems for managing product volumes and quality. In this project, two ethical agents intervened at multiple levels of the chain, creating new market opportunities, building capacity of the Kenyan SME aggregator/supplier, negotiating the terms of supply (representing the Kenyan intermediary whilst respecting the demands of the retailer), and enabling some flexibility at the retailer end. The agents also contributed to the development of a more smallholder-friendly environmental standard. The ethical agents although supported by development project funds has offered a commercial model for aligning the business models of smallholders, SME suppliers, and demanding modern retailers. For the project to be sustainable it was established a known exit path for the intermediary, leaving the farmers and growers experienced and robust enough to manage the new supply chain.

Source: A. Buxton, B. Vorley, S. Homer and W. Van Bragt (October 2011) NMB case study: The Role of ethical agents: Fresh Flowers in Kenya

In addition, according to the Reconnecting market analysis<sup>13</sup>, one of the key factors for successful smallholder participation in dynamic markets is the ability to implement technological innovations and to introduce new management models such as supplier differentiation, mainstream marketing techniques and supplier clusters. An interesting example in this respect is offered by NorminCorp in the Philippines.

### **Box 13. Clusters : Norminveggies association**

A medium-scale farmer, Green Haven Farm, was producing lettuce for Blue Dairy, a vegetable processor supplying McDonald's fast food chain. Blue Dairy extended production and post-harvest technical advice to Green Haven Farm. It also asked for volumes that Green Haven Farm could not supply alone, forcing it to coordinate with other farmers. Small-scale farmers showed interest in this opportunity; the fast food market was judged to be more stable and more profitable than local wet markets if one could deliver quality produce. Green Haven Farm thus organized the small-scale farmers into a 'marketing cluster' sharing production technologies and market information, and gradually involving other farmers interested in growing lettuce. The NorminVeggies farmers' organization was then formed with the support of the government and a development agency (USAID). This resulted in targeted support from the government in particular (reefer trucks, chillers, and pre-cooling facilities) that allowed NorminVeggies to improve its marketing capacity. With NorminVeggies becoming known on the dynamic markets, other marketing clusters were set up with the support of the association. They are characterized by a common marketing plan for identified markets, and they involve a core of financially independent farmers and small-scale farmers that benefit from NGO support. The current last step in the process of inclusion was the organization of NorminCorp, which is a private corporation acting as the marketing division for the clusters formed by the core of independent farmers where financially independent growers are creating market opportunities for small-scale farmers. They produce the capital intensive crops while the small-scale farmers produce the less capital intensive crops. They also facilitate the sharing of knowledge inside the clusters. To

<sup>13</sup> E. Biénabe, J.Berdegú, L. Peppelenbos and J.Belt (2011) Reconnecting markets: Innovative Global Practices in Connecting Small-scale Producers with dynamic Food Markets, IIED.

sustain their inclusion in dynamic markets, the clusters put the stress on their ability to consistently deliver as a group (quality related to reliability of supply from farmers through the clusters). To ensure this, the independent farmers are planting crops as a back-up to allow small-scale farmers to learn how to build up regular production. This creates a learning process for the small-scale farmers and the changes in practice ensure delivery reliability. However, the ability of the larger farmers to access development support is related to their inclusion of small-scale farmers.

Source: E. Biénabe, J. Berdegué, L. Peppelenbos and J. Belt (2011) Reconnecting markets: Innovative Global Practices in Connecting Small-scale Producers with dynamic Food Markets, IIED.

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- Harryvan Neer, Director africaJUICE

- Henk Zoutewelle, Product Manager EOSTA
- Harry Vervelde, Harry Vervelde Owner of FairFields B.V
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