



# **HOW TO INVOLVE SMALLHOLDER FARMERS IN COMMERCIAL AGRICULTURE/HORTICULTURE**

## **Ethiopia Country position Paper**

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## 1. PREAMBLE

Ethiopia has a land area of 1.125 million square kilometers (437,794 sq. miles) of which 43,000 Km<sup>2</sup> (4.3 million hectares) is suitable for irrigation. The country has an estimated population of about 80 million. Its economy is based on the Agricultural Sector which accounts for about 50 % of the Gross Domestic Product (GDP), 85% of employment, 90% of foreign currency earning and 60% export. (World Bank 2005; MoARD)

Although Ethiopia is located in the tropical zone, it has wide range of altitudes, from the Dallol Depression of - 126 m to Ras Dashen peak of 4620 m, resulting in 3 different climatic zones (Rolien Wiersinga and Andre de Jager, Wageningen University, 2009), namely:

- **The cool zone**- over 2400 meters above sea level, with day temperatures between 0- 16<sup>0</sup>C,
- **The temperate zone**- between 1500 and 2400 meters above sea level, day temperature 16<sup>0</sup>-30<sup>0</sup>C,
- **The hot (tropical, semi-tropical and arid) zone**- below 1500 meters, with day temperature above 27<sup>0</sup>C.

Considering these climatic zones of the country characterized by 18 major ecological zones and other factors such as fertile soil, long rainy season (mid- June to mid- September) with annual rainfall range of 200 to 2500 mm, and abundant labor Ethiopia become a suitable and highly potential country for growing all kinds of agricultural crops (Rolien Wiersinga and Andre de Jager, Wageningen University, 2009). And also, due to the diverse range of altitudes and irrigation potential of around 122 billion M<sup>3</sup> of water to irrigate >10 million Hectare of land in the country it is possible to produce virtually all tropical, sub-tropical and temperate horticultural crops in Ethiopia.

However, in spite of the existing natural endowment, the Ethiopian agricultural sector is far more to develop constrained by the land holding share of 83% by smallholders farming setup (<2 hectares and the average size of the small farms is 1.25 hectare) characterized by low utilization of agricultural inputs, dependence on inconsistent, uneven & unpredictable rains, poor irrigation system, low technology, little access to know-how (risk management, technology, skill, etc), limited capital, fragmented plots hampering economic scale production and productivity, that is vulnerable to natural and man-made changes. (Syngenta, October 2008)

Moreover, the production of grain crops and livestock dominate the country's agricultural activities while cultivation of horticultural crops accounts for less than 10% total production since the latter is considered as a supplementary farm activity by the rural community. This low priority for horticultural cultivation is mainly due to the traditional food consumption

habits that favor grain crops and livestock products in most parts of the country resulting in weak domestic market demand for the products. In fact, the national average consumption per capita for fruits 1.3kg/year and for vegetables is 25kg/year, well below the FAO recommendation (Frank Joosten, 2007). Moreover, as strategy of risk aversion farmers avoid engaging in production of highly perishable F&V crops, the high capital requirement and long gestation period needed to grow fruits, etc.,

On the other hand, by the fact that small holder agriculture remains to be pro-poor, and key for food security, and also the agriculture sector remains to be the most important growth and export pole in the national economic development of developing countries, promoting of smallholders production on sustainable manner is eminent. It is evidenced that every 1% growth in agriculture is more effective in reducing poverty than a 1% increase in manufacture or services (Prof. Dr. John Humphrey, University of Sussex, Brighton).

Hence, transformation of smallholders' production towards market oriented agriculture through vertical integration with traders and agro processors is the strategic experience for ensuring competitiveness in quality and quantity as well as reducing vulnerability of smallholders farming. On the process of realizing vertical integration of small farmers with traders and agro processors through incorporation into more complex value chains, there are leading issues to be addressed that include; awareness creation, instituting industrious organizations, promoting & ensuring sustained provision of appropriate technologies at small farmers level, building trust between small farmers and traders/agro processors, promoting public private partnership, ensuring of fair trading as well as installing global market standards and more along the value chain.

This paper as country position paper on involving small farmers in horticulture production in Ethiopia, highlights on the horticulture production of the country, and shares the learning from a Vegetable Export Diversification program in Ethiopia. And then would try to outline strategic recommendations as position of the country.

## **2. NATIONAL HORTICULTURE PRODUCTION SCENARIO AND SMALLHOLDERS' INVOLVEMENT**

The small-scale farmers, the State Farms and the private commercial farms are producers of horticulture crops in Ethiopia.

In the production season 2008/09 (2001 E.C.) number of small-scale producers engaged in horticulture production is estimated around 6.0 million as per CSA statistics. The production estimate of fruit and vegetables, including root crops, is 2.16 million tons (9.2% of total national peasant crop production of the season) constituting of about 351 thousand tons of fruits (16%), 600 thousand tons of vegetables (28%), and 1.2 million tons of root crops (56%). This volume is produced on 356 thousand hectares (2.4% of total cultivated land in 2008/09) of peasant holdings (Annex 1 and Annex 2). 95% of the fresh vegetable supplies to the domestic urban and regional export markets are sourced from the peasant sector. Smallholders in the rift valley area of Ziway and Meki have also engaged in production of Bobby beans for export as out growers to a commercial farm. In addition small farmers who have individual banana plants or fruit trees, mainly mangoes and lemons are also involved in marketing of fruits. (Frank Joosten et al 2010)

Presently there are only two state farms operating on total farm area of 11,000 hectare. The State Farms produce much of the fresh fruits supply for the domestic market, including the volume for export. In addition they also produce tomatoes and onions; processed products including tomato paste, juice, ketchup, orange marmalade, etc., for supply to the domestic market, and partly for export to Djibouti market. The dominant export product of the enterprises until recently has been green 'bobby' beans for the EU market, mainly the Netherlands. In 1999/2000 both farms produced about 108,000 tons. (Frank Joosten et al 2010)

Encouraged by the Ethiopian Government's policies of privatization and promotion of private commercial export production, a small number of private sector companies have evolved into the production, processing and export of F&V products since the early 1990s. Currently there are around 12 of private commercial farms that are (partly) engaged in the production and export of fruits and/or vegetables. A pioneer company established in the early 1990s near Ziway on 49 ha of land started cultivation of green 'bobby' beans for export to the Netherlands for export to the European (EU) market with marketing arrangement through state farm. The same enterprise has now expanded its operation on 225 ha land near Koka in partnership with foreigner for cultivation of fresh beans for export and also has engaged in securing additional volume for export through entering production contractual agreement with individual small farmers.

Consequently, through the benefits and success observed from the initiative of the private farmer operation with small farmers, a project funded by CFC (Common Fund for

Commodities) and technical backup of FAO has been operational by EHPEA (Ethiopian Horticulture Producer Exporters Association) starting mid of year 2007 in Ziway and Meki localities in the Rift valley.

The project objective is to strengthen vegetable export capacity of smallfarmers through the removal of critical supply-side constraints and weaknesses in relation to technical, infrastructural and business and market factors. The lead interventions are briefly presented in box 1 below.

### **Box 1**

#### **The CFC/EHPEA Smallholders Vegetable Export Development project:**

##### **Lead areas of intervention of project include;**

1. **Introduction market oriented production planning:** a market-oriented seasonal planning in respect of contractual agreement made between cooperative and exporter. Every aspect along supply chain (input supply, production, harvesting, grading, cold chain management and packaging) must function in integrated manner to ensure product is delivered to destination market on time, volume, quality, timely. All relevant farmer organizations including the water users group, cooperatives and unions as well as government offices working in areas of extension and cooperatives are all engaged in the process.
2. **Promotion of production practice that meets buyers' needs.**
  - a. ***On farm practical and classroom training:*** for development agents & Farmers supported by manuals, posters, visits,
  - b. ***Promotion of technologies & systems:*** quality seeds, irrigation systems, credit systems, Safe and Prescription based Plant protection system, etc.
3. **Promotion of post-harvest handling and quality assurance practices from farm to export point:**
  - a. ***Promotion of on farm facilities & practices;*** toilets & hand washing places, sheds, collection boxes, etc.
  - b. ***Promoting Public pack houses:*** Construction, furnishing, identifying economically self-sustaining operation system of two pack houses in the project area..
  - c. ***Training and creating awareness on*** quality assurance & traceability systems: Globalgap, HACCP, recording for traceability, community based plant protection. etc.

So far the project has evidenced encouraging results in integrated market oriented production planning where farmers, government offices of extension and cooperative as well as the farmers' union and cooperatives assumed collaborative role in the process as well as in production and supply of the produce on scheduled bases. In the 3 years of the project intervention, the export proportion has evidenced an increasing trend from 49.9% in year 1 to 74.25% in year 3. Despite of a declining trend in number of participating organized small farmers, there is an increasing trend in the number of participating individual farmers and farm yield. Number of participating individual farmers increased from none to 17 and 19 in year 1, 2 and 3 respectively. The farm yield increased form 2.53 to 6.62 and 7.29 ton/hectare in year 1, 2 and 3 respectively. Please find attached Annex 3 for details of the export performance of smallfarmers through support of the project. However, the limitation in number of exporters is seen as problem in respect of accommodating the increasing interest of individual farmers to engage in export production.

The project above initiating and pioneering vegetable production for export in the sector, has instituted integration of efforts of government offices (agriculture, cooperative, and horticulture offices), producers' organization (union, coops, water user groups) and exporters in the export supply chain. It has evidenced emerging partnerships and acceptance by other interested bodies including the government and exporters. There are supports and encouragements forwarded from policy makers, farmers, diplomats and non-governmental organizations for promotion of the out growers scheme for export market. In effect the project has succeeded in attracting more participating farmers, collaborating institutions (USAID/ATEP, Dutch fund, etc.), exporters, etc.

The major Challenges observed by the project with Smallholders horticulture production promotion include:

- Absence of Innovative Market Information and trade promotion system.
- Absence of coordination in production planning and marketing.
- Absence of appropriate post harvest handling facilities: Storage (cold), transport, market places, etc.
- Absence of agro processors as mechanism to cushion the price fluctuation.
- Absence of coordination in water management and land management.
- High cost for installing quality assurance system for export market.
- Poor capacity of the government extension & research system to support horticulture: experts & budget.

### **3. POLICIES AND POLICY MANAGEMENT FOR SMALLHOLDERS' INVOLVEMENT (AT BOTH PUBLIC AND PRIVATE LEVELS)**

In line with its Poverty Reduction Strategy Paper the Government of Ethiopia identified Agricultural Development Led Industrialisation (ADLI) as its core development policy and road map to industrialisation. In this way the country's main resources – land, water and human resources – have been released for development and use. In its Plan for Accelerated and Sustained Development to End Poverty (PASDEP) for the period 2005/06 up to 2009/10 the Ethiopian Government stressed the importance of intensification of marketable farm production – both for domestic and export marketing purposes – and a greater focus on high value crops and support for commercial farming operations.

In addition, the shift in the paradigm of strategy for food security from food production oriented to improving food access through improving household income and promoting market oriented production has opened the window for engagement of small farmers in market oriented production horticulture production.

Small farmers have benefited from acquiring knowledge, technology and market access as the result of the spill over from foreign investors who came to Ethiopia as per the FDI (Foreign Direct Investment) incentive introduced by the government. The incentive includes exemption from customs duties, exemption of import tariffs on all capital items and income tax holidays from 1 to 5 years.

Improvement in extension & education system envisaged by GoE's as important pillar of its strategy has realized the following practical training facilities for the smallholders production promotion; (David J. Spielman et. al, March 2007)

- ✓ Establishment of Farmers' Training Centers (FTC) in every "kebele" the lowest state unit.
  - Local level focal points for farmers to receive information, training, demonstrations, and advice from extension agents.
  - FTCs are expected to include both classroom-based instruction and demonstration fields.
- ✓ Establishment vocational education & Training colleges (ATVET): 25 through out the country to staff FTCs
  - To training for more than 45,000 development/extension agents.
- ✓ Establishment or up gradation of universities throughout the country.

Simultaneously, strengthening of community level organizations has been given due attention by the government in respect of realizing the responsibility for local development. Respectively, water users group, cooperatives and union has displayed a facilitation role with small farmers' production as follows:

- ✓ Improved Resource management: coordinated Production planning, farmland and water management.
- ✓ Improved access to inputs & working capital at affordable price, when required, on credit, etc.
- ✓ Better negotiating power of marketing: buying input, selling production, labor wages, etc.

#### **4. ENVISAGED MAJOR IMPACT AND LONG TERM CONSEQUENCES OF SMALLHOLDER'S INVOLVEMENT IN HORTICULTURAL PRODUCTION**

The overall impact of smallholders' engagement in horticulture production would primarily manifest through improvement in living condition of the rural communities in terms of better income, better housing, better health, access to education and food security. This have been observed through the impact assessment done with the CFC/EHPEA project where in three seasons of smallfarmers engagement in export oriented production household income has increased resulting in improvement living conditions. Moreover, their will be direct impact on national economy development (growth and export) due to bigger production from larger land holding share of smallholders. In fact, there will be impact as well on development of the rural economy due to improvement in expenditure of small farmers, market, roads, transportation development. In fact, marginalization of small farmers by big commercial farmers would as well be halted through improvement in the production of small farmers.

On the contrary, there is fear for further fragmentation of farm lands by high population growth and urban inflow through pull effect of the improvement in rural economy.

#### **5. MAJOR CONSTRAINTS REGARDING SMALLHOLDERS' INVOLVEMENT**

Despite of increased awareness and observed benefits with engagement of smallholder farmers in the horticulture production at al levels there are constraints experienced in furthering of the process. The major ones are listed below.

- **Lack of infrastructure for small holders post harvest handling of perishables.** Absence of integrated cold management, absence of grading and packing facilities , poor access road in production area, etc.

- **Weak extension education systems:**
  - Local agricultural offices provide blanket support in context of general framework of agricultural extension. No horticulture extension agents but Plant science, Animal & Natural Resource.
  - Inadequate material and infrastructural support for the extension service.
  - Extension agents and other graduates are not sufficiently trained in commercially-oriented and practical horticulture contexts.
  - Absence of constructive linkages between farmers, extension agents, and actors in the private and civil society sectors.
  - insufficient linkages between education, research, and extension
- **Challenges of adapting market labels and consumers standards:** Quality standards are buyers or consumers driven regardless of producers capacities hence are with very high certification cost and requires educated manpower for realizing them at small farmers level.
- **Smallholders' farms are too scattered:** Spreading out of smallfarms in uncoordinated manner require high cost and is not convenient for developing of supportive infrastructure works such as irrigation, road, power line, stores, etc. as well as provision of extension supports.
- **Absence of strong institutional setup for facilitating innovative marketing linkages and market information.**
- **Limitation in technical and marketing expertise and knowledge**
- **Limited access to capital for investment by small farmers, only through unions.**
- **Marginalization of Smallholders by big farms and urban expansion.**

## 6. ON-GOING STRATEGY AT REGIONAL LEVEL

The writer of this report is engaged in execution of the CFC funded project, presented in this report as initiative for smallholders horticulture production, where as the project operates in two countries of Sudan and Ethiopia. The execution of the project in two countries, having the same objective and one coordination office, has fostered partnership between the two countries project actors. Contacts are realized between private companies, commercial farmers, smallfarmer associations, government offices through experience sharing and business linkages.

In reference to the benefits evidenced through networking between the two countries mentioned above, it is suggested that every relevant create linkage and have role in their respective mandate areas such as: Research, Market & Trade, market Standards, Partnership & networking, etc. but operate in an integrated manner coordinated through COMESA.

**7. COUNTRY POSITION: PROPOSAL FOR ACTIONS TO BE CONSIDERED TO IMPROVE AND SUSTAIN THE INVOLVEMENT OF SMALLHOLDERS IN HORTICULTURAL PRODUCTION**

- **Foster innovations in how horticulture commodities are produced and sold, and in how the requisite knowledge and information to do so is produced, exchanged, and used.**
  - ✓ *A market information service for the smallholder growers and local traders will contribute to enhanced transparency in the fruit and vegetable (export) markets.*
  - ✓ *Develop and strengthen the smallholder extension and training services*
  - ✓ *Value chain optimisation, leading to higher value addition, reduced post-harvest losses, better quality of products*
- **Representation of the sector’s interests at bilateral and multilateral forums; trade and market policies should aim to further improve international market access for regional produce and the reduction of trade barriers.**
- **Policies and strategies reform:**
  - ✓ *Reform government structure & policies targeted towards enhancing smallholders Horticulture development as pro-poor strategy.*
  - ✓ *Further the incentive for export agriculture to smallholders production in respect of its subsidiary to the export and national food security.*
- **Strengthen innovative capabilities among public sector service providers to interact with others (private, NGOs, etc).**
- **Strengthen development of a more commercialized agricultural sector where dynamic innovation networks of smallholders can respond effectively to rapidly-changing market and technological conditions**
- **Infrastructure development; improvement of roads,.**
- **Dialogue with the existing fruit and vegetable producers and exporters remains essential for identifying and addressing current problems and constraints.**

Crop	Production in 100 kgs	2008 / 09 (2001 E.C.)		
	2007 / 08 (2000 E.C.)	Area(ha)	Production (qtl)	Yield (qtl/ha)
<b>1. Vegetables (Total)</b>	<b><u>4,719,664.46</u></b>	<b><u>162,125</u></b>	<b><u>5,988,571</u></b>	
<i>Lettuce</i>	*	*	*	*
<i>Head cabbage</i>	117,650.12	3,400	241,335	70.99
<i>Eth. Cabbage</i>	2,383,602.95	33,901	2,815,668	83.06
<i>Tomatoes</i>	338,380.91	5,342	418,150	78.28
<i>Green Peppers</i>	623,209.04	8,581	658,725	76.77
<i>Red Peppers</i>	1,223,996.86	110,406	1,834,026	16.61
<i>Swiss chard</i>	4,272.88	243	6,809	28.01
<b>2. Root Crops (Total)</b>	<b><u>15,309,489.12</u></b>	<b><u>145,742</u></b>	<b><u>12,136,043</u></b>	
<i>Beetroot</i>	169,479.87	2,119	200,927	94.82
<i>Carrot</i>	*	*	134,666	*
<i>Onion</i>	1,751,061.71	15,628	1,488,549	95.25
<i>Potatoes</i>	4,025,080.08	48,113	3,840,457	79.82
<i>Garlic</i>	1,035,416.76	14,137	1,560,477	110.38
<i>Taro/ 'Godere'</i>	2,882,637.27	30,251	2,282,428	75.45
<i>Sweet Potatoes</i>	5,264,870.43	33,070	2,628,539	79.48
<b>3. Fruit Crops (Total)</b>	<b><u>4,621,475.23</u></b>	<b><u>47,990</u></b>	<b><u>3,512,593</u></b>	
<i>Avocados</i>	428,492.20	5,068	324,519	
<i>Bananas</i>	2,610,592.27	29,064	1,943,331	64.04
<i>Guavas</i>	27,023.70	1,320	19,474	66.86
<i>Lemons</i>	69,739.66	754	48,713	14.76
<i>Mangoes</i>	484,360.97	6,051	441,582	64.62
<i>Oranges</i>	428,072.76	2,440	293,410	72.97
<i>Papayas</i>	572,744.73	3,254	440,035	120.27
<i>Pineapples</i>	448.95	40	*	135.22*
<b>Grand Total (1+2+3)</b>	<b><u>24,650,628</u></b>	<b><u>355,857</u></b>	<b><u>21,637,207</u></b>	

Frank Joosten et al,2010

Annex 2: Distribution of Small – Scale Production of Fruit and Vegetable by Regional States  
2008/2009 (2001 E.C.)

<i>Regional States</i>	<i>Vegetables</i>		<i>Root Crops</i>		<i>Fruits</i>		<i>Total</i>	
	<i>Area (ha)</i>	<i>Production (qtls)</i>	<i>Area (ha)</i>	<i>Production (qtls)</i>	<i>Area (ha)</i>	<i>Production (qtls)</i>	<i>Area (ha)</i>	<i>Production (qtls)</i>
1. Tigray	3,540	161,860	1,640	188,740	690	11,210	5,870	361,810
2. Amhara	44,230	793,540	34,130	3,098,650	2,110	157,600	80,460	4,049,790
3. Afari	0	*	*	*	*	*	0	*
4. Oromia	61,840	2,249,010	66,180	5,179,580	18,320	1,286,800	146,340	8,715,390
5. Somali	*	*	*	*	180	15,320	180	15,320
6. Benishangul Gumuz	1,100	28,970	850	77,200	940	72,290	2,890	178,460
7. S.N.N.P	50,640	2,741,580	42,020	3,509,630	24,900	1,962,520	117,550	8,213,730
8. Gambela	190	8,410	250	21,180	340	*	780	29,590
9. Harari	10	*	90	*	320	*	420	*
10. Dire Dawa	50	*	80	*	120	*	250	*
<b><i>National Total</i></b>	<b>162,125</b>	<b>5,988,570</b>	<b>145,742</b>	<b>12,136,040</b>	<b>47,990</b>	<b>3,512,590</b>	<b>355,860</b>	<b>21,637,210</b>

Frank Joosten et al 2010; Source: Extracted from Data for Regional Production, CSA, 2009.

**Annex 3::**

**The CFC/EHPEA Smallholders Vegetable Export Development project**

**Green beans three years out growers production and marketing facilitated by the project,**

Year	Participants				Production.		Amount exported			locally marketed		
	Coops/ Associations/ groups.	Organized farmers	Individual not organized		Farm area, Hect.	Ton	ton	% of prdn	Income earned, Birr/USD	ton	% of prod.	income earned Birr
			Small	commercial								
1	3	100	0	0	25.06	63.32	31.64	50	72,782 / 7826	31.67	50	95,016.00
2	8	197	9	2	71.40	344.5	236.29	68.6	827,015 / 82,701.5	108.11	31.4	39,250.00
3	5	156	7	12	62.30	364.48	270.66	74.3	1,001,220/ 74,440	93.82	25.7	144,465.00

CFC/EHPEA project report

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