



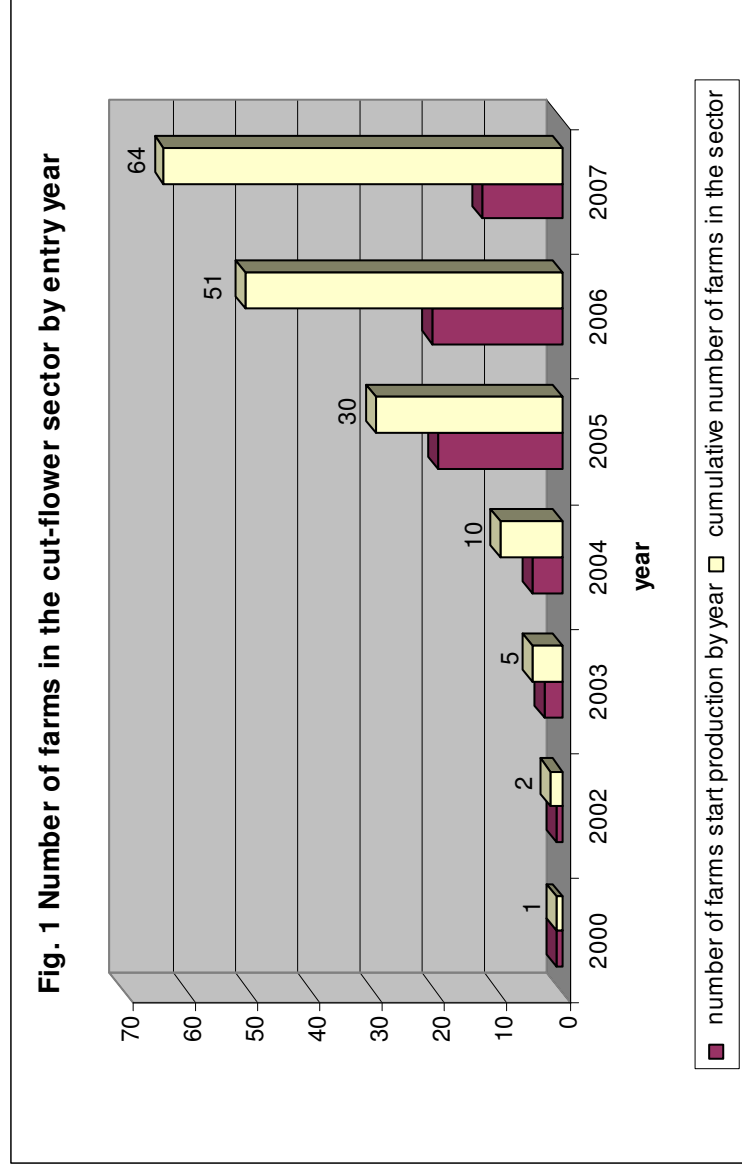
Micro Evidence on the Development of Cut-flower Industry in Ethiopia

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A glance at the development of the Ethiopian cut-flower

- 1) Flower is a new export venture for Ethiopia
 - A modern, export oriented and private sector based floriculture industry began to emerge in Ethiopia in the late 1990s.
 - The pioneer farm started production and export in 2000 and until 2003 only five farms had involved in exporting.
 - The number of exporting farms reached about 67 at least until January 2008.



2) The flower sector creates a large number of employment

- For example in 2007, the flower farms employed about 25,000 permanent workers.
- 71% of production workers are female
- The generated employment is even larger when we account for temporary employment such as, construction and other related activities

3) Flower becomes among the five largest Ethiopia's export commodities

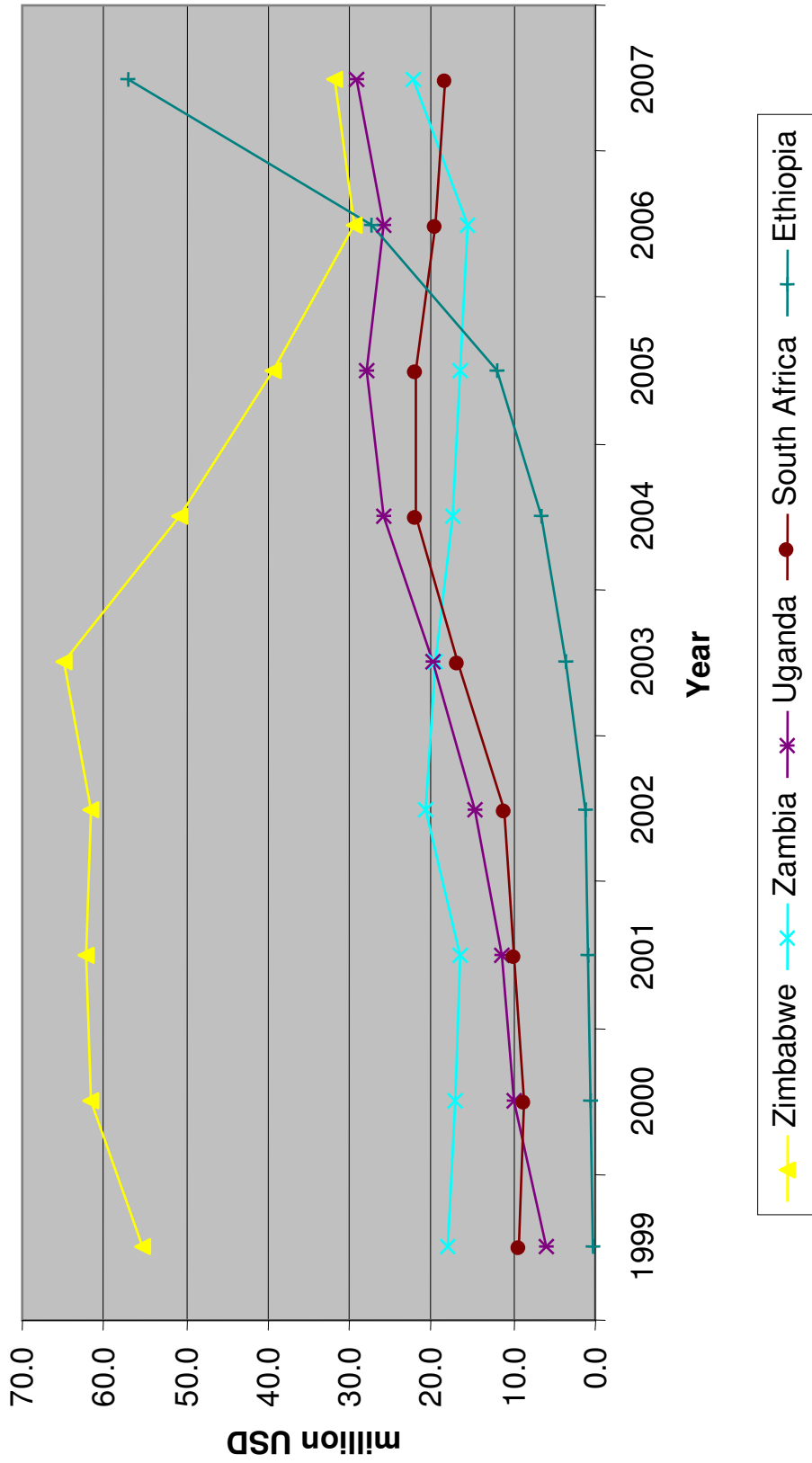
- 4) Ethiopia's rank as flower exporter into the EU market improved rapidly
- The EU-25 market constitutes about 70% of the world flower market and it is the major market for African cut-flower exporters

Table 1 Top 10 cut-flower exporters into the EU market 2001-2007

country	2001		2003		2005		2007	
	share of EU market	Rank	country	share of EU market	Rank	country	share of EU market	Rank
Kenya	25.90	1	Kenya	31.71	1	Kenya	37.95	1
Israel	18.35	2	Colombia	15.15	2	Colombia	14.47	2
Colombia	15.40	3	Israel	14.08	3	Ecuador	12.20	3
Ecuador	12.10	4	Ecuador	11.15	4	Israel	11.64	4
Zimbabwe	10.04	5	Zimbabwe	8.69	5	Zimbabwe	4.51	5
Thailand	2.84	6	Thailand	2.71	6	Uganda	3.19	6
Zambia	2.67	7	Uganda	2.66	7	Thailand	2.58	7
Uganda	1.87	8	Zambia	2.61	8	South Africa	2.52	8
South Africa	1.60	9	South Africa	2.24	9	Zambia	1.91	9
Tanzania	1.45	10	Turkey	1.67	10	Turkey	1.63	10
Ethiopia	0.14	24	Ethiopia	0.50	15	Ethiopia	1.37	11

Source: UN-Comtrade

Fig. 2 Pattern of the Top Africa cut flower exporters to the EU other than Kenya



- According to the latest Ethiopian Investment Agency reports the number of approved flower projects have reached about 235, of which 161 are foreign owned.
- What is behind this impressive growth? How does this success relate with the country's industrial strategy and overall institutional environment?
- To document the spectacular growth and examine the factors behind this development the Ethiopian Development Research Institute (EDRI) and the Japanese National Graduate Institute for Policy Studies (GRIPS) conducted a survey on all the existing operational flower farms in Ethiopia in January-March 2008.
 - Collected data for 64 flower farms out of the total 67 operational farms until February 2008.

- The aim of this presentation is to give evidence on the dynamics of the sector based on this recently collected data
- The remaining discussion is classified into the following parts;
 - Who are the investors? Profile of the farms and owner/managers
 - Product type and market destination
 - Production and cost structure and
 - **Synergy between government and the private sector**

//But for the sake of time and purpose of the meeting I will concentrate on the last part//

Location

- Most of the flower farms are located in a radius of 50 kms from Addis Ababa and clustered in few areas

Table 2 location of the farms

Common cluster name	Number of farms		Distance from Addis Ababa (Kms)	Altitude (meters above sea level)
	count	%		
Debre Zeit	7	10.9	49.6	1870
Ziway	6	9.4	163.0	1644
Sebeta/Alemgena	10	15.6	25.9	2082
Koka	3	4.7	98.0	1617
Sendafa/Slulta	5	7.8	38.4	2228
Holeta/Addis Alem	20	31.3	39.3	2289
Menagesha	5	7.8	32.8	2570
Others	8	12.5	93.5	1847
All	64		58.9	2081

Special character of the Ziway flower farm cluster

- Ziway cluster is established by Sher Ethiopia a company owned by Dutch investors
- Unlike to other farms the company do not involve in production but lease the fully prepared plots to interested flower growers
- It carried out all initial investments including construction of greenhouses, irrigation systems, packing sheds, cold rooms and other facilities, installation of machines and plantation of flowers.
- It leased plots 10 and above hectares each to interested investors to grow flowers. So far up to 7 flower farms have started export.
- According to the agreement, the ownership will be transferred fully to the lessee after 105 months (approximately 8 years).
- Sher Ethiopia also handles marketing of most of the farms.
- This arrangement makes it possible for growers to start immediately on a large scale, without having to take big financial and technological risks themselves.
- A reason why the average size of flower covered land in this cluster is relatively higher than others

Ownership type

Unlike to other sectors FDI has heavy presence in the flower sector

- 26 flower farms (40.6%) are fully foreign owned and 23 (35.5%) fully domestic owned farms.
- The number of foreign owned or joint venture with 50% and above reaches 51 (i.e. 64%).
- Holland, India and Israel takes the lead with about 34%, 22% and 12% of the total number of foreign owned farms respectively.

Table 3 Ownership type and relationship with other businesses

Ownership type	Count	%
Domestic	23	35.9
Foreign	26	40.6
Joint venture	15	23.4
Nationality of foreign owners or share holders		
Holland	14	34.1
India	9	22.0
Israel	5	12.2
USA	3	7.3
UK	2	4.9
Germany	2	4.9
others	6	14.4

Relation with other businesses

Table 4 Relationship with other business

	count	%
Is this farm a subsidiary of other mother company? (yes)	30	46.9
If yes, does the mother company handle marketing issues	25	83.3
If yes, does the mother company supplies planting materials to this farm?	14	48.3
Location of mother company		
Ethiopia	16	53.3
Abroad	14	46.7
Main activity of mother company		
Trading (export/import)	11	36.7
Agro-industry	7	23.3
Flower propagation	6	20.0
Others	6	20.0
Does this farm has sister company doing similar flower farm overseas? (yes)	13	20.6
Does this farm has sister company doing similar flower farm in Ethiopia? (yes)	14	22.2

Types of products

- **Roses are the major flower production and exports in Ethiopia**
 - accounts for 77% of flower covered land, 62% of total exported stems, and 85% of total export revenue in 2007.
- Within roses there are three main groups based on their length of stems and size of the buds
 - sweetheart (30-40 cm stems and small buds),
 - intermediates (40-60 cm in stem length)
 - T-hybrids (60-80 cm).
- The majority of farms (about two-third) are producing and exporting the intermediates type of rose.
 - Intermediates accounts for 50% of rose stems exported and 32% of total exported flower stems.
- T-hybrid rose is the second largest export (27% of stems of roses exported and 17% of total flower stems exported).
- These varieties have difference in price and yield per area
 - Average price per stem of flower of T-hybrid is higher (2.93 Birr) than intermediates (2.06 Birr) and sweetheart (1.17 Birr).
 - In terms of yield stems per meter square T-hybrid is lower (120 stems per m²) than both the intermediates and sweetheart (164 stems per m²).
- There are other 5 farms mainly producing cuttings on 48 hectares of land. One of the farms is exclusively producing for domestic market.
 - The main types of cuttings are geranium, chrysanthemum and poinsettia each with large number of varieties.
- There are also 8 farms specializing on summer flower. The main varieties are hypercium, erigrinium, gypsophilia, and carnation. The stems price for summer flower is relatively higher particularly for the variety of erigrinium.

Table 5 Flower covered land, yield and exports by variety 2007

variety	# of farms involved	Total size of flower covered land Ha	# of varieties mean	yield stems per meter square Mean	number of stems exported		Total export revenue		price per stem (Birr)
					Stems (million)	share %	million Birr	share %	
1. Roses									
Sweetheart	18	62.7	2.2	164.1	124.18	12.6	144.95	9.7	1.17
Intermediates	41	289.6	5.4	163.2	317.63	32.3	653.33	43.5	2.06
T-hybrid	35	150.8	4.8	120.4	167.09	17.0	490.07	32.6	2.93
total		502.1			608.91	61.98	1288.4	85.80	
2. Cuttings									
Geranium	3	4.7	62.3	220.0	76.50	7.8	59.06	3.9	0.77
Chrysan-themum	3	14.5	12.0	866.7	148.10	15.1	30.80	2.1	0.21
Poinsettia	2	19.25	37.5	180.0	50.00	5.1	39.00	2.6	0.78
Others	3	9.5	106.7	1350.0	36.00	3.7	11.90	0.8	0.33
total		47.95			310.60	31.61	140.8	9.37	
3. Summer flowers									
Hypercium	5	42	7.0	92.8	27.02	2.7	28.14	1.9	1.04
Erigrinium	3	11	1.3	41.4	1.80	0.2	7.55	0.5	4.19
Carnation	2	16	10.5	150.0	17.07	1.7	16.26	1.1	0.95
Gypsophilia	3	27	1.7	85.0	14.93	1.5	20.44	1.4	1.37
Others	4	8.3	2.3	100.0	2.16	0.2			1.78
total		104.3			62.99	6.41	72.39	4.82	
Grand total		655.25			982.50	100	1501.50	100	

Export destinations

Export sales are usually made in two ways; direct sales and auction.

- Direct sales involve a consignment agent who offers a relatively low but guaranteed price.
- Auction (mainly through Holland auction) offers better price potential and entry is relatively easy but price is not guaranteed.

Currently **Ethiopian exporters use both channels**

- **Holland auction is the main channel accounting for about 54% of total export sales in 2007**
- **Direct sale account for 44%**

Ethiopian exporters are expanding the number of country outlets for their direct sales.

- 41 farms were involved in direct sales channel in 2007.
 - First direct sales export destinations named (Holland – by 16 farms), (Germany – by 10 farms), (Dubai – by six farms), (Norway by 2 farms) and other Japan, England, Italy, Russia, Yemen and Cyprus each.

Production and cost breakdown 2007

- According to exporters report, in 2007 about 915 million stems of flowers and cuttings were exported that generated 1.517 billion Birr, equivalent to 168 million USD.
- The largest cost component is airfreight, amounting 21.4% of total sales revenue.
- Exporters pay about 4.5% of total sales revenue as commissions and marketing agents' fee.
- Plant material, chemicals and fertilizers, and packaging materials costs account for 5.7%, 7.65%, and 2.4% of total revenue respectively.
- Surprisingly, the labor cost component is very low, accounting for only 5.34% of total revenue.
- The total costs that include labor, material, transport, energy, marketing, royalty, repair and maintenance, other services, annual depreciation and interest payments, is about 64% to total sales revenue.
- Based on this estimation the gross profit of the exporters reaches 36% of total revenue depending on the year.

Table 6 Production and cost structure summary of revenues and costs in 2007

	2007			
	Valid case	Mean	Sum	% total revenue
Production				
flowers/cuttings covered land (Ha)	64	10.99	703.05	
Average yield in stems per m ²	63	187.65	11821.8	
Sales				
Domestic market sold stems (million)	62	0.16	9.93	
Domestic revenue (Million Birr)	43	1.08	46.53	3.0
Exported stems (million)	64	14.30	915.00	
Export revenue (million Birr)	64	23.71	1517.38	97.2
Total sales revenue (million Birr)	64	24.40	1561.87	100.0
Costs (all in Millions Birr)				
Plant materials cost	60	1.48	88.60	5.67
Chemicals and fertilizers cost	64	1.87	119.48	7.65
Packaging material cost	64	0.58	36.86	2.36
Transport cost (Air freight & road transport)	63	5.30	333.92	21.38
Electricity and fuel cost	64	0.41	26.29	1.68
Technical advice fee	62	0.13	8.30	0.53
Marketing (commissions and agents fee)	60	1.18	70.64	4.52
Royalty	58	0.58	33.84	2.17
Repair and maintenance cost	64	0.12	7.60	0.49
Interest paid for loans	62	1.29	79.90	5.12
Labor cost (wages, salaries, bonuses, social payments etc.)	64	1.30	83.46	5.34
Depreciation (annual)	58	1.89	109.59	7.02
Total cost			998.47	63.93

- **Transport cost is by far the biggest component of running cost.**
 - With the increasing oil price one would obviously expect souring of prices. The
 - Ethiopian Airlines is announcing of continuing losses in the cargo flight.
 - Hence, the dependence of the sector on air transport is one of the current bigger challenges facing the sector.
- **Moreover, the businesses complain on two related issues;**
 - a delay of shipment due to absence of guaranteed cargo space some times
 - the absence of cooled storage facility at the air port
- **In addition, there are complaints on the quality of the services particularly power and telecommunication.**

Harmony between private sector and government

- There are basically two views on the role of government in promoting the private sector development. Rodrik (2003) summarizes these views as follows.
- **The Neo-classical thinking emphasizes the detrimental role of government-imposed barriers to entrepreneurship.**
 - The **removal of these impediments** is then expected to unleash a flurry of new investment and entrepreneurship
 - through structural adjustments (privatization, deregulation, trade and financial liberalization).
 - The government should be constrained to – sound macro economic policies, protection of property rights, contract enforcement.
 - This thinking was later augmented on the ground that market liberalization and privatization might not be sufficient to ignite and sustain economic growth.
 - Thus the reform should be supported by institutional reforms to improve governance such as, anti-corruption, anti-poverty, and safety net programs.

- The second view argues **government has to play a more pro-active role** than simply getting out of the private sector's way. This is because;
 - Establishing a fair and level playing field may not be enough to spur productive dynamism.
 - **Market failure is inherent in low income countries that block investment and entrepreneurship in non-traditional activities.**
 - Costs of production in non-traditional activities are uncertain, and they are revealed only after upfront investment by an incumbent.
 - The existence of coordination failures might be induced by scale economies.

Thus, the propagation of modern, non-traditional activities is not a natural process and that it might require positive inducements.

- Governments may have to provide early leadership and a set of economic incentives and financial supports in launching industry in the non-traditional export sector (Singh, 2002)
- According to Rodrik (2003) governments can certainly deter entrepreneurship when they try to do too much; but they can also deter entrepreneurship when they do too little
- But we do not know a priori “what is too much and too little is” → policy is a question of experimentation – no single policy fits all countries
- What story does the Ethiopian flower-sector growth experience tell about the public-private interaction at early stage?
- In this section we provide micro-evidence on the synergy between government and the private sector
- We first present the perception of exporters as to what factors are currently most important for competition in the world market

Table 7 Rating importance of factors in competition with other exporters

	Not important		Minor		Moderate		Major		Critical important	
	%		%		%		%		%	
price	20.3		10.9		20.3		15.6		31.3	
quality of production							7.8		90.6	
color/variety	3.1		1.6		9.4		17.2		67.2	
stem length	3.1		3.1		9.4		21.9		60.9	
flower size	7.8		1.6		9.4		21.9		56.3	
freedom from disease & damage			3.1				4.7		90.6	
broad varieties	7.8		12.5		28.1		14.1		35.9	
better packaging	7.8		4.7		21.9		23.4		40.6	
continuity in supply			1.6		1.6		26.6		68.8	

- Respondents were asked how important might be different factors to compete in the export market.
 - About 90% of the exporters indicated that quality of production and freedom from disease and damage are critical important
 - Other factors such as continuity in supply by 69% exporters, color/variety by 67%, stem length 61%, and flower size 56% have been indicated to have a critical importance in competition.

- This shows that the Ethiopian exporters' competitiveness largely depend on quality and continuity of supply.
- The source of quality of flower is multifaceted but the main factors indicated above for example, color/variety, stem length, and flower size are partly related with favorable climate and proximity to major markets.
- The quality and continuity of supply are also closely linked to quality of logistics such as, transport (fast and reliable air transport), packaging material, refrigerated flower stores at the air port etc.

1) Government policy and support was one of the major considerations for the businesses to invest on flower in Ethiopia

Table 8 the first main consideration of entrepreneurs to invest in cut-flower in Ethiopia

	Tell us the first main considerations			
	for your decision to enter in the flower business (if local firm/joint venture)		that attracts you to come to this country and business(if foreign firm/joint venture)	
	count	%	count	%
Profit motive (business attractiveness)	12	50.1	2	5.0
Climate			13	32.5
Government good policy & incentives	5	20.8	9	22.5
Availability of water			1	2.5
Peace and security			3	7.5
Availability of cheap labor	1	4.2	5	12.5
Advertising	1	4.2	1	2.5
Existence of Sher Ethiopia			1	2.5
B/S I was born in Ethiopia			1	2.5
B/S It is export oriented sector			1	2.5
Access for loan			1	2.5
Generate foreign currency	1	4.2		
Previous horticultural experience	3	12.5		
Hobby	1	4.2		
Number of observations	24		38	

Government has not involved in production but provides critical inputs such as land, finance, subsidized air transport and infrastructure

- 3) The major supplier of the critical input LAND is government
- Government lease is the major source of farm land for cut-flower
 - 52 farms (83%) obtained land directly or indirectly from government.
 - Only 10 farms (15.6%) have rented land directly from farmers and 1.6% from other business.

Table 8 Source and previous use of the flower farm land

How did this enterprise obtain land when started business?	Frequency	Percent
Lease from government	46	71.9
Lease from Sher Ethiopia	6	9.4
Getting through privatization	1	1.6
Contract from farmers	10	15.6
Purchasing from other business	1	1.6
Total	64	100.0
What was the previous use of this land?		
Open field (grazing)	15	23.4
Farm land	34	53.1
Forest	5	7.8
Dairy farm	4	6.3
State farm	6	9.4

- **Land is provided at very low price**
 - The average annual cost of leased land per hectare is about 1917 Birr.
 - Payment is arranged to be made over extended period the average being 21.5 years → help reducing financial burden of investors at start.
- **Longer period of land security**
 - Land is not only cheaply available but also secure on average 27.5 years but extend up to 90 years to some.

Table 9 Land lease arrangement and costs

	Mean	Minimum	Maximum	Valid cases
Length of the lease period of the current contract? (Years)	27.5	1.00	90	55
How much is the total cost of the lease? (million Birr)	1.22	0.012	9.43	54
Over how long do you expect to pay the total cost? (Years)	21.5	0	85	47
How much did you incur in down-payment? (million Birr)	0.169	0	1.7	52
How long did it take between application for land and the release of this plot by government/farmer? (Months)	7	1	36	52
How long did it take between the release of the plot and you being able to use it or begin work on it? (Months)	4.8	0	36	51
Land cost per hectare per year (Birr)	1917	13.3	12693	52

4) The government provides finance at cheaper interest rate and with easing collateral requirement

- The Development Bank of Ethiopia (DBE) is the first major external source of finance (up to loan to equity ratio 70 to 30)
 - About 45% reported that they borrowed from DBE for their initial investment
 - Currently, 75% of the farms have term loan from banks (only 3 cases that reported foreign bank source).
 - The majority of farms (62.5%) indicated that firm equity or project was the required collateral in their lending from bank.
 - The average interest rate of the long term loans from domestic banks is about 8% and from foreign banks 9.75%.
 - The short term interest rate from domestic banks is about 9.4%
- //This is much less than the prevailing inflation rate, thus farms are paying negative real interest rate//

Table 10 Required collateral, availability of term loan and interest rates

	Statistic	
	Frequency	%
Do you have a term loan from a bank or financial institution?		
Yes	48	75
No	16	25
Total	64	100
What was the required collateral for your loan?		
Land	4	8.3
Buildings	6	12.5
Machinery & equipment	8	16.7
Firm equity/project	29	62.5
Total	48	100
Average interest rate on long term liabilities (mean)	mean	Valid cases
Domestic	8.11	41
foreign	9.75	2
Average interest rate on short term liabilities	mean	Valid cases
Domestic	9.39	18
foreign	7.50	1

5) Logistics

- **Logistics is, a broader concept and includes packaging materials, post-harvest cold chain facilities (pack houses, cold storages, and refrigerated truck), airport facilities and cargo availability, and infrastructures such as roads, telecommunication, ICT, and power**
- **gives a room for both the government and private sector**

Road transport

- Speedy and sufficient transportation both road and air are particularly critical for competitiveness. This means road transport from the farms to the main Airport should be short and quality – a task for a government.
- Road construction has been one of the priorities of the Ethiopian government and has been investing a lot so far.
- In the survey we asked respondents if road transport is a problem about three-quarter indicated that road transport is not a big problem for their business. This might be due to the following facts.
 - The average distance from the location of the farms to the Addis Ababa airport is 61.2 kms.
 - About 95% of the road is asphalted.
 - Farms are located on average about 3.49 kms far from the main roads.
 - On average it takes 1 hour and 40 minutes for loaded tracks to reach to the airport
 - The average stay period at the airport is 3.16 hours.
 - About 77% of the farms use their own refrigerated trucks and 23 rented.

Table 11 Distances from farm to the airport and condition of the roads

	Mean	Minimum	Maximum	Valid N
Distance from farm to the Airport? (Km)	61.19	18.00	172.00	64
Asphalted	58.04	18.00	170.00	64
Non-asphalted	2.99	.00	45.00	64
Distance from the main road to the farm? (Km)	3.49	.00	45.00	63
How long does it take for a truck loaded with flowers to reach the Airport? (hours)	1.66	0.5	4.0	62.0
What is the average period of stay at the Airport (hours)?	3.16	1.0	10.0	63.0
Percentage of farms use own refrigerated trucks (%)	76.6			

air transport

- As the flowers have to be also exported by Air then sufficient and guaranteed cargo space and cold storage facilities at airport are necessary. This entails coordination of different suppliers – another case for government support. \
- **According to the respondents the majority of the flower farm (87%) enterprises use the Ethiopian Airline which is made accessible by the government.**

Table 12 Air liner often used by flower exporters

		Count	Percent
Which Air line do you often use in exporting your flowers?	Ethiopian	55	87.3
	Lufthansa	1	1.6
	Emirates	5	7.9
	KLM	1	1.6
	Ethad	0	0
	Others	0	0
	Ethiopian, Emirates, & KLM	1	1.6
Have you ever used chartered airplane to export your flowers?	Yes	11	17.5
	No	52	82.5
If no do you have a plan in the next 2 years to do so?	Yes	6	12.2
	No	43	87.8

- The sector is dependent on market for the following logistic related activities
 - Packaging materials
 - planting materials
 - Selection of varieties and propagation
 - Market information and technological innovations

Packaging materials

- The majority of the farms (99%) use locally produced packaging materials.
 - Almost 80% rated sufficiency of quantity and availability of local packaging materials as poor or very poor, while 56% rated quality as good or very good.
 - According to this rating the main problem of packaging materials is a problem related to sufficiency of quantity and availability but not quality.

Source of planting materials/fertilizer/chemicals

- There is increasing dependence of local products

Table 14 source of planting materials, fertilizer and chemicals by year

Source	planting materials			Fertilizer			Chemicals		
	2005	2006	2007	2005	2006	2007	2005	2006	2007
Local	16.1	30.2	50.3	9.7	21.2	30.0	12.4	25.4	33.6
Imported through traders	4.3	2.7	0.1	39.8	40.3	41.2	44.2	44.2	44.9
Imported directly	73.0	66.0	38.3	49.4	37.8	30.5	44.9	29.9	23.2

Source of new varieties:

- The main source of new varieties of flowers for 81% of the farms is licensed royalty.
- A typical flower farm pays royalty to 3 companies for using their property rights
- In general domestic firms largely rely on markets as source of identifying suitable rose varieties and conducting adaptive trials.
- At present, there looks no link with the national agricultural research organization (EARO).

Table 15 Source of new varieties

	Domestic owned farms		Foreign owned farms		All farms	
	Count	%	Count	%	Count	%
How do you normally obtain new varieties?						
Licensed royalty	23	95.8	29	72.5	52	81.3
From mother company			7	17.5	7	10.9
Own development	1	4.2	3	7.5	4	6.3
Sister Company			1	2.5	1	1.6
Total	24	100	40	100	64	100

Source of marketing information:

- There are differences between foreign and domestic owned farms with regard to their main source of marketing information.
 - About 54% of domestic farms rely on auctioneer contact as first major source of marketing information.
 - On the other hand, 27.5% and 25% of the foreign owned farms mainly rely on own agent and parent company as first major source of marketing information respectively.

Table 17 Source of marketing information

	Domestic owned farms		Foreign owned farms	
	Count	%	Count	%
First major source of your marketing information				
Own agent	5	20.8	11	27.5
Parent company			10	25
Auctioneer contact	13	54.2	7	17.5
Auctioneer visit			1	2.5
Buyers	4	16.7	10	25
Association	1	4.2		
Trade fair	1	4.2	1	2.5
Total	24	100	40	100

Training and use of expertise

- Training and use of expertise is an area that both the **government and private sector play role**.
- The basic training such as college education is the government duty.
 - Currently about 412 college or university graduates are working as supervisors or managers in the flower farms of which 38% and 27% graduated from Jimma University and Ambo College respectively.
 - The government with the support of Dutch government is upgrading Jimma University to offer special diploma on floriculture profession.

- Short-term trainings:
 - The majority of farms are providing training to their production workers and agro-specialist
 - Both in-house and outside the farm

Table 18 In-house and outside trainings to workers in 2007

Did this establishment run training in 2007 to ___?	production workers		agro-specialists		Marketing workers	
	in-house	outside	in-house	outside	in-house	outside
Yes (freq.)	52	31	32	31	8	6
No (freq.)	12	33	32	33	53	56
% of worker received training (mean)	70	11	72	49	78	40

- Currently about 97 foreign expertise are working in the flower farms.
 - The nationality of the expertise is India (42), Dutch (21), Kenya (16) and Israel (9).
 - The majority of the foreign expertise (80%) are, however, working on foreign owned farms.
 - Among the 17 foreign expertise working in the locally owned farms about two-third are from India and Kenya (six each) – probably showing cost consideration.