Global Horticultural Initiative video conference on

«Small holders: How to involve small farmers in commercial agriculture"

Madagascar Position Paper

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List of acronyms

AD2M	:	Appui au développement de Menabe et du Melaky
ADRA	:	Adventist Development and Relief Agency
AVRDC	:	Asian Vegetable Research and Development Center
CAM	:	Central d'Achat de Madagascar
CBO	:	Community Based Organization
CEFFEL	:	Centre d'Enseignement et de Formation des Fruits et Légumes
CIRAD	:	Centre de coopération International pour la Recherche Agricole pour le Développement (French Agricultural Research Center for International Development)
CODAL	:	COmptoir industriel De produits Alimentaires
COI	:	Commission de l'Océan Indien
COMESA	:	Common Market for Eastern and Southern Africa
CRS	:	Catholic Relief Services
CSA	:	Centre de Services Agricoles
CTCP	:	Centre de Transformation et de Conservation des Produits
CTHA	:	Centre Technique Horticole d'Antananarivo (Horticultural Technical Center of Antananarivo)
CTHT	:	Centre Technique Horticole de Toamasina (Horticultural Technical Center of Toamasina)
EASTA	:	Ecole d'Application des Sciences et Technique Agricole
EU	:	Union Européen
FAO	:	Food and Agriculture Organisation
FDRA	:	Fonds de Développement Régional Agricole
FIFAMANOR	:	Fikambanana Fampandrosoana Malagasy Norveziana (Norwegian development cooperation in Madagascar)
FOFIFA	:	Foibe Fikarohana ampiharina amin'ny Fampandrosoana (National Center of Applied Research and Rural Development)
GSDM	:	Groupement Semis Direct Madagascar
IFAD	:	International Fund for Agricultural Development
INSTAT	:	Institut National de la STATistique
LECOFRUIT	:	Société LEgumineuses Condiments Fruits de Madagascar
MAMABIO	:	MAlagasy Mpamboly Anana BIOlojika
MAP	:	Madagascar Action Plan
MDG	:	Millennium Development Goal
OVOP	:	One Village, One Product
PARECAM	:	Programme d'Appui à la Résilience aux Crises Alimentaires à Madagascar
PPRR	:	Programme de Promotion des Revenus Ruraux
PROSPERER	:	Programme de Soutiens aux Pôles de Micro-Entreprises Rurales et aux Economies Régionales
PSA	:	Programme Sectoriel Agricole (Agricultural Sector Program)
PSDR	:	Projet de Soutien au Developpement Rural
SADC	:	Southern African Development Community
SAHA	:	Sahan'Asa Hampandrosoana ny eny Ambanivohhitra
SCAMPIS	:	Scaling up micro-irrigation systems project
SME	:	Small and Medium Enterprises
SNS	:	Stratégie Nationale Semencière (Seed National Strategy)
TIKO	:	TIko Ka Omeko
UPFL	:	Union des Professionnels des Fruits et Légumes de Madagascar

1. Introduction

Agriculture, including livestock and fisheries are the mainstays of the economy in Madagascar with the largest contribution to overall Gross Domestic Product GDP (26 percent, 2008). The sector's share in total exports is 70 percent. About 80 percent of the workforces depend on agricultural production Challenge for Madagascar is thus to sustain high and shared growth. One of the World's poorest countries, 50% of Malagasy people is living below poverty line with 1$/day/capita. According to the country's National Institute of Statistics (INSTAT), Madagascar saw its poverty rate slide from 72.1 percent in 2004 to 68.7 percent in 2005. The poverty rate dropped 1.7 points in urban areas and 3.8 points in rural areas. Political crisis and its economic aftermath reinforce Madagascar vulnerability to political shocks then reduce security of investment climate. Economic activity stagnated and growth rate declined. At the same time, exports slowed down contributing to a surge in the current account deficit.

Considering its diversified agro ecological zones, Madagascar produces different species of fruits and vegetables that are consumed, sold locally, sold at national market and some for exports as well fresh as processed. The geographical position of Madagascar enables a direct access to the Southern and Eastern African, Indian Ocean and Asian countries.

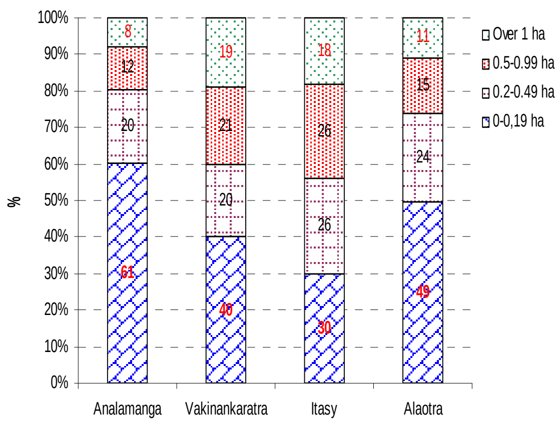
2. Present status of smallholders and commercial horticulture value chains

Madagascar's agricultural production is dominated by smallholder farmers who ensure 90% of agriculture value-added. They represent around 75 percent of total population. Horticulture products traditionally grown in the island include: banana, litchis, mango, coconut for tropical fruit in coastal areas; citrus, papaya, pineapple for subtropical fruit at medium altitude; pippin fruit (apple, pear), stone fruit (peach, plum), strawberry, muskmelon et watermelon for temperate fruits at highland; and tomato, onion, dry beans, cabbage, carrot, potato, green beans, peas for vegetables mainly at highland and at the west dry area under irrigation. Despite the importance of fruits and vegetables grown by smallholders, national data is not available but some information's' could be obtained at Ministry of Agriculture and some Technical Center. However, vegetable surveys on 2008 by AVRDC at 4 regions of the highland and sub humid conditions show that part of vegetable growing occupy an average of 0,20 ha per household.

2.1. Production issues

Smallholders' horticultural producers are facing challenging efforts to meet the global market demand in term of quantity, quality and delivery commitment. The underlying root causes are based on mindset investment and lack of vision due to lack of production and market information systems. First of all, 55% of seed are from informal system with unknown quality, making productivity and quality of products low. 45% the farmers produce on small plots less than 0.50 ha (figure 1)[1]; as well for consumptions as for rapid incomes; sow mainly during the cool dry season from April to July, period where vegetables are grown easily and produce from July to November.

Figure 1 : Vegetables plot size



[1] Baseline survey in Madagascar April 2008, AVRDC-the World Vegetable Center

The peak productions are met from October and the price drops down according to the figure 2 except for the carrot which can produce earlier from February[2]. Beside that, farmers are behind standards and products fall into open market without quality control.

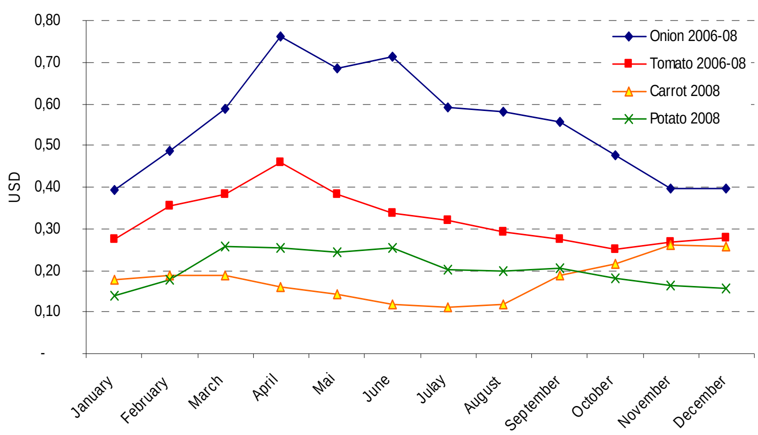
2.2. Market issues

For investment, smallholders depend on savings from their low incomes and the land status which limits opportunities for expansion. Only few of them have access to Microfinance institutions due to the lack of collateral and credit history. Some have unsecured land without title or rent land for vegetable production. Technologies are more or less adopted and productivity does not obtain the crop potentialities.

Poor road network renders transport services unavailable or over coasted from production areas to the popular market, replaced by animal rickshaws which take long time and affect production quality, mainly in rural area. Standards are poorly met and most of the products are sold at open market without any quality controls, reducing the opportunity of supplying the supermarket.

Prices are unstable over the year according to production period peak and the "demand-supply law". Middlemen activities create significantly this price instability (figure 2). For any opportunity raised, non professional businessmen take lead with a poor control and collect all products, making the quality uncompetitive at regional and international level.

Figure 2: Price paterns at 3 highland locations



2.3. Market type

Farmers have access to four (4) market types exist in Madagascar, directly or through middlemen: Domestic market, professional fresh market, processing unit and export market visualized in figure 3.

Domestic market involves (a) on field, at immature stage and at harvest period mainly for fruits but also for vegetables; (b) in market village, a daily small size on the ground for all temporary sellers, on the ground and in the table for permanent ones; (c) weekly at all municipality levels in Madagascar where most of the farmers join this market, and mostly displayed on the ground; and (d) daily and weekly at district levels and some locality at the big cities. Two big markets poles are located in Antananarivo: (1) Anosibe where all of products (fruits and vegetables) from the south and West are gathered; and (2) Andravohangy for the East and North products come from. Retailers are more or less professional using tables and shades but some informal sellers come the evening at many places to sell their products. Products in market are fairly sorted and graded. Demand on horticultures increases more and more in the big cities and more producers involve in the production at peri urban.

Professional fresh market includes (a) the supermarket such as Shoprite, Jumbo, Leader price supplied by group farmers, individual farmers, private societies and middlemen. Qualities are imposed by the supermarket and should be met by suppliers. For the Shoprite case, only 27% of their demands are

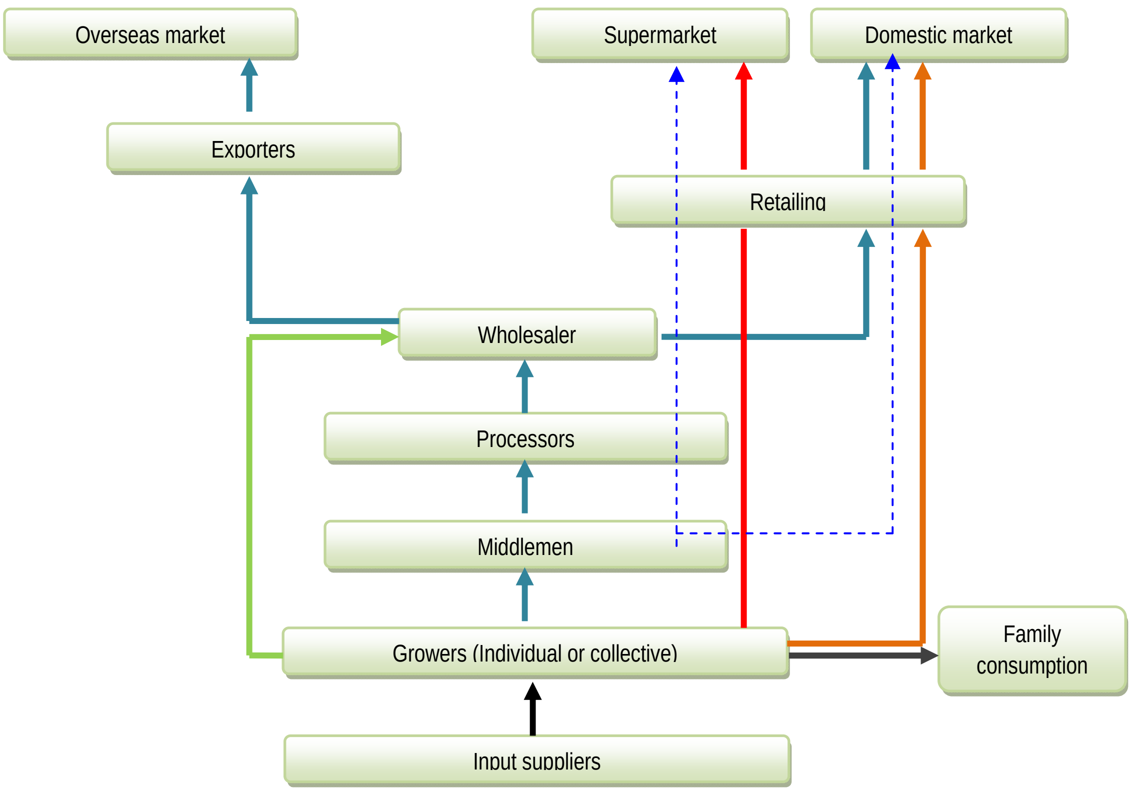
[2] Figure from Fruits and Vegetables Training and Experimental Center (CEFFEL) Data

covered by production directly sourced from growers, while the balance is supplied by agents/ middlemen, with no guarantee regarding the quality and traceability[3]. Most of the smallholders have been the inability to link with the supermarket chains. The main barrier is that they cannot meet the high quality and safety demands as well as delivery schedules and consistency that supermarket value chains require. A Community Based Organization named MAMABIO or Malagasy Bio Vegetable Grower at sub urban of the capital have their niche directly at Leader Price supermarket for their bio products with a stabilized price, one of the CBO successful market organisation. (b) The mining companies have a high demand on fruits and vegetables with quality control. Toamasina Horticultural and Technical Center (CTHT), Madagreen, Moramanga Bying Center (CAM) and some SME supply fruits and vegetable for Sherritt, a mining company at middle east and east cost of Madagascar. (c) Tourism cities destination such as the famous islands with their attractive beaches consume significant fruits and vegetables.

Processing unit comprises the professional factory unit such as TIKO, CODAL, LFL some formal Small and Medium Enterprises (SME) member of Fruits and Vegetables Professional Union (UPFL) or not and some informal SMEs. Products are less sorted for this destination and final products go to local markets, supermarkets or for exportation.

Export market aims mainly the Indian Ocean islands markets, European markets and some Middle East countries markets. Standards should be met and the litchis export, green bean and leak's Lecofruit export, a Seminis branch, and small quantities of vegetables for the neighbouring islands respond these standards.

Figure 3: Global value chain scheme in Madagascar



Madagascar export less diversified fruits and vegetables, significantly bellow its potential. According to CTHA (2009), exported products are mainly:

- Perishable products sent by air freight to 'Europe : green bean, peas, hot pepper, melon

[3] According to studies performed at Shoprite Madagascar among 12 producers and 28 vegetables species, from January to December 2009

- Storable products transported by sea freight
  - to the neighbouring Indian Ocean islands: Dried vegetables and Legumes, Onion, Ail, potato, hot pepper,
  - to Europe : Litchi, gloves, pepper.
- Processed products such as packaged green bean of green pepper to Europe or fruits half transformed to Indian Ocean islands.

The actual situation put the farmers in a bad position to challenge with the middlemen and accept the imposed price from buyers in their disadvantages. Farmers became dependent on traders through product-market credit process.

2.4. Organization and private companies involved in horticultural sector

Institutions involved in horticultural sector include:

- *Two (2) Horticultural and Technical Center* (CTHA and CTHT), located in Antananarivo at the highland (temperate) and Toamasina in the east coast of Madagascar (tropical) for temperate and tropical horticultural value chain promotion by technical support and a better consideration of producers interest, involving them in the market networks within a platform with exporters, processors, importers. Financed by French cooperation from 2000-2002, the donor play a role of observer.
- LECOFRUIT, a Seminis branch is a private company producing through 5000 contract growers' green bean and leak for export.
- *Product Processing and Conservation Center* (CTCP), part of CTHT is located at Agricultural Science and Technique Applied School (EASTA) near Toamasina, and help the school for agricultural post harvest technology training.
- Many NGOs such as CARE International, Catholic Relief Service (CRS), Adventist Development and Relief Agency (ADRA), Confessional Development organisation (Lutheran, Reformist), FAO … and program (PSDR, SAHA) support group farmers mainly during the cool season in the framework of food security and actually tendency to commercialisation; and all International Fund fro Agricultural Development (IFAD) programs are market oriented (PPRR, PARECAM, AD2M, SCAMPIS, PROSPERER).
- Group farmers produce and join a Farmers' network which needs to be enhanced to face the middlemen and the exporters through a "win-win" process.

2.5. National program

- Agricultural Service Center (CSA), initiated by the Ministry of Agriculture to fulfil proximity services for producers, is a platform to meet producers and private sectors to facilitate related service information system, including market, capacity building... CSA covers actually 107 districts and intends to cover all districts over Madagascar.

2.6. University and research centers

- *University of Agronomical* dealing a general horticulture and agricultural policies;
- *Professional Training Center* located at high potential cities in the highland and the East coast;
- CIRAD - *Agricultural Research Center for International Development*, which its FLHOR department, from 1997 developing horticulture value chain for export.
- FOFIFA *(National Center of Applied Research and Rural Development):* it's Madagascar's principal agricultural research and development agency and it holds a broad mandate covering crop, livestock, forestry, postharvest, and socioeconomic research.
- FIFAMANOR *(Norwegian development cooperation in Madagascar)* working on root and fodder crops research, seed production and dissemination.
- AVRDC – The World Vegetable Center focusing on Vegetable breeding and seed systems

- CEFFEL: Fruits and Vegetable Training and Experimentation Center exploring and adapting farmers' knowledge and practice.

2.7. Expertise

The existing Horticultural and Technical Centers (CTHA' CTHT, CTCP), research Centers (FOFIFA, FIFAMANOR, CEFFEL, AVRDC), and oriented marketing projects (NGOs) develop human resources expertises at national level for horticulture sector.

LECOFRUIT has experiences with contract growers which would be developed for more enterprises.

3. Present management of involving stallholders in commercial agriculture

The Ministry of Agriculture strategy, in the framework of Union European funds, implements:

- Horticultural Diversification in the East Coast of Madagascar from December 2009 to January 2011
- Production and Professional Organization Intensification Program on gloves (October 2008 to February 2011) and vanilla (January 2009 to May 2011), in partnership with CIRAD and SAF/FJKM;
- Technical support of farmers' networks by CTHA and CTHT
- Agricultural Service Center (CSA) and Regional Funds for agricultural Development (FRDA)
- Rural Income Promotion Project funded by IFAP from 1998 until 2012 to secure farmers income and promote contract farmers.
- 1.300.000 fruit trees plantation launched on 2010 by the Ministry of Agriculture over Madagascar
- CEFFEL continues its action on training, experimentation and market information system.

3.1. Challenges

- Poor quality of products sold in the market due quality seeds used, pests incidence in the fields, lack of post harvest logistic, lack of implementation of standard as a law regulating the trade of fruit & vegetables
- Lack of vegetables data base and market information leading to a fair farmers organisation face to the middlemen and the market in term of quantity, standards, price and delivery schedule; access to credit; limited mindset for investment;
- Global (climate change) and social (political crisis, insecurity) environment instability;
- Challenged physical environment (land erosion, smallholders' land tenure, road, equipments and transport equipments)
- Limited technology promotion and communication to boost creation demand;
- Need of strong coordination and synergy between vegetable stakeholders.

3.2. Opportunities

- Supported program by the Ministry of Agriculture and presence of many institutions working on fruits and vegetables sector (AVRDC provide seed source, quality seed and new varieties, and to build capacity on Vegetable sector – CEFFEL trains farmers on fruits and vegetables and provide market information's – CTHA and CTHT supply technical and organizational supports to farmers – CSA offers service to facilitating negotiation and access to information and market, NGOs support farmer organisations for production, marketing and nutrition…)
- Diversified Agro ecological zones and available resources for diversified horticulture species (availability of land during off season after rice harvest and water at many areas - highly profitable land use – gross margins per hectare than cereals crops)
- Favourable horticultural environment production [existence of Land tenure program – micro finance program for rural producers – decentralized Seed Production Centres and Research Stations over Madagascar – Infrastructures construction and rehabilitation for access facilitation – post harvest

Logistics (cool chain) under construction program – Development of National (supermarket, mining companies, tourism zones), Regional (SADC, COMESA, COI) and International Markets (EU, US)

- Development of farmers network (CBO) motivated for vegetable production with contracts farmers for supermarket initiation and could be extended to export market;
- Daily vegetables need for consumption at mining companies and tourism zone and Development of urbanization creating new consumers
- Poverty rates and health incidence lower among smallholders growing horticultural crops
- Improved land management : case of vegetables production with greater use of organic fertilizer and inputs improving water conservation

4. On-going strategy

4.1. National level

To insure that smallholders should be able to benefit more from efficient market and local-level value-addition, and be more exposed to competition, success requires ability to produce profitability and sustainability. The on going strategy should be emphasized:

- Set up a policy on standard and follow up the implementation, for a minimum standard level determining safety products, even for national consumption. This will act as a constraint for every producer who must cope with the minimum standard before they can commercialize their product
- Improve smallholder access to high or better productivity by improving locally adapted inputs and equipments (e.g., use quality seeds, appropriate fertilizer, drip irrigation system)
- Improve smallholder access to better post-harvest technologies and logistics and knowledge that reduce post-harvest storage losses, improve product quality, and promote value-addition through agro-processing
- Establish and maintain market information centers and market intelligence databases. Moreover, the use of local radio, mobile phones and the internet has increased the avenues for timely and wider delivery of useful market information.
- Invest in rural and agricultural infrastructure (e.g. rural roads, electrification, small and targeted large-scale irrigation, soil conservation structures)
- Establish and maintain market extension technician in the field to train farmers on market trends and new international trade rules and policies in order to improve their ability to negotiate effectively with contracting companies

Access of smallholder to markets with the highest production standard is tied to their link with traders.

- Identification of niche markets
- Development of contract growers (includes small and medium-scale farmers) to link with established agro-processing and export companies through "win-win" process
- Enhance SME processing capacity and product quality
- Develop sustainable relationships between stakeholders (farmers, inputs suppliers, transport, markets) through a participatory action plan and implementation

Strong Public-Private framework by improving agri-business environment

- Build or determine clear policy issues relevant to a market-oriented approach, contracts and standards implementation of horticultural sector
- Increase vertical coordination of agricultural supply chains, concerns about food safety, quality and convenience, health and environmental sectors
- Maintain favorable investment climate – i.e., security, macroeconomic stability, realistic exchange rates, limited government interference to encourage foreign investments and partnerships in horticultural sector

- Promote group marketing through Farmers' network to increase "bargaining power" through One Village, One Product (OVOP) approach

4.2. Regional level

The objective of Madagascar's Trade policy is to reduce poverty through trade liberalization process (started since 1980s) in which private sector and trade sector play the role of economic growth driving force and recently global market policy. In this way, the country has adhered to various regional community and agreements and should keep on way to focus regional and international market such as:

- Common Market for the Eastern and Southern Africa (COMESA) (1995)
- Indian Ocean Commission (COI) (January, 2000)
- Economic Partnership Agreement (EPA) between Africa, Caribbean and Pacific (ACP) countries and the European Union (EU) (June, 2000)
- Southern African Development Community (SADC) (August, 2004)

Madagascar is fairly connected to worldwide trade. Most relevant barriers to international trade are related at first to procedures (e.g. time consuming procedure, customs tariffs currently used) and general weakness within Malagasy organization economy.

5. Conclusion and recommendations

The success of the Asian Green Revolution hinged on smallholder-focused productivity transformation with crucial implication for poverty reduction, food security and economic growth. Appropriate implementation of actual program could change significantly the smalholders situation with the government efforts of improving environment on horticultural sector investment as well by national as international private sectors, taking in account farmers' network members in a participatory planning and action process.