Horticultural Value Chains in Kenya
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- Meru Greens
- Goshen Farm Ltd
- Farm Concern International (FCI)
- Operators of Wakulima, Kangemi, Githurai, and Thika wholesale vegetable markets among others.

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For further information visit https://www.afcap.org
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Introduction

About this booklet
This booklet is based on a DFID/AFCAP funded study that looked at the organisation of transport and other logistical
components as part of the marketing chain in the smallholder sector. Field studies were carried out in four counties:
Kirinyaga, Meru, Nyeri and Nyahururu. The studies focused on four smallholder product value chains: potatoes, onions,
bananas and french beans. The study was carried out between February 2012 and April 2013 by a partnership consisting
of the Kenya Network for Dissemination of Agricultural Technologies (KENDAT), the International Forum for Rural Trans-
port and Development (IFRTD) and Transport Consulting Partners International (TCP International).

It targets policy makers and planners in Kenya at the level of devolved government units - the counties. It provides a gen-
eral framework for understanding the structure of smallholder horticultural value chains, highlighting the main logistical
elements that should be the main points of focus in planning interventions in order to improve the marketing efficiency
in the smallholder agricultural sector. The booklet is not a detailed manual for implementing interventions to improve the
logistical performance of small-holder horticultural value chains. Rather, it provides a starting point for carrying out more
detailed investigations on the specific logistical challenges experienced for different products and regional contexts.

The booklet is inspired by the knowledge that smallholder farmers in Kenya contribute 95% of the high value agricultural
produce that is marketed in high-end outlets nationally and internationally. As the dominant national economic activity,
agriculture is the main source of rural employment, export earnings, a source of food security, and a stimulus to the gen-
eration of off-farm employment. In addition, it is a major source of raw materials for the manufacturing sector, providing
33% of the input.

Government policy emphasizes the importance of developing value chains by focusing on produce consolidation and
efficient transportation as a key mechanism for overcoming the highly fragmented marketing relations. Value chain struc-
tures are evolving in response to a number of factors, such as increased local and international demand for high quality
agricultural produce and better linkages between the markets and production points. Regardless of the operational scale
and commodity type in a value chain, they are all underpinned by the same economic rationale of ensuring the capture of the best value at all stages of a commodity transition from input supply, primary production, processing, trade and consumption. Timeliness and appropriateness of transport plays an important part in this process.

Sustainable social and economic development of the counties under the new decentralized dispensation in Kenya is highly dependent on improved performance and commercialisation of smallholder agriculture. Whereas the Ministry of Agriculture has continued with efforts to increase on-farm productivity, there continues to be significant post-harvest value losses experienced at various stages of the marketing chain. Most of the absolute losses and value deterioration happen between the farms and first marketing interface, which could be the roadside assembly point or a primary market in a rural center. The losses are mainly related to time lapse between harvesting and availability of transport. County governments need to step up efforts to improve the farm-to-market linkages through road infrastructure, improved transport services, common storage, and value addition infrastructure. In addition, there is need for appropriate regulatory interventions to make the marketing system more transparent so that it can deliver equitable value and benefits to all the players across the chain.

These efforts require collaboration of various sectors across the national and county government spheres, the private sector and the smallholder farmers and their associations. It is the role of devolved government units to initiate and enhance such collaboration.
What is an Agricultural Value Chain?
A value chain is a sequence of activities which lead to production goods and/or services that eventually reach the final consumers. It involves several actors who undertake distinct functions that start with an input process, several intermediate stages of product transformation, value addition, and delivery to the market.

Figure 1: Basic Functions of a Chain Link

**Basic functions (Chain Links)**

- **Provision of specific Inputs**
  - Provide equipment
  - - inputs
- **Production**
  - Grow
  - Harvest
  - Dry etc
- **Transformation**
  - Classify
  - Process
  - Pack
- **Trade**
  - Transport
  - Distribute
  - Sell
- **Final Sale**

**Categories of Chain operators and their actions**

Specific Input providers → Primary producers → Logistics Centres industry → Traders → Final Sales point/ Retailer

Source: Springer-Heinze 2008, p 56
Agricultural value chain

The component parts of a value chain are by themselves business opportunities. The importance of carrying out a value chain approach in development of smallholder agribusiness is to:

- Identify potential business opportunities for investments
- Identify bottlenecks and the necessary improvements needed for better chain optimization and performance
- Provide a framework that can enable analysis in the spread of benefit for the various actors in the chain

For the purpose of this booklet, we focus specifically on the logistical components of the value chain, especially the transport operations that link farmers to the markets. A pre-condition for marketing of high-value products is transport efficiency and proper management of various activities within the supply chains. Coordination of transport is particularly important in the smallholder sector as the farms tend to be spatially dispersed and poorly connected to motorable road networks. Local consolidation of produce into viable volumes requires a reliable local transport system and coordination with traders who collect produce for outward transport to the main markets.

Logistical Components of a Value Chain

Smallholder farming presents a logistical challenge due to the fragmentation of production into small individual units. In addition, the farms are typically located far from the main rural road network. In this booklet, we use the term “logistics system” to refer to the mechanisms used by smallholder farmers in a given area to work together to consolidate their produce in order to achieve viable volumes for transport to the market. High value agricultural produce is generally grown for national and international markets, thus, it is highly dependent on efficient transport. Compounding transport challenges for the smallholder farmers include:

- Highly perishable produce
- Maintenance of transport infrastructure in view of heavy rainfalls received in the agricultural production areas of the country
In order to understand various transport problems experienced in the sub-sector, the logistics system can be broken into the following transport segments:

Farm to primary collection point - This is the first commercial interface for the smallholder farmer. This segment is referred to as the “First Mile”, and typically consists of the unclassified network of tracks linking farms to the classified rural road network. Motorised transport is limited and operates with great difficulty especially during the rainy seasons.

Intermediate transport stage - Consisting of movement from collection points and onto local storage depots and in some cases, secondary markets. Transport here is conducted mainly on classified rural or district level roads.

Transport to terminal destinations - Consisting of national and international markets. Transport is conducted along national roads using high capacity vehicles.

Figure 3 shows a typical smallholder transport chain for french beans in Kirinyaga County. The chain consists of smallholder farmers in one zone supplying to an entrepreneur/trader through contract arrangements. The beans are transported from the farm by foot or by use of various Intermediate Means of Transport (IMT) - to the primary grading shed. Here preliminary sorting is carried out in charcoal-cooled sheds. The collection points serve the purpose of load consolidation and also produce sorting and grading. They are located in a circuit along rural roads that can be accessed by motorized transport. From the primary shed the marketer uses Light Goods Vehicles (LGV) to transport produce to an intermediate cooling house (typically owned by them) before transporting the produce to larger cooler houses in Nairobi for local or export markets. The latter stage of transport uses Heavy Good Vehicles (HGV) that typically have cooling facilities.
Particular attention is needed to address the challenges of the downstream transport segment - between the small-holder farm and the first collection point. We have referred to this as the First Mile. This is the very first segment of a journey - in the context of smallholder farmers - consisting of individual fragmented volumes transported from the farm to a collection point or a primary market. This transport segment typically takes place beyond the rural road networks where non-motorised transport dominates. Means of transport here include head-loading mainly by women, animal transport, bicycles and lately, motor cycles. The First Mile is the feeder of the bulk of the agricultural freight as seen on rural and national roads.

**Table 1: Main requirements for logistic chains**

<table>
<thead>
<tr>
<th></th>
<th>Local Market</th>
<th>National Market</th>
<th>International Market</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Production</strong></td>
<td>Production standards are influenced by available agronomic, information, technology and market support systems.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>First Mile</strong></td>
<td>Occasionally will have an off-farm charcoal cooler, used only if transport does not show-up on the day of harvest. Accessibility during harvesting is essential. This section which can be as long as 20km in distance has highest transport costs per ton-km. Means of transport include human labour and IMT. Road condition greatly determines prevailing costs.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Beyond the First Mile</strong></td>
<td>Pick-up and larger trucks.</td>
<td>Lack of heat insulated trucks necessitates the adoption of practices such as overnight transport.</td>
<td>Large-scale marketers might own refrigerated trucks.</td>
</tr>
<tr>
<td><strong>Grading facilities</strong></td>
<td>Casual local sorting and grading</td>
<td>Local casual sorting and grading at on-farm loading spot. Sheds are rare.</td>
<td>Sorting, grading and packaging facilities on-farm or nearest the airport.</td>
</tr>
</tbody>
</table>
### The Importance of the First Mile Transport

<table>
<thead>
<tr>
<th>Storage</th>
<th>Rarely necessary.</th>
<th>Charcoal coolers and refrigerated warehouses.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Packaging, Processing</strong></td>
<td>Gunny bags, cartons, nets, wooden and plastic crates. Bulk packing cushioned with leaves on open or closed trucks.</td>
<td>Gunny bags, cartons, nets, wooden and plastic crates. Bulk packing cushioned or covered by green and dry leaves on open or closed trucks. Supermarkets receive mini-packs of single produce or ready-to-eat or cook mixes.</td>
</tr>
<tr>
<td><strong>Quality Standards</strong></td>
<td>No formal quality standards. Unpurchased produce likely to go to waste.</td>
<td>Kenyan-GAP Standards, exist in books but are scantily enforced.</td>
</tr>
</tbody>
</table>

Because of the low individual volumes transported and the poor condition of the road infrastructure, the First Mile is the most inefficient in terms of travel speeds and transport costs. From the studies in the various counties, the length of the First Mile transport segment ranged between 1.5 to 13 kilometres. Transport costs in the First Mile could take up between 20% and 37% of the total transport costs of the chain. Improved transport conditions result in improved economies of scale.

The **First Mile** conditions are often a transport planning blind-spot. Absence of motorised transport in this segment leads to its invisibility to planners. From this study, it was clear that a wider approach taking into account the entire chain, would help improve the logistics efficiency by reducing the bottlenecks of the first mile transport. The **First Mile** costs are mainly borne by the farmers eroding their income significantly. In the rainy periods of the year, transport in the first mile takes place with great difficulties.
Maintaining the **First Mile** transport infrastructure to ensure all-weather access should be part of rural roads strategy of County Governments. This may not necessarily require huge capital outlays. In the study areas, discussions with farmers revealed that they already spend their time and resources in improving the last tier of the roads. A partnership approach between the relevant government agencies (rural roads and agriculture) and farmers can help build the technical capacity that is required to maintain the first mile transport infrastructure.
Socio-economic dynamics

Socio-economic Dynamics of Value Chain Logistics

In recent years, a renewed focus on agriculture has been evident in Africa’s development agenda. However, there is a dearth of knowledge on the inter-linkages between production, agro-industry and markets, as well as the potential and capacities for developing these (Kormawa et al. 2012).

Some 450 million smallholder farmers around the world face poor marketing linkages. Additionally, farming practices are characterised by low productivity due to dependence on family labour, lack of access to resources and inputs such as seeds, fertilizers, irrigation equipment and machinery.

Smallholders remain dispersed and non-aggregated (DGDA, 2012). To feed 9.3 billion people by the middle of this century, the world will need to raise global food production by around 70 per cent. Ironically, majority of people currently suffering chronic hunger are the rural poor who work in agriculture, livestock rearing or fishing. A food-secure world requires that African farmers are enabled to produce agricultural surpluses, which will allow them to sell the excess for income. The income will enable them to invest in better agricultural practices and to insure against the bad seasons that will inevitably come, from time to time.

Today, the high value agricultural sector in East Africa is dominated by horticulture. The horticulture sector is the new ground for high value crop enterprises that can propel smallholder farmers from subsistence to commercial farming within short periods of time. Horticultural crops can be planted and sold within two to three months. Demand for good quality horticultural produce is increasing globally. In this increasingly globalised world, the Kenyan farmer must compete with other producers from developing countries such as Egypt, South Africa and Mauritius. These, in turn, must compete on quality and volumes with producers from developed countries such as Spain, Brazil, and Peru. Africa’s smallholder farming system must act fast on her systems which are constrained by opaque trading and transport chains that run from farm level to regional, national and even international markets.
There are several sources of transport services available for a typical farmer, depending on the volumes, location, nature of road surface, the weather, distances and other related factors. Often, farmers take a chance with transport by simply delivering the produce to the road-side. Trucks may not stop for small loads. In a place like Meru, through their own efforts, farmers growing bananas have organized collection days for certain locations (Ntharene, Miruriri, Kariene collection points), in an effort to make marketing more dependable.

It was interesting to note that not all the onion or potato collected from production areas such as Nyeri ends up in Nakuru or Nairobi markets. Produce from farm locations in Kieni West, for instance, may find its way to Maua in Meru. Potatoes from Kinangop may be transported to less competitive markets in Mwingi or Kitui. Such dynamics depend on many factors such as infrastructure, family relations and migrations, and trade traditions of days past. Knowledge that onion from Arusha in Tanzania is better cured and has a shelf life two to three times longer than the onions from Mt Kenya region, could be a major influencing factor.

This study showed that traders have to travel for between 15 to 500 kilometers to collect and/or sell raw and bulky produce in the cases of onion, potato, banana and french beans. Onion from Arumeru region of Tanzania, for instance, is finding its way into markets in Nkubu (Meru) and Nakuru. Larger payloads of 7 to 20 tonnes are cheaper per tonne-km and are best for the long distances. Smaller pick-ups and trucks (1 to 2 tonnes) may be the only option on rough roads in bad weather. The distances involved may be unnecessarily long when the trader owns the transport and farmers are dispersed. For instance produce may leave a farm in the Rift Valley for a far-away market like Mombasa, often on very difficult infrastructure, especially at the farm level where the journey begins.

There have been concerted efforts to organize farmers into produce assembly and marketing groups. This helps improve farm and business productivity through organised access to knowledge and inputs as well as dealing with the much needed critical mass of produce that motivates dependable and consistent transport and market profitability. Farmer field Schools, Commercial Villages and Agribusiness Clusters are some of the organised marketing models be-
Farmer Organization

ing tried under NGO and innovative private sector initiatives. These are making a great positive difference across the entire chain. Farmers with structures are attractive to market brokers. They gain voice and agribusiness capacity to participate as primary and credible partners in the chain. As farmer groups strengthen, they can consider having their own transport, available for their produce or for hire to others. Indeed, they may choose to have local storage structures or add value. For example, they may remove water, to ease transport or process a crop like potato to a more palatable consumers’ form such as chips or crisps or potato powder, well-placed moves towards rural industry advancement. It is rural industry that will eventually employ women and youth off-farm.
Gender dimensions

Gender Dimensions
Our studies recorded very distinct gender roles across all the enterprise value-chains studied. From farm to market, women tend to take on the tasks that need precision and great patience, particularly planting, weeding, harvesting, sorting and grading, packing, as men take on the tasks needing muscle or those that tend to be mechanised (ploughing, spraying, transport loading, driving). Men prefer bulk transactions where financial transactions are larger and of higher value. Women are able to bend the whole day weeding; or to stand the whole day at one place sorting french beans for meagre daily or weekly casual wages. An estimated 80 per cent of the french bean industry labour is provided by women.

Overall, unlike men, women are active at every point in the value chains. For example Sunripe Ltd (a French bean exporting company) reported that it employs 500 people in its pack house, of which women make up 80% and men the remaining 20%. Women make over 70% of farmers in Farm Concern International (FCI) labour force. In Meru Greens, women definitely have a dominion. In on-farm transport, men may dominate only when intermediate or other means of transport such as donkey carts and motorcycles are used.
Information and Communication Technologies for Value Chains

There are a wide range of information and communication technologies (ICTs) that feature in horticulture value chains. Computers, GIS vehicle tracking, cell phones and their mobile money transfer and payment services, television, radio and internet based or print media information sourcing and training services are revolutionizing the value chain capacities. In Kenya and the Eastern Africa region for example, the e-Soko (e-Market) web-based system offers an agricultural commodity exchange platform. Farmers, buyers, service providers enlisted with the e-Soko system are provided with passwords so that they can send targeted messages via Short Messaging Service (SMS) to their farmers through mobile telephony. ICT based platforms have been able to provide better support to agriculture value chains in ways such as supply chain management, financial services and information and agricultural trade services.

ICT applications have the potential of helping producers and other actors alike to address challenges and improve operations and marketing. Applications in use include:

- Marketing and pricing information systems
- Applications which help entrepreneurs and buyers to manage transactions with the large number of small-scale farmers who supply to them
- Mobile banking (such as M-pesa, Airtel Money and others) and associated applications that facilitate mobile payments
- Initiatives to expand the reach of farm extension services through phone and mass media
- SMS or text messaging applications for enabling environment protection advocacy
- Environmental / weather information systems for forecasting and early warning

ICTs have recorded the potential to attract the young generation to join the agricultural sector where they are able to provide white-collar services and engage in business ventures. There is need to change the mind-sets common in the youth population who are yet to relate ICT to agricultural production and marketing.
Information and Communication Technologies

AFCAP KENDAT & Partners Value-Chain Logistics
Examples of ICT use in Horticultural value chains

Example 1:
Small Scale Farms Value Chain Model: Meru Greens French Beans Contract Farmers
Farmers located more than 0.5km from the collection centre used mobile phones to contact motorcycle operators who provide transport services. Farmers are able to access services located far from their production areas.

Example 2:
Small Scale Farms Value Chain Model: Kangai Tisa Farmers Sacco, Kirinyaga District
Farmers who do not have their own transport means, use mobile phones to contact ox cart owners who provided transportation services. Farmers are able to pool their produce and utilise space available in the carts thereby cutting on costs. The ox cart owners are able to coordinate transport services by alerting farmers on pick-up times.

Example 3:
Medium Scale Farms Value Chain Model: Goshen Out-growers, Machakos District
The Goshen farm owner and managers use mobile phones to coordinate picking, transport and other farm logistics. Additionally, the farm management will use mobile phones to communicate with out-grower farmers as well as various suppliers of farm inputs.

Example 4:
Uncoordinated Small Scale Farms Value Chain Model: Potato Growers, Kinangop
Farmers rely on mobile phones to coordinate with middlemen who organise transport logistics and purchasing of the produce. Additionally, the middlemen are able to use mobile cash payment methods to pay for produce collected from farms.

Source: Field work, 2012
Farmer Support in the High Value Farming Sector

Farmers need improved access to services and agro-inputs. Despite increased investments in the agricultural sector over the last few years, the challenges to multiply and scale up success cases remain considerable. Social, economic, political, technological, financial and ecological impediments persist at all levels. Innovation in establishing market integration for the poor remains a formidable fight.

Poor production technology is another constraint. Farmers advancing from subsistence farming to commercial farming need to be hand-held and directed in ways that address all their fears as well as meet their aspirations. The many development support aspects that must come into play are many and multifaceted. As an example, at the time of this study, french bean farmers were facing a closure of their participation in the international markets. This is because of reported unacceptable Chemical Residue Levels noticed in their produce. Global GAP regulations remain strict for exported produce as reports on produce that is sold in local markets shows major laxity in food safety concerns. Indeed 95% of local horticultural produce is for the local market, despite much policy and food security concerns being targeted to the export crops.

Farmers called for attention in the following areas which they felt would empower them:

- Be made full participants in agribusiness, backed by catalytic Government and private sector empowerment towards self-realization (emancipation) and voice, to be credible players of the agricultural value chains
- Receive agribusiness training and information back-ups, be they in terms of new and disease-free or drought resistant crop and livestock varieties/breeds, irrigation technology and environment-friendly chemicals, renewable energy applications among many others
- Be assisted to understand and be party to the power of pooling resources and market-driven value-chain processes. For too long, desperate farmers have been exploited by market brokers who purchase their produce through what would be referred to as an auction system where the buyer determines the price
Farmer Support

- Training for accuracy in observing local and international Kenya and Global GAP (Good Agricultural Practice) guidelines and compliance. In this regard FPEAK has established the Practical Training Centre (PTC) in Thika, backed by five localities with training facilities in the country across the land.
- Be supported with logistical and transport infrastructure, including improved all-weather roads, produce collection stores, cold-room backed market and value-addition hubs, demo and model farms and other developments towards elaborate rural based industry that drastically improves rural employment and livelihoods would be referred to as an auction system – i.e. the buyer determines the price!
- Training for accuracy in observing local and international Kenya and Global GAP (Good Agricultural Practice) guidelines and compliance. In this regard FPEAK has established the Practical Training Centre (PTC) in Thika, backed by five localities with training facilities across the land.
- Be supported with logistical and transport infrastructure in the form of improved all-weather roads, produce collection stores, cold-room backed market and value-addition hubs, demo and model farms and other developments towards elaborate rural based industry that drastically improves rural employment and livelihoods.

The institutions of direct benefit to farmers that we came across during this study are listed in the appendices. The aim is to provide the readers of this book with real and reachable resources exploitable in various and stated ways, as listed in the Appendix.
Key Components for Value Chain Planning and Implementation

Value chain information:
A starting point for the development of value chains is a development of an information system that enables small-scale farmers to be aware of the types and quality of products demanded by the emerging markets. Issues of reliability of supply and quality and safety standards are important pillars of emerging agricultural value chains. Emerging ICT platforms have enabled the value chain actors to communicate effectively and access information easily. Additionally, ICT tools such as mobile phones have reduced the need for farmers to travel long distances to access inputs or banking facilities. Farmers are able to concentrate on production and value addition activities.

Coordination of stakeholders:
Efficient value chains require seamless operations at all stages. This requires all the actors to collaborate and work together. Successful value chains depend on the ability of all chain actors to communicate, coordinate and collaborate.

Institutions and policies:
Value chains as a business require an environment where it is possible for contracts to be signed and upheld, where innovation can be used as an incentive and opportunities for new investments made possible. This requires development of the necessary enabling policies that can support decentralized capacities for planning and supporting the necessary partnerships needed for sustained value chain development.
Key policy agribusiness attributes and actions for success must target the following mandatory advances in the interest of the high value agricultural sector:
• Clear Government strategies that target the much needed agricultural production potential
• Improving the quality of raw materials through modern farm husbandry techniques
• Increasing profitability in agribusiness to attract greater investment by actors all along the value chain
Key components for value chain planning

Figure 4: Hubs and spokes planning system for transport logistics designers

- Overall reduction of the cost of doing business through an enabling environment, established proactively by government via its agencies, such as the Kenya Private Sector Alliance (KEPSA)
- Ensuring the compliance of fruit and vegetable products with sanitary and phyto-sanitary, social, environmental, and traceability requirements
Key components for value chain planning

- Advancing technology on farms and in value addition activities such as processing, packaging, and labeling
- Investing in improving infrastructure to reduce transportation costs and investing in industrial parks and clusters
- Increasing investment in skills development institutions, national standards bodies and agricultural training institutes and extension services
- Developing initiatives at national, regional and global levels that will involve a wide range of government ministries and public and private sector institutions, as well as donors and international lenders
## Table 2: GIS Tools and Spatial Information Development for Agricultural Value Chains

<table>
<thead>
<tr>
<th>Level</th>
<th>Data</th>
<th>Significance to Value Chain</th>
</tr>
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<tbody>
<tr>
<td>Micro (Community)</td>
<td>• Household location&lt;br&gt;• Infrastructure&lt;br&gt;• Farm size and crop types&lt;br&gt;• Extension services&lt;br&gt;• Administrative units&lt;br&gt;• Bio-physical data (soil)</td>
<td>• Useful for assessing community assets for example, land, needs and challenges&lt;br&gt;• Understanding settlement patterns vis-a-vis existing infrastructures&lt;br&gt;• Understand network efficiency and access by production units&lt;br&gt;• Applicable in situations where planners are deciding where, and on whom, to concentrate efforts&lt;br&gt;• Mapping change over time upon establishing a value chain&lt;br&gt;• Understand potential threats such as natural hazards to value chains and how these are likely to affect production systems</td>
</tr>
<tr>
<td>Meso (Regional)</td>
<td>• Markets&lt;br&gt;• Collection points / centres&lt;br&gt;• Infrastructure&lt;br&gt;• Processing&lt;br&gt;• Extension services&lt;br&gt;• Bio-physical data (Rainfall)</td>
<td>• Important in deciding where to concentrate resources to support value chains&lt;br&gt;• Understanding local and regional networks including markets and level of interaction&lt;br&gt;• For decision making where to locate facilities and services (best and worst locations)&lt;br&gt;• Examine potential threats from natural hazards and how these are likely to affect especially the logistic systems</td>
</tr>
<tr>
<td>Macro (National)</td>
<td>• Infrastructure&lt;br&gt;• Markets&lt;br&gt;• Bio-physical data&lt;br&gt;• Processing</td>
<td>• Understanding regional networks including markets and level of interaction&lt;br&gt;• Examining the distribution of services and production areas at national level to support resource allocation&lt;br&gt;• Monitoring impact of interventions, strategies and policy direction</td>
</tr>
</tbody>
</table>
Regional Planning, Agricultural Value Chains, Actors, and Agriculture Sector Development Strategy (ASDS) in Kenya

Under the Agricultural Sector Development Strategy – ASDS (2010–2020), the responsibilities for agricultural development are spread across the sector ministries such as those responsible for roads, local authorities, administration, health, education, trade and industry, and finance. The ASDS uses a sector-wide approach in which government ministries, the private sector and development partners have distinct roles to play at national, regional and sub-regional levels. Collaborating ministries provide an enabling environment for agriculture to thrive through infrastructure development such as roads, electricity, availing appropriate technologies, negotiating favourable trade conditions for Kenya’s agricultural produce and ensuring a healthy farming population.

The ASDS is supported by thematic working groups (TWGs) namely: legal, regulatory and parastatal reforms; research and extension; agribusiness; value addition and marketing; inputs and financial services; food and nutrition security; policy and programmes; sustainable environment, land and natural resource management.

Actors:

Private Sector Institutions through the Kenya Private Sector Alliance (KEPSA) have been organized along sector boards to mirror the public sector arrangements and engage on issues. Key players within the agricultural sector include KENFAP, which represents agricultural producers, and KNFC, which handles the commercial arm of agriculture through the cooperative movement. Other private sector institutions include processors, marketing agencies and farm input dealers that, through their profit-oriented nature, have survived but can neither be regarded as strong nor organized players. The private sector also plays a key role in providing physical and social infrastructure, production, processing, input and output marketing, imports and exports, providing financial services and goods and services.

Development Partners and Regional Cooperation partners such as bilateral and multilateral donors support through financing Kenya’s agricultural budget. Development partners continue to play an important role,
particularly in spearheading new initiatives and carrying out pilot projects which for example provide innovative extension services and those that emphasize aspects of value addition and market orientation. Kenya is a member of regional and continental cooperation bodies such as the East African Community (EAC) and the Common Market for Eastern and Southern Africa (COMESA). These bodies provide opportunities for expanding Kenya’s markets for goods and services. The New Partnership for Africa’s Development (NEPAD) and the launching in Kenya of the Comprehensive African Agricultural Development Programme (CAADP) in 2006, a common strategic framework for agricultural policy development in Africa, are important initiatives.

**Farmer Organisations** including cooperative societies, farmer unions and federations, commodity associations, enterprise-based groups and community-based organisations, are important economic entities established to enhance farmer representation, to lobby for and advocate on their behalf at various levels, and to make farmer needs and demands known to service providers. These organisations have an impact on the production and marketing systems and therefore play a key role in empowering farmers and allow them to benefit from economies of scale.

**Other Non-State Actors** such as civil society groups including NGOs, community, and faith-based organisations support farmers and other actors by empowering them to participate more effectively in implementing the Government’s agricultural policies and strategies.
Future Research

Future research on logistics and transport studies to support Horticultural value chains

There is potential to enhance the knowledge base in this area of work through further research. Potential aspects for further research include but are not limited to the following:

• Market studies for new value chains that might be viable in the future taking into account a rapidly expanding the agricultural sector, as well as market studies assessing the consumer preferences and demand

• Harvest losses and quality of produce landing at the market or factory, and how these can be minimised, across various crop enterprises, including the quantification of economic losses attributed to poor road access

• Exploring how improvements in the First Mile influence quality and price across the entire chain, vis-a-vis infrastructure, choice of produce, and means of transportation

• The impact of agribusiness performance as infrastructural improvements are introduced to get the produce sooner, fresher, later or lighter to the market (for example, by removing water under solar-driers)

• Comparison across chains on the introduction and impact of mechanization, storage capacity as they apply differently for smallholder and large-scale farmers

• Comparison of different products and investments that leverage smallholder farmers’ investments and propulsion to rural agro-industrial development and growth

• Geo-spatial and logistical analysis towards identifying new workable and agribusiness efficient value chains with clear hubs and spokes
As Africa grows Regional Economic Communities (RECs) such as the East African Community, the RECs will need to adopt public-private partnership approaches and explore extensive engagement with private sector and development partners in designing policy and programmes to support growth of regional value chains. There is much commonality between value-chains in the various countries. This booklet highlights key aspects and features that would need to be researched as logistical and agribusiness commonalities and differences are defined, challenges addressed and harmonised across the region.

Figure 5: Example of a Community Logistics master plan from South Africa


Crown Agents and KENDAT 2012-2013. Various Project Reports: Project AFCAP/GEN/060 which was funded by the Africa Community Access Programme (AFCAP). KENDAT P.O. Box 2859-00200, Nairobi, Kenya. info@kendat.org

FAO (2003): Trade Reforms and Food Security: Conceptualizing the Linkages, Food and Agriculture Organisation, Rome, Italy.


Hughes D: 2010: Global agribusiness trends: Implications for smallholders. This is Africa: Global Special Report


Kenya Development Learning Centre (KDLC): Video conference report on high value horticulture for Eastern & Southern Africa: November 2010


The value chain


Sieber, N (2009) *Leapfrogging from Rural Hubs to New Markets, Rural Transport in Developing Countries; The International Bank for Reconstruction and Development / The World Bank*
Starkey, P (2007): *The rapid assessment of rural transport services A methodology for the rapid acquisition of the key understanding required for informed transport planning*, SSATP Working Paper No. 87-A,

USAID (2010) *A Guide To Integrating Gender Into Agricultural Value Chains*
USAID (2010) *A Regional Strategy For The Staple Foods Value Chain In Eastern Africa; A Practical Approach To Improving Staple Foods Competitiveness And Food Security*; United States Agency for International Development


Resources available for County Governments and others to tap into in endeavours to learn more about horticultural value chains advancement or regulatory interventions:

<table>
<thead>
<tr>
<th>Institution</th>
<th>Contact</th>
<th>Services</th>
</tr>
</thead>
<tbody>
<tr>
<td>Africa Community Access Programme (AFCAP)</td>
<td>St Nicholas House, St Nicholas Road, Sutton, Surrey, SM1 1EL United Kingdom. Tel: +44 (0)20 8643 3311 Email: <a href="mailto:enquiries@crownagents.co.uk">enquiries@crownagents.co.uk</a> <a href="http://www.crownagents.com">www.crownagents.com</a></td>
<td>AFCAP: Rural transport and Logistics. Sponsors of the research study that informed this booklet. Crown Agents: International development company that partners with governments, aid agencies, NGOs and companies to tackle challenges and find lasting solutions vital for people’s well-being and prosperity.</td>
</tr>
<tr>
<td>AGRICO East Africa <a href="http://www.agrico.co.ke">www.agrico.co.ke</a></td>
<td>Attn: Willem Dolleman P.O. Box 63249-00619, Nairobi. <a href="mailto:Willem.dolleman@agrico.co.ke">Willem.dolleman@agrico.co.ke</a></td>
<td>Importers and trainers of clean seed potato. Seed potato multiplication and dispensing to small-holder farmers.</td>
</tr>
<tr>
<td>AgriProfocus</td>
<td>Attn: Maureen Munjua, P.O. Box 30776-00100, Nairobi <a href="http://apf-kenya.ning.com">http://apf-kenya.ning.com</a></td>
<td>Forum for business to business exchange and networking for enhanced partnerships in agribusiness. Supported by SNV Netherlands Organisation.</td>
</tr>
<tr>
<td>Agriterra</td>
<td>Attn: RienGeuze P.O. Box 30776-00100 Nairobi <a href="http://www.agriterra.org">www.agriterra.org</a></td>
<td>Agribusiness support through institutionalization and coordinated resource training and other advisory support.</td>
</tr>
<tr>
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<tr>
<td>Centre for Alternative Technologies (CAT)</td>
<td>Nawir Ibrahim&lt;br&gt;+254 8000/174/175/176&lt;br&gt;Tel:+254-726-635153, 736-099227&lt;br&gt;<a href="mailto:info@cat.co.ke">info@cat.co.ke</a> <a href="http://www.cat.co.ke">www.cat.co.ke</a></td>
<td>Marketers of LORENTZ equipment, specialising in solar-operated pump systems, with clean energy solutions to irrigate agricultural land efficiently, economically and sustainably.</td>
</tr>
<tr>
<td>Crop Nutrition Laboratory Services</td>
<td>P.O. Box 66437, Nairobi.&lt;br&gt;www.cropnuts.com</td>
<td>Soil and irrigation water testing Services towards identification of soil nutrition and crop health needs.</td>
</tr>
<tr>
<td>Crown Agents: Implementers of the Africa Community Access Programme (AFCAP)</td>
<td>St. Nicholas House, St. Nicholas Road, Sutton, Surrey, SM1 1EL United Kingdom.&lt;br&gt;Tel: +44 (0)20 8643 3311 <a href="mailto:enquiries@crownagents.co.uk">enquiries@crownagents.co.uk</a> <a href="http://www.crownagents.com">www.crownagents.com</a></td>
<td>International development company that partners with governments, aid agencies, NGOs and companies to take on clients’ fundamental challenges vital for people’s well-being and prosperity.</td>
</tr>
<tr>
<td>Fairtrade Africa</td>
<td>P.O. Box 3308-00200 Nairobi&lt;br&gt;www.fairtradeafrica.net</td>
<td>Builds producers’ capacity through training, partnerships and knowledge exchange, promoting intra-African trade opportunities to create extra market access, raising awareness on trade justice by drawing attention to the challenges of producers</td>
</tr>
<tr>
<td>Farm Concern International (FCI)</td>
<td>P.O. Box 15185-00100, Nairobi. Kenya.&lt;br&gt;<a href="mailto:info@farmconcern.org">info@farmconcern.org</a>&lt;br&gt;www.farmconcern.org</td>
<td>Farmer mobilization, organisation and training for improved productivity and formation of Commercial Villages for coordinated voice and access to markets</td>
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<tr>
<td><strong>FINTRAC</strong></td>
<td>Karen Office Park, Langata Road. Karen. Nairobi. Tel: +254-722720045, +254-738900005 <a href="http://www.fintrac.com">www.fintrac.com</a></td>
<td>USAID Contractor for the Kenya Value Chain Enterprise Project (KAVES), a food security project helping increase the productivity and incomes of smallholder farmers and other actors across the strategic value chains of horticulture, dairy, and staple crops. Support to innovative technologies to improve nutrition at the rural household level, and increasing the capacity of key stakeholders.</td>
</tr>
<tr>
<td><strong>Fresh Produce Exporters Association of Kenya (FPEAK): The Practical Training Centre (PTC)</strong></td>
<td>Attn: Stephen Mbithi P.O. Box 40312-00100 Nairobi Kenya. <a href="mailto:info@fpeak.org">info@fpeak.org</a> <a href="http://www.fpeak.org">www.fpeak.org</a></td>
<td>Horticulture farming advisory and training services KARI-Thika, Practical Training Centre for training farmers, extension agents. Source for avocado, macadamia, pawpaw and other seedlings. Potato farming curriculum and center connected to five other locality farmers’ training centres.</td>
</tr>
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| Geospatial Africa | Attn: MathengeMwehe  
Maseno University Urban Planning  
Department  
Tel: +254724302883  
mathengemwehe@yahoo.com | Global Information Systems (GIS), resource mapping and other e-applications |
| GIZ (German Development Cooperation) | P. O. Box 41607-00100, Nairobi.  
www.giz.de | Development coordination and project funding in Kenya’s horticultural value chains |
| Horticultural Crops Development Authority (HCDA) | Florence Masiya, Programme Manager  
Tel:0721316570  
flomasia@yahoo.com  
| Innovam Ltd | Attn: P G Kaumbutho  
P.O. Box 63573-00619, Nairobi.  
Tel: +254-723 434182  
kaumbuthos@wananchi.com | Farm machinery and mechanization for crops, livestock, and transport, water management services for Conservation Agriculture. Solar powered waterpumping, boreholes, affordable large irrigation tanks (50 to 600m3 capacity) Horticulture drip irrigation reticulation, biogas and other modern farming services. |
| International Forum for Rural Transport and Development (IFRTD) | Peter Njenga, Executive Director  
IFRTD Tel: 0722360860  
peternjenga@wananchi.com  
www.ifrtd.org | IFRTD is a global network of individuals and organisations working together towards improved access, mobility and economic opportunity for poor communities in developing countries |
## Appendix

<table>
<thead>
<tr>
<th>Institution</th>
<th>Contact</th>
<th>Services</th>
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</table>
| **International Fertilizer Development Centre**         | Attn: Peter K. Kirimi  
Agribusiness Cluster Advisor (Kenya)  
IFDC - East & Southern Africa Division,  
ICIPE compound Duduville – Kasarani,  
Thika RoadP.O. Box 30772-00100,  
Nairobi – Kenya  
Tel: + 254 (20) 863 2720/2745  
+254704404520/0714746866  
pkirimi@ifdc.org,www.ifdc.org | Agribusiness cluster formation through Business Plan development among players in agricultural value chains |
| **Kenya Climate Innovation Centre**                     | Kenya Climate Innovation Center  
Strathmore Business School 3rd Floor,  
P.O. Box 59857 - 00200 Nairobi  
Tel: + 254 703 034 000 | +254 703 034 200, +254 703 034 300  
www.kenyacic.org | Business incubation and climate change mitigation. Innovative project support interventions in Agribusiness |
| **Kenya Highland Seed Co Ltd**                          | Attn: Peter Francombe  
Cell No: +254 706 825 555  
Peter.Francombe@khs.co.ke  
www.royalseed.biz | Potato seed demonstration plots and potato propagation knowledge and data base |
| **Kenya Investment Authority (KENINVEST)**              | P.O. Box 55704-00200 Nairobi.  
www.investmentkenya.com | Support services for local and international investors seeking investment ventures in Kenya |

_AFCAP KENDAT & Partners Value-Chain Logistics_
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<tr>
<th>Institution</th>
<th>Contact</th>
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<tr>
<td>Kenya Network for Dissemination of Agricultural Technologies</td>
<td>Attn: Pascal Kaumbutho&lt;br&gt;CEO KENDAT&lt;br&gt;Tel: 0722308331&lt;br&gt;<a href="mailto:pkaumbutho@kendat.org">pkaumbutho@kendat.org</a>&lt;br&gt;<a href="mailto:info@kendat.org">info@kendat.org</a>, <a href="http://www.kendat.org">www.kendat.org</a></td>
<td>Farmer empowerment and technology transfer&lt;br&gt;Facilitating smallholder farmers access to information, technology, means and markets&lt;br&gt;Specialists in Agricultural Mechanization Animal welfare programs</td>
</tr>
<tr>
<td>Kenya Plant Health Inspectorate Service (KEPHIS)</td>
<td>KEPHIS Headquarters&lt;br&gt;P. O. Box 49592-00100, Nairobi&lt;br&gt;Tel: 020-3597201/2, 3,3536171/2 Cell: 0722-516221, 0723786779, 0733874274, 0734874141&lt;br&gt;<a href="mailto:director@kephis.org">director@kephis.org</a></td>
<td>Government of Kenya regulator for protection of plants from pests, weeds and invasive species. Facilitator of policy, legal and regulatory framework for phyto-sanitary concerns in tandem with both local and international agricultural sector emerging issues.</td>
</tr>
<tr>
<td>KFW</td>
<td>Eng. Rosemary Kung’u&lt;br&gt;Programme Co-ordinator KFW&lt;br&gt;Tel: 0722801978 <a href="mailto:info@kfw.de">info@kfw.de</a>&lt;br&gt;<a href="mailto:rosemarykungu@kfw.de">rosemarykungu@kfw.de</a></td>
<td>Promotional bank that supports change and encourages forward-looking ideas – in Germany, Europe and throughout the world.</td>
</tr>
<tr>
<td>Micro Enterprise Support Programme Trust</td>
<td>Attn: Jeff Njagi&lt;br&gt;P.O. Box 187 - 00606 Nairobi&lt;br&gt;Tel: 0722 207905 / 0735 33154; 3746354; 3746764&lt;br&gt;<a href="mailto:info@mespt.org">info@mespt.org</a>&lt;br&gt;<a href="http://microfinancetrust.org">http://microfinancetrust.org</a> <a href="http://www.mespt.org">http://www.mespt.org</a></td>
<td>Financial Services: makes loans to financial intermediaries for on-lending to enterprises Business Development Services (BDS): non-financial services to enterprises through intermediaries in product development, technology adaptation, market access and linkage, skills acquisition and productivity improvement Institutional Support Capacity Building: strengthens financial services and BDS intermediaries to offer efficient and effective services.</td>
</tr>
<tr>
<td>Organization</td>
<td>Contact Information</td>
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</tbody>
</table>
| National Economic and Social Council                                      | Attn: Julius M Muia  
P.O. Box 62345-00200, Nairobi  
www.nesc.go.ke                   | Government policy-research and advisory body Vision 2030 Think Tank. Encourages dialogue on research on innovative ideas of economic and social nature; organises information sharing and dissemination gatherings for rapid national development including transport and logistics. |
| National Potato Council of Kenya                                          | npck@npck.org                                                                      | Multi-stakeholder organization for the potato industry in Kenya.                                                                                                                                                     |
| SNV (Netherlands Development Organisation)                                | Attn: Alphonce Muriu,  
SNV Kenya Country Office  
P. O. Box 30776, 00100 Nairobi, Kenya  
Tel: +254 20 3873656, 724 463355,  
735 177992  
kenya@snvworld.org  
www.snvworld.org                | Focuses on agriculture, water, sanitation, hygiene, and renewable energy sectors. Provides advisory services, promotes the development and brokering of knowledge, and supports policy dialogue at national level. Works in partnership with other development agencies, as well as private and public sector organisations |
| TCP International                                                         | Attn: Dr. Eng. Niklas Siebers  
ns@tcp-international.de  
www.tcp-international.de       | Centralized and County level human and agribusiness logistics and transport system assessment and planning for efficiency and sustained economic growth.                                                                 |
| University of Nairobi, Department of Urban Planning                       | Attn: Musyimi Mbathi  
musyimimm@hotmail.com          | Geographic Information Systems (GIS) Services and consultancy for urban and regional planning and mapping.                                                                                                        |
Compiled by:
Kenya Network for Dissemination of Agricultural Technologies (KENDAT)
In Partnership with:
International Forum for Rural Transport and Development (IFRTD) and
TCP International GmbH