

Full Length Research Paper

Towards a Multi-Sector Value Chain sustainable Agriculture in Devolved Kenya's Kisumu County

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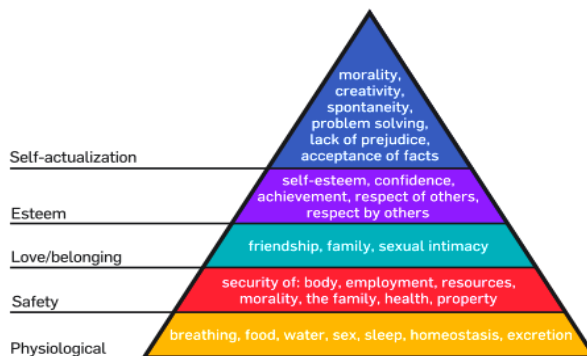
This study is on Kisumu County in Kenya (East Africa). It proposes upgraded agro-based and related value chain sustainable investments in devolved Kenya. Kenya is categorised with 'developing countries', many of which have operated within a logic of export-oriented development. They have viewed participation into Global Value Chains (GVCs) as a unique opportunity to relocate productive activities inside their borders, supporting not only economic growth but also better social standards. GVCs scholars have, however, noticed how dependence on external buyers in developed countries locks developing countries' suppliers into low-skilled/labour intensive activities. This prevents them from developing the institutions and know-how required to move into higher stages of value creation. At the same time, as globalisation expands, it has been characterised by integration through disintegration as increasing trade has been accompanied by a breaking-up of traditional value chains across countries. This has created the need to pay more attention to questions of sustainability and value chains in the countries of the South. It is emerging that the value chains of domestic and regional markets should be developed and expanded if the countries of the South are to continue sustaining a meaningful pace of progress. In Kisumu County, Kenya (Eastern Africa) this thinking has informed the proposition to initiate a flagship multi-sector sustainable agriculture eco-village through a mutually beneficial partnership for capacity-building and technology transfer to enhance agricultural productivity.

Keywords: Value chain, sustainable investments, Kisumu County, Kenya

INTRODUCTION

Following a recent re-writing of the constitution in Kenya, the country has ended with forty-seven counties with each county expected to operate as a semi-autonomous administrative and political entity. In this opinion piece, it is projected that the viability of each of these counties is tied to a systemic level of self-sufficiency.

This, in essence, implies that both the substructures and the superstructures of these new political entities should be founded on solid foundations of what Abraham Maslow referred to as the 'physiological needs' in his famous 'hierarchy of human needs'.



506. J. Agric. Econs, Extens. Rural Develop.

According to this formulation, the basics of a viable human community such as a county should include: food, water and what we may sum up as an enabling environment to facilitate the memberships' journey on the path to attaining self-actualization.

In the opinion of the current author, one viable means of facilitating the attainment of the physiological needs within these nascent political entities is to work towards a fundamental theme, namely *improving lives and the environment*:

- through *value chain sustainable agriculture and allied industry*,
- by creating mutually beneficial *partnership for capacity-building and technology transfer to enhance productivity*

It is in this context that opinion is offered to the effect that a good starting point would be to set up flagship agricultural projects as proposed below; in this case for the Kisumu County of Kenya.

Context and Justification:

Food Security, Natural Resource Utilization, Sustainability, and Conservation of the Environment – these are issues at the foundation of development in human communities; and therefore fundamental to the development of a political and administrative entity such as a County.

The first **Government of Kisumu County** led by **Governor Jack Ranguma** reflects them in its **Manifesto**, when the Governor emphasizes that the Government intends to *deliver services to the people of Kisumu County* and also to *strengthen the Government's Development Agenda* which inter alia include:

1. Food Security and Commercialization of Agriculture
2. Bringing Industries to Kisumu
3. Developing Kisumu's Tourism Potential
4. Developing the Abundant Talent of the People of Kisumu
5. Strengthening Investment in ICT as a Large Employer especially for the Youth and to drive Industrialization and Other Programmes
6. Strengthening Health Delivery System particularly by way of Promoting a Strong Health System
7. Strengthening Quality in Education
8. Investing in Pillars that will Support the entire Investment Spectrum including Investment in Roads, Energy, Environment, Fibre-Optics and Other Forms of Infrastructure.

(<http://kisumudalaevents.blogspot.co.ke/2015/01/kisumu-county-governor-restructure-of.html>)

Kisumu County has great economic potential, more so in the agricultural and allied sectors, given that in principle it has an enabling environment. As with all agricultural growth, two things appear essential for successful *value chain development*: creating the right environment for agriculture and *investing in rural public goods*.

Broadly, an enabling environment implies peace and public order, macro-economic stability, inflation under control, exchange rates based on market fundamentals rather than government allocation of foreign currency, predictable taxation that is reinvested in public goods and property rights.

There is a positive correlation of agricultural growth with investment in irrigation, transport infrastructure and other technologies. Governments have a responsibility to provide essential goods and services, infrastructure, such as rural roads, and agricultural research and extension. Value chain development is often constrained by corruption, both at a high level and at the ubiquitous road blocks found in many countries, particularly in Africa. Many measures to improve value chains require collaboration between a wide range of different ministries, and this can be difficult to achieve.

This partially is why residents in Kisumu County are constantly under threat from food insecurity and environmental degradation due to, among others, inefficient and unsustainable utilization of the County's Natural Resources. Henry Obade, the Kisumu County Minister for Agriculture, Livestock and Fisheries (MALF), has noted that "farmers in the County are faced with many challenges such as inadequate access to profitable markets", and that "the County Government is on the lookout for projects linking farmers to markets".

He has reiterated Kisumu County's eagerness to: collaborate with teams working towards improved service delivery and better livelihood for farmers in the County. This opens way for identifying areas of collaboration and forging partnerships, including joint fundraising.

(http://www.kilimotrust.org/documents/news/The%20CEO_of%20meets_with_county_governments_in_Kenya_for_partnerships.pdf)

Farmers say that they do not have adequate information to know what to grow that will sell, where to sell, how to sell, or whom to sell to. They also worry about the increasing irregularity of rain/water availability.

The farmers also admit to having problems managing money. They have a hard time managing cash flow, the cash requirements of the planting season, and debt.

The Concept:

In response to the above, and as a part of its investment portfolio, Kisumu County has set the following as part of its **investment profile**:

1. Promoting food security crops such as sorghum, rice, arrow roots, green grams, cassava, finger millet, groundnuts, beans, cow peas, maize, beans, soya beans, sweet potatoes, and Bambara nuts (*Vigna subterranean*);
2. Horticultural and Fruits crops: For example cabbages, carrots, chilies, squash, *sukuma wiki*, onions, tomatoes, avocados, bananas, citrus (oranges and lemons), jack fruit, mangoes, papaya, strawberry, passion fruits and cut flowers;
3. Creating a Supportive environment for food Production – by setting up an *Agribusiness Guarantee Fund* (AGF), developing an Agricultural sector growth Policy, and Strengthening Agricultural Extension services;
4. Promoting modern Livestock production through extension support services. Livestock include - rabbits, cross-bred cattle, dairy goats, sheep, pigs, guinea fowls, quails (*aluru*), ostriches, rearing bees (commercial apiaries), and indigenous poultry;
5. Supporting entrepreneurship in agriculture. For example by promoting Cash crops such as cotton, oil palm, sesame, sugarcane, sunflower and tobacco; and through value-addition in several agricultural commodities including horticultural produce and fruits, animal feed;
6. Creating mutually beneficial partnership: for capacity building and technology transfer to enhance agricultural productivity
7. Fisheries and Fish farming: Promoting sustainable harvesting of Lake Victoria's fish stocks and introducing fish farming projects in every ward across the County to meet the increasing demand for fish.
(<http://county-yangu.com/default/details.php?number=154>)

It is in line with this investment profile that it is proposed that a flagship multi-sector **sustainable agriculture** eco-village be initiated through a mutually beneficial partnership for capacity-building and technology transfer to enhance agricultural productivity.

Sustainable agriculture is the act of farming based on an understanding of ecosystem services, and the relationships between organisms and their environment. It has been defined as an integrated system of plant and animal production practices having a site-specific application that will last over the long term, for example:

- Satisfy human food and fiber needs
- Enhance environmental quality and the natural resource base upon which the agricultural economy depends
- Make the most efficient use of non-renewable resources and on-farm resources and integrate, where appropriate, natural biological cycles and controls
- Sustain the economic viability of farm operations
- Enhance the quality of life for farmers and society as a whole

Value Chain Multi-Sector Agricultural Flagship Eco-Village

The proposed is to be a state of the art project to be initiated by the County Government of Kisumu with a core group of Partners working towards implementing and disseminating information on better farming practices, as a means of sustainable:

- Improvement in the management of agribusiness, e.g. Farm Management Practices
- Agronomy, i.e. the science and technology of producing and using plants for food, fuel, fiber, and land reclamation; work in the areas of plant genetics, plant physiology, meteorology, and soil science
- Natural resource utilization
- Food security
- Staving off environmental degradation
- Linking farmers to markets
- Profit-making and solid investment
- Creation of employment
- Industries

Collaborators

The project is to be implemented in phases by the County Government of Kisumu in collaboration with organizations and select communities; the latter which in the first instance shall be drawn from the convergence of residents of:

- Kajulu,
- Kano, and
- Kisumu

The principal considerations for the choice of these communities include the following:

- Host little, if any, agricultural undertaking of such magnitude
- Being littoral and proximate to the fairly densely populated Kisumu City, thence easy access to market for produce and raw materials for recycling
- Existence of a university in the locality, namely: the Great Lakes University
- Easy access to all season water sources
- Availability of extensive agricultural land
- Relative close proximity to other agricultural research and teaching institutions

Please note that the choice of the communities is essentially a proposition and this can be varied given the priorities of the County Government and the funding conditionalities.

The collaborating organizations are to be those which have worked with the County Government to initiate the project and which therefore have and – together with the County Government – shall source for the requisite technical, human and financial resources to facilitate the project.

The first step in the process of initiating this project shall be a formalization of the relationship through signing a memorandum of understanding (MOU) between the County Government of Kisumu or its representatives and the Collaborating Partners or their representatives.

Project Models

Either of the following consortium models is suggested for the implementation of this project:

1. *EITHER:*

PPP – *Private-Public-Partnership* model in which the County Government and the Private sector co-jointly operate the project

2. *OR:*

BOT – *Build-Operate-Transfer* model in which the Private Sector develops the project with requisite input from the County Government and/or communities (e.g. provision of land), with an understanding that the Private Sector shall operate the project for a specific time period and under specified conditions, upon the expiry of which the project is handed over to the County Government and/or the hosting communities

The model to be applied shall be determined by the terms of financing on one hand, and on the other, by the terms of agreement between the associating parties; and shall not be restricted to choosing from either of the two options provided above.

In terms of the execution of the project, it is proposed that the **Value Chain Approach** be adopted in order to deliver products or services with added value to Kisumu County residents and beyond; and thereby generate optimal incomes on investments in the agricultural and allied businesses.

The **agricultural value chain** concept has been used since the beginning of the millennium, primarily by those working in agricultural development in developing countries. Although there is no universally accepted definition of the term, it normally refers to the whole range of goods and services necessary for an agricultural product to move from the farm to the final customer or consumer.

The term value chain - first popularized in a book published in 1985 by Michael Porter, who used it to illustrate how companies could achieve what he called “competitive advantage” by adding value within their organization - was adopted for agricultural development purposes and has now become very much in vogue among those working in this field, with an increasing number of bilateral and multilateral aid organisations using it to guide their development interventions.

At the heart of the agricultural value chain concept is the idea of actors connected along a chain producing and delivering goods to consumers through a sequence of activities. However, this “vertical” chain cannot function in isolation and an important aspect of the value chain approach is that it also considers “horizontal” impacts on the chain, such as input and finance provision, extension support and the general enabling environment. The approach has been found useful, particularly by donors, in that it has resulted in a consideration of all those factors impacting on

the ability of farmers to access markets profitably, leading to a broader range of chain interventions. It is used both for upgrading existing chains and for donors to identify market opportunities for small farmers.

Project Support

Support will be sought from selected:

- local and international business interests
- local, regional and international non-governmental and governmental agricultural support organizations
- local universities and those outside the county and beyond
- local and international agricultural, food security, environmental, marketing and research organizations
- tertiary agricultural training institutions
- funding organizations and agencies

Project Objectives

The objective is to demonstrate and provide hands-on training with new, organic ways of farming, new farming techniques and new crops, and to learn useful subjects such as farm management, together with farm and family budgeting.

Also to be emphasized is the adding of value to and marketing of agricultural products.

The project will permit the trying out of ideas and picking just the ones that work in specific areas within the County.

In addition, the project will provide a foundation upon which to improve the provision of agricultural extension services within Kisumu County and beyond.

At an appropriate time and with the experience gained from this pilot project, the concept shall be replicated in other parts of the County.

To be introduced, among others, are:

- pyrolyzers and compost choppers; and working with:
- Soil improvement, soil testing and soil test interpretation
- Biochar, organic fertilizer
- Composting, mulching
- Recycling
- Crop rotation, intercropping, multi-layer planting, new crops
- Solar
- Legumes/nitrogen fixing
- EM
- Improved animal feeds, improved fish feeds, improved animal housing/care
- Power generation
- Pig farming
- Poultry farming
- Waste processing and recycling
- Processing plants for farm produce
- Production of medicinal herbs and plants

Proposed Core Implementation Group

1. The Agriculture Secretariat of the County Government of Kisumu, working with local communities: Sponsor, Host, and Implementing Agency

2. Global Education and Development Organization: Project Management Consultancy during the establishment phase of the project

3. Bam Holdings Limited: Sourcing Finances for the development of the infrastructure and taking charge of the construction work

4. M.A. Ochanji-Opondo and Company Advocates: Providing legal and related services during the period of project establishment and thereafter

Components of the Project

- Greenhouse farm
- Processing plant for greenhouse farm products
- Dairy farm
- Milk processing and milk products facility
- Poultry farm
- Egg tray plant
- Pig farm
- Pig products processing plant
- Fish farm
- Fish processing plant
- Biogas processing plant
- Methane gas plant
- Manure/fertilizer plant
- Sulphuric acid plant
- Ammonia and ammonium-sulphate plant
- Oxygen plant
- Plastic, paper and other wastes recycling plant
- Thermal energy plant
- Electricity plant
- Animal feeds plant
- Water processing plant
- Beverage making plant
- Farm machinery/tools/transport
- Roads network/pathways
- Business centre/mall: farm market, wholesale facility, super market, line shops, 3 star teaching hotel, restaurants, food courts, pubs, clubs and gymnasias, coffee bars, pharmacy, optician, hardware, spare parts shops, showrooms, furniture shop, etcetera.

Expected Output

- Research, Teaching, Training, and Outreach
- Industry
- Greenhouse farm produce
- Dairy products
- Pig products
- Poultry products
- Fish products
- Biogas
- Methane gas
- Manure/natural fertilizer
- Sulphuric acid
- Ammonia
- Oxygen
- Plastic products
- Recycled paper products
- Thermal energy
- Electricity
- Animal feeds

511. Opondo.

- Clean water/bottled water/mineral water/fizzy water
- Beverages
- Farm machinery/tools/transport for hire to farmers within the county
- Improved roads network/pathways
- Business opportunities in marketing agricultural and allied produce, wholesale, shop, mall, teaching hotel, restaurants, eateries, etc.
- Employment
- Profit
- Improved livelihoods
- Better soil management, farm management, and environmental conservation
- Public/private health regime

Infrastructure

- Farm and industrial machinery
- Project office
- Sheds, work hall/areas and workshops
- Staff housing forming an 'urban satellite' to Kisumu. The holistic "live, work and play" environment will comprise of natural open spaces with parks and playgrounds.
- Mall
- Hostel for learners and visiting researchers/staff
- Laboratories
- Learning rooms
- State-of-the-art IT
- Broadcasting / outreach facility (e.g. fm radio station, magazine / newsletter, and even a television station should this be supportable)

Expected Benefits for Participants and the Environment

How to Increase Income

- Plant better crops
- Lower the cost of production
- Increase yields
- Lower cost of sales
- Change production from subsistence levels, and work towards producing tradable volumes
- Increase sale price

Creating a Healthier Environment

- Reduce the amount of smoke produced
- Reduce the amount of pesticides used
- Waste management and utilization
- Soil conservation

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Improve Financial Security

- Diversify crops
- Learn how to build a farm and family budget
- Use of insurance
- Foreign exchange

Preliminary Feasibility Study

As has been pointed above, the project will be in phases. Once this concept has been adapted and adopted, consultative meetings shall identify the various phases of the development of the project.

Emphasis will be on the feasibility of each phase. The phases shall be organized such that their implementation at each stage shall complement the phases already implemented. This shall lead to expert completion of the requisite feasibility study, involving research and analysis of the potential of each phase.

It is projected on the basis of preliminary evaluation that the services to be offered by the project are needed and the market for the products is available, especially when one considers the expanding local population and East Africa's Great Lakes regional market.

Tentative Plans and Specifications:

Bam Holdings Limited, an engineering and architectural firm, in collaboration with experts from the Agriculture Secretariat of the County Government of Kisumu, shall proceed to draw plans and generate specifications for each phase of the project. The plans shall include the roads / paths layout, the preliminary lot designs, layout of electric lines (either overhead or underground), layout of the water lines, and layout of sewer and drainage systems.

When the preliminary plans and specifications are completed, the plans shall be coordinated with the appropriate zoning and planning authority. If a zoning change is needed, it shall be reviewed and evaluated early in the development process.

Financing Commitment, Final Feasibility Study, Final Plans and Specifications:

After the preliminary plans and specifications are completed, a development financing shall be shopped and then applied for. Typically, the development financing shall provide sufficient funds to pay for the site acquisition and the development costs. Alternatively, the County Government shall provide the land upon which the project is to be sited. Once a financing commitment has been received, the final feasibility study shall be completed.

In the meantime, the County Government shall seek and obtain the necessary statutory approvals as per the *Constitution of Kenya* and the *Public Finance Management Act*, and guided by recommendations of the *Senate*, *Commission of Revenue Allocation (CRA)*, *Treasury* and the *Intergovernmental Technical Relations Committee (ITRC)*. The latter have emphasized that approval of funds borrowed externally be accompanied by three legal documents:

1. "The debt management strategy to spell out how the money will be used,
2. county assembly's approval, and
3. guarantee by the National Treasury."

As the Parliamentary Budget Office has stated:

"With development loans, the counties must have a debt strategy paper, which must get the nod from the assembly, be approved by Treasury, discussed at the Intergovernmental Budget and Economic Council before being discussed in the Cabinet."

(See <http://www.standardmedia.co.ke/article/2000203066/governors-in-kenya-warned-on-illegal-loans>)

Concomitant with the final feasibility study, work will have commenced with Bam Holdings Limited, the engineering firm, to finalize the working drawings for the proposed phases of development. This shall include final engineering drawings for the roads, exact legal descriptions of each lot, the plating and staking of the lots, as well as any engineering drawings regarding earth moving, and utility layouts. These final plans and specifications shall be coordinated by the project management with the construction contractor, legal consultants and the appropriate utility companies. Once the final construction working plans and specifications are completed, the development financing shall be closed, the acquisition of the properties completed, and work shall begin on construction of the roads, utilities, and lots.

Cost Estimates:

The cost estimates shall be categorized as direct and indirect costs. Direct costs are land acquisition costs (if not provided by the County Government), engineering costs, construction costs, and marketing costs. Indirect costs include professional fees for feasibility analysis and appraisal, legal and accounting fees, and financing costs. Because cost overruns can be disastrous, development costs shall be estimated accurately and shall include a contingency fund to pay for unexpected additional costs and cater for inflationary estimates.

Risk Analysis

The primary risk in developing this multi-sector agricultural project is that the services it seeks to offer and the market for its produce shall have been catered for by other entities and interests. Of course, there are additional risks: development costs overruns, bad weather, increased interest rates, labour strikes, and others. However, given the preliminary analysis already referred to, the advantages of implementing the project far outweigh the disadvantages. This makes it a very attractive proposition.

Construction

All during the initial phases of the development, the developer or a construction contractor for the building of roads and installation of utilities shall be coordinated with. For marketing purposes, the establishment of the outlet system shall be prioritized. Otherwise, construction shall be done in stages so that finished phases shall come into operation as quickly as possible. Also, during construction, advertising and other promotion to stimulate business interest shall be initiated. Packages of various utilities in the outlet section of the project with favourable terms to local peoples shall be put so that construction of speculative outlets can begin promptly and earnings initiated even prior to the completion of the entire project.

Promotion and Marketing:

A critical stage in the evolution of this project shall be its marketing so as to obtain the political goodwill within the County Government, and the good will of the communities and parties to be involved. Marketing includes promotion, advertising, and directly selling the idea to the relevant parties. A marketing schedule shall be planned and implemented that meets the goals based on the feasibility study. Promotion activities shall include local public meetings, announcements in newspapers, radio, and television, locating directional signs to the project site, holding open days, and creating brochures, among others. Marketing shall also be extended to cover potential markets outside Kisumu County as appropriate so as to have a head-start once production has begun.

Advertising shall be classified according to the most effective medium (it may be specific, name, or institutional advertising). The advertising media shall be selected based on the results of the feasibility study and it shall include billboards, newspaper, magazines, radio, television, shows, or other appropriate media. Advertising results shall be measured to ensure the cost effectiveness of advertising expenditures.

An employee sales person or a reputable local brokerage firm shall conduct the letting out of appropriate facilities. In either case, the commissions are a marginal expense and shall be considered in the financial forecasts.

CONCLUSIONS

It is expected that this shall be a very exciting, creative, and profitable multi-sector development project.

Consequently, virtually all of the development costs are expected to be borrowed.

The real risks normally associated with such development projects (risks and returns are directly related, and expected high returns usually indicate high risks) shall have been taken into account.

It shall have also been taken into account that larger developments that require large initial development costs and longer absorption periods are considerably more risky than smaller developments. These include cost overruns, bad weather, few returns on initial sales, lower prices, higher marketing costs, and labour strikes.

The overall strategy shall be to develop the project and sell the produce much faster than interest accrues on the development financing and before economic conditions change significantly.

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