

**KENYA AGRICULTURAL MARKETING  
AND POLICY ANALYSIS PROJECT**

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EGERTON UNIVERSITY**

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**CONTEMPORARY ISSUES DETERMINING THE FUTURE OF  
KENYAN AGRICULTURE:  
AN AGENDA FOR POLICY AND RESEARCH**

by

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Support for this study was provided under the Kenya Agricultural Marketing and Policy Analysis Project (KAMPAP), supported by the United States Agency for International Development/Kenya.

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## 1. INTRODUCTION

Kenya's agricultural sector has just gone through a period of market liberalization. The government has moved out of setting prices, imposing controls and subsidizing parastatals. The trade and exchange rate regimes also have been liberalized. The process of market liberalization is not yet complete, but already a number of sectors are finding the new regime not to their liking. This is evidenced by sometimes violent farmer reactions to what they see as a reduction in their incomes, loss of control of their organizations and political interference in the running of their affairs.

This paper will review where the agricultural sector currently stands with regard to the market liberalization agenda with a view to giving some context to the ongoing struggles. Much of this material has been presented before in a number of fora, but nowhere has it been put together in one place where the recurring themes and broad lessons can be addressed. The paper will look at the key policy issues in the commodity sub-sectors, as well as in the service inputs like credit, research and extension, policy formulation and guidance.

The paper argues that the biggest single issue facing Kenyan agriculture is whether or not it will be efficient enough to compete at world prices, or at the levels of protection that domestic consumers, and the World Trade Organization (WTO) allow. If it is not then agricultural incomes, and by extension national income, will continue to stagnate and fall. However the blame should not be laid at the door of market liberalization which only made it more difficult to hide some of the distortions, taxes and subsidies in Kenyan agriculture that reduce overall economic growth. Facing up to these misapplications of resources is the first step to solving the puzzle of why agriculture continues to perform poorly even in the liberalized environment that was to make everyone better off.

The paper also allows Tegemeo Institute of Egerton University an opportunity to involve sector stakeholders in setting the agenda for 3 years of agricultural policy work it will be undertaking. Not all the key constraints, issues and options facing Kenyan agriculture are currently known. Much agricultural policy research and advocacy work remains to be done, and it needs to involve stakeholders in research design, implementation, and dissemination. Tegemeo hopes to provide fora where informed discussion of the agricultural policy issues facing Kenya over the coming years can take place.

The paper begins by looking at the import competing industries – livestock, maize, wheat and sugar – examining information needs, policy issues and potential areas of research that may inform players interested to ensure the survival of these sectors as import competition becomes more difficult to avoid under the WTO rules. Part of the recipe for survival revolves around groups of producers getting involved in looking beyond their own production system, and recognizing that a number of their problems – e.g. policy dialogue and the provision of services – are best approached collectively. Tea and coffee are dealt with next in an analysis that suggests that collective action is no panacea, and needs to be closely monitored to ensure that the benefits of collective endeavors are captured by the intended beneficiaries. A look at the credit, agricultural research, extension and policy making services suggests a similar lesson. Stakeholders need to play a bigger role in ensuring that funds spent in their name – particularly in the public sector – are effectively, and efficiently used.

## 2. LIVESTOCK INDUSTRIES

Livestock contributes 42 percent of agricultural GDP, but gets limited attention from policy makers, and policy research. As a result, much of the information on which planning for, and debate on the sector is based is old and estimated. Kenya is long overdue for a livestock census, projections of supply and demand for animals and animal products, as well as studies looking at the costs, competitiveness and constraints facing the different production and marketing systems. Available literature suggests that per capita consumption of most products is low by world standards, and much lower in rural than urban areas. Kenyans eat 10 kg of beef, 2 kg of sheep and goat meat, 0.71 to 2.4 kg of chicken (urban vs. rural) and 37 – 84 eggs (urban vs. rural) per capita, per annum (MOA 1995). Urban demand is 150 percent of rural demand, and urban populations are growing. Incomes in both the urban and rural sectors are also expected to grow. This will lead to large increases in demand for animal products. The key policy question facing Kenya is whether this demand (as well as demand in neighboring countries) will be met from domestic production, or from imports. The answer revolves around stakeholders coming together to solve problems that affect them collectively. This may involve some form of beneficiary contribution in the form of time and money. The livestock industry can benefit greatly from some forms of self- taxation. Traditionally taxation and costs were fully shouldered by government, but that is no longer the case. The analytical task is to identify ways of encouraging this to happen.

**Table 1. Value of Livestock Production**

Beef Cattle	25,000,000,000	
Dairy products	23,100,000,000	
Pigs	1,585,466,560	
Goats	6,493,518,500	
Sheep	4,058,634,532	
Chicken Meat	3,504,000,000	
Chicken Eggs	4,010,000,000	
Hides and Skins	1,719,523,449	
Rabbits	150,000,000	
Camels	405,000,000	
Honey	305,000,000	
Total Livestock		706,026,200,000
<b>Total AGGDP</b>	166,129,245,933	<b>42.3 percent</b>

Source: CBS, ASIP Support Study No 1

The animal industries currently employ millions of people, and are important contributors to household incomes and consumption all over the country. But most production is in fairly low technology, extensive systems using techniques that have been around for decades, or even centuries. It is only efficient production systems that will survive in the 21<sup>st</sup> century global arena where the WTO agreement limits the extent to which countries can protect inefficient domestic producers. Kenya needs to work to improve the productive potential of her animal industries if they are to meet this challenge.

The productive potential of our animal industries can best be addressed by looking at a number of key areas:

- Feeds, feeding and general management
- Disease control and the mix of private and government roles in this
- Genetic potential of the flocks and herds
- Arid and semi-arid lands (ASAL) issues
- The evolution of marketing systems

Beef cattle are the biggest animal industry and much of the production is undertaken in the arid and semi-arid lands – ASAL's – where a number of important issues need to be addressed. Encroachment by sedentary farmers is denying the pastoralists access to what traditionally were the best watered dry season grazing pasture. Access to water has become more of a problem as watering points fail, and county council holding grounds deteriorate. Insecurity too continues to be a problem, particularly in the border regions. And the practice of transporting animals on the hoof hundreds of miles, or expensively by truck, to abattoirs encourages the spread of diseases. Investments in roads, rural electrification, and telecommunications, may allow slaughter to be undertaken closer to the production point rather than near the market if refrigerated transport modes can be developed.

The disease problems of beef cattle, especially the notifiable diseases – rinderpest, Contagious Bovine Pleuropneumonia and Foot and Mouth Disease – are not as controlled as they once were as government made less funds available for vaccination campaigns before alternative means of raising the necessary funds have been put into place. Government needs to come up with sustainable ways of funding infectious disease prevention and control, perhaps through beneficiary participation, and reduced movements of live animals. This area of research – how best to organize cost-recovery where externalities are high and beneficiaries seem poor, are hard to identify and widely dispersed – would be interesting and useful.

In the dairy industry many of the disease management issues are being handled through the privatization of veterinary, clinical and AI services. The performance of these systems needs to be monitored and government still may have a role to play in those regions where private cattle owners may under-invest, particularly in tick control. Kenya has yet to find a formula for the sustainable running of communally owned dips. Private and communal AI services are taking off, but not all farmers will be able to afford imported semen that is becoming popular as Kenya's own centralized production and distribution of disease free semen falters. The centralized milk recording service, so important in raising the genetic potential of the national herd, also is failing. Both systems need to be taken over by some industry stakeholder group to remain viable in the face of reduced government funding.

Both the beef and dairy industries suffer from seasonal shortages of fodder. The animal-feeding regime, whether based on pasture or concentrates, is an essential element in the competitiveness of the cattle systems, as well as the poultry and pig industries. Beyond improved pasture management, silage making, and oilseed cake from a revitalized oilcrops industry, the Kenyan animal industry will benefit greatly from reductions in the cost of the

maize, the main processed feed ingredient. These inter-sectoral linkages strengthen the argument that, on the whole, Kenya is better off with lower maize prices.

A number of marketing and policy issues have the potential to either strengthen, or severely weaken the livestock industries. In dairy the future role of the KCC will have wide implications. The market for milk particularly for producers nearer Nairobi, is developing with new processors and raw milk marketing mushrooming. But producers in the western parts of the country do not have the benefit of a large market for raw milk. This implies the need for some organized forms of marketing, and processing, to make those supplies available for sale nationally, or even in neighboring countries. Producers in the northern rift valley may need to strengthen their producer co-operatives in order to make it easier for producers to arrange collection, marketing and payments for their milk as well as services like AI. Experience from central Kenya suggests that if the KCC were to collapse, north rift producers would go through a painful period where new marketers collect milk, but ultimately fail to pay. Whether KCC should be saved, what form a restructured KCC should take, and how might farmers best prepare in case of its demise are some of the issues needing further research. How best to remove politics from the discussion of the future of this farmers organization is perhaps, the most pressing issue of all as a meeting of KCC shareholders is the only way the organization can begin to shape its future. But for some reason government machinery is used to discourage such meetings.

There in the meat industries, information on production and marketing costs, the nature of competition in marketing, regional comparative advantage, imports and exports are lacking. Such information would help identify constraints, avenues for higher value production and processing activities, and new avenues for local or foreign investment. Demand for animal products is set to increase dramatically. But investments in producing for that demand is discouraged by lack of information, and a lack of a clear and conducive government policy.

### **3. MAIZE**

Area under maize has stagnated at about 1.4 million ha, and annual production averages 30 million bags (2.7 million tons) and is lagging behind projected demand suggesting that Kenya will need to import maize even in normal production years. Average national yields of 8.5 bags per acre (1.9 tons per hectare) is low by international standards. A large proportion of maize area yields a low 4-9 bags per acre in the lower midland zones where variable weather means that in 3 out of 10 years, production can fall to near zero. Producers in marginal areas persist in marginal production because of the costs and historical uncertainty associated with getting supplies from the market (Omamo 1998).

Yields range in the 12-30 bags per acre range in the lower highlands during favorable weather. Here the wide range is a result primarily of differences in the quality and timeliness of seedbed preparation, fertilizer use and weeding. Often the distinction is between large-scale farmers or those farmers with off-farm income earning activities who undertake these activities adequately and on time, and poorer small scale farmers constrained by poor cash flow. Recent low output prices and inaccessible credit have meant that more of the relatively large scale farmers are reducing the area under maize, and leaving a larger proportion of their

land fallow or under low intensity dairy. Others reduce input use per acre, but that increases production costs per bag.

**Table 2. Value of Cereals Production**

Maize	20,125,066,000	12.11
Wheat	2,933,248,500	1.77
Barley	1,275,009,554	
Rice	365,925,000	
Other	23,200,000	
Sorghum	599,340,060	
Millet	515,271,791	
Total Cereals	25,837,060,905	
<b>Total AGGDP</b>	<b>166,129,245,933</b>	<b>15.55 percent</b>

Source: CBS, ASIP Support Study No. 1

The post-liberalization period in maize marketing began as a boom and bust cycle for maize prices. Farm-gate prices rose in 1992 to an unprecedented Ksh 1,300 per bag that reflected import parity at the prevailing exchange rates in the Ksh 70 per dollar range. Since then the exchange rate has declined and the trade regime freed to allow imports by the private sector. Maize importation is now so well organized that the private sector was able to import over 1 million tons during 1997 following a relatively poor production year without recourse to government, and with no complaints from consumers of maize shortages. Maize market liberalization has benefitted consumers through lower prices for grain and sifted maize meal and more convenient access to posho mills that serve mainly the poor. Even producers find it easier and more convenient to sell their maize and the majority, even in the traditional surplus zones, prefer the current liberalized marketing system (Argwings-Kodhek and Jayne 1996).

The National Cereals and Produce Board (NCPB) that used to so dominate the sector has become increasingly peripheral and from a peak level of 6 million bags purchased in 1990, has been reduced to buying no bags at all in 1998. The NCPB was to become a commercial entity, depending on income earning trading and service activities to survive. While the board stores hold some 1.5 million bags (bought at relatively high prices that it subsequently has had difficulty selling), it has no money with which to purchase maize. Government has proved reluctant to spend money on maize purchases or the NCPB in 1998<sup>1</sup>, but prices are expected to be low, and farmer complaints may gain a receptive ear among politicians in spite of the government's current poor financial state.

Liberalization allows farmers to see more clearly the market incentives offered by a market economy. The main message of the market for Kenyan maize farmers is that maize farmers around the world make do with the equivalent of less than Ksh 500 per bag. They do this by investing heavily in producing at minimum cost through high yields. Modern technology,

<sup>1</sup> Government turned down a request for Ksh 500 million per annum to set the NCPB up as a commercial operator. This amounts to 84 percent of GOK contributions to agricultural research.

quality seed and optimal seedbed preparation, fertilizer use, weed control and minimizing post-harvest losses are all a part of this strategy. Kenyan maize farmers try to maximize prices through complaining, and minimize costs through cutting back on operations. It is only punitive duties on imports, poor roads and an expensive port that keep a large portion of Kenyan farming systems in production. These will change and 20 years from now we can expect to see many changes having taken place on Kenyan maize farms in terms of ownership, technology or enterprises undertaken. Land reform issues may come to the fore as populations move out of agriculture and attempts are made to consolidate parcels by the reduced proportion of the younger generation showing an inclination to remain farmers.

Maize provides a rich analytical agenda. Updated information is needed on the competitiveness and constraints of the different systems. Examinations of the seed industry, government policies that tax production (e.g. diesel, spare parts and high interest rates), and the evolving post-liberalization marketing systems can inform debate and the formulation of strategies on the future of Kenya's maize sector. Similar studies would be useful for wheat as well. Finding ways of lowering domestic maize prices will have benefits for consumers, as well as for Kenya's plans to industrialize. Maize is a 'wage good' important in determining wages and inflation throughout the economy. And the majority of maize farmers (67 percent) buy more maize in the year than they sell. This begs the question of who (a small minority) is helped by a policies that raise the price of maize.

#### **4. WHEAT**

Wheat suffers many of the same problems as maize in that inefficient production systems only survive behind tariff barriers that are not likely to be sustained long, particularly since Kenya signed the WTO agreement. World prices are projected to stay in the US \$ 200 per ton range that translates to 1200 per bag in Mombasa, Ksh 1400-1500 in Nairobi. Transport costs mean that Kenyan producers face the import parity price at their farm-gate. But imported wheat is dry compared to that delivered by the majority of Kenyan producers who do not own drying equipment. This makes millers willing to pay a little less than import parity (Ksh 1000 - 1100) for domestic production. However punitive duties are raising domestic prices far above production costs.

Kenyan producers normally demand Ksh 1500-1600 delivered at the miller. It is their cost of production that makes farmers demand such high prices. Kenya's most efficient wheat production systems are the large-scale systems in Narok, Uasin Gishu and Nakuru whose costs of production are lower than in the corresponding small-scale systems mainly due to higher yields. Higher yields are a function, mainly of weather and the timeliness of operations (Nyoro 1995). Timeliness of operations depends on access to, or ownership of, machinery. Some of the small-scale systems suffer greatly from delayed operations due to lack of machinery, particularly combine harvesters. However buying and maintaining machinery is extremely costly, particularly as the interest costs associated with such purchases are high, and government taxes raise the cost of spare parts and diesel.

The quality of certified seed available to wheat producers also has been a cause of concern. This has led a majority of producers to use retained seed. A number of large producers are investing in dryers and seed preparation equipment and a market is developing in uncertified

- but treated - seed. Improvements in seed quality could help make the Kenyan wheat systems more competitive and already wheat producers have demonstrated a willingness to contribute funds towards research programs at the KARI wheat research station at Njoro in return for some control over the research agenda. Administrative obstacles have made this difficult to get off the ground.

## 5. SUGAR

Kenya is going to continue to import sugar for the foreseeable future. Investments in domestic production capacity are lagging well behind the growth in demand. Domestic and imported sugar compete directly in the domestic market where traders decision to buy local or imported sugar is made purely on the basis of price. Headline making duty and tariff evasion often allows imports to be cheaper than the domestically produced product, particularly when imports are from countries like Brazil to who sugar is just a by product of ethanol production. This raises concerns about the long-term prospects for the industry that comprises 4 percent of the value of agricultural production.

**Table 3. Value of Temporary Industrial Crops**

Sugar cane	7,053,317,600	4.25
Pyrethrum	439,090,416	
Pineapple	405,000,000	
Tobacco	129,600,000	
Others	73,400,000	
Potatoes	3,087,500,000	
Pulses	5,913,557,910	
Cotton	494,000,000	
Oilseeds	250,305,000	
Horticulture Export	7,057,320,506	
Horticulture domestic	12,674,718,000	
Total Temp. Industrial crops	37,577,809,432	

**Total AGGDP 166,129,245,933 23 percent**

Source: CBS, ASIP Support Study No 1

Kenyan sugar is produced largely in western Kenya in three zones:

- the Nyanza sugar belt east of Kisumu that is the oldest producing zone in Kenya, suffers from heavy clay soils that make operations expensive, and relatively low rainfall that reduces yields. The mixture of large and small-scale producers is served by the well run Chemilil, and the struggling Miwani and Muhoroni factories.
- Western Kenya, a small-scale production zone is served by the profitable and efficient Mumias Sugar factory, and the struggling Nzoia Sugar Factory. A third factory is planned at Busia. The zone has good growing conditions - adequate rainfall and light soils.

- South Nyanza around the SONY factory has good growing conditions and a factory that currently is well run and efficient.

The per ton cost of producing cane in each zone and scale differs and is lowest in the western and South Nyanza small scale systems at Ksh 979 compared with Ksh 1497 in the Kisumu sugar belt small scale systems. Yet cane pricing in all zones around the country is a uniform Ksh 1,730 per ton. The Kisumu systems face a Ksh 500 per ton cost disadvantage at the farm-level that works out to over Ksh 5,000 per ton of processed sugar.

Processing efficiency also is important in determining the competitiveness of the sugar production system. Among Kenya's 7 white sugar factories, the tons of cane needed to make one ton of sugar ranges from 9.82 Mumias to 16.65 at Miwani. The extra 6.83 tons needed by Miwani to produce sugar relative to Mumias means the factory must pay an extra Ksh 10,816 for cane to make one ton of sugar.

These figures from the Kenya Sugar Authority (KSA 1997) suggest that Mumias could sell sugar at over Ksh 15,000 less per ton than the least efficient factory zones. This amounts to Ksh 15 per kilo, more than the Ksh 12 per kilo in taxes and levies domestic consumers pay per kilogram of sugar. Kenya's more efficient production systems, Mumias Nzoia, Chemilil and SONY – 87 percent of national production – can compete with imports. But the sugar industry policy whereby selling prices take into account the costs of the LEAST efficient producer mean that efficient factories suffer just as much as the inefficient from an inability to unload stocks in the face of import competition. Delayed sales lead to cash flow problems for factories and for farmers. This delays operations and harvesting, and increases production costs.

Kenya needs to deal with a number of policy analytical issues in the sugar industry.

- How to go about introducing the purchase of sugarcane on the basis of sucrose content rather than weight. Such a move will help make the whole system more efficient, and encourage investments by factories and farmers in sucrose content maximizing production practices. These begin with high sucrose content cane varieties, optimal input use, and some system of penalizing factories for late harvesting of cane. Private factory owners will demand this, and farmers most likely will resist.
- Privatization will help increase efficiency in all the zones as the parastatal factories suffer from a number of inefficiencies such as corruption in cane weighing, the purchase of costly or inappropriate equipment, politicization of appointments, low remuneration, and poor controls over finances and personnel. The policy question is how the privatization process can be made transparent, fair, and politically acceptable, while earning the government maximum income from the sales.
- The sugarcane growers and processors are well represented at the policy table through the sugar growers (KSGA) and sugar manufacturers (KESMA) associations, as well as the Kenya Sugar Authority. Already the industry is moving to fund its own research and has plenty of funds to invest in factory rehabilitation and cane establishment. Consumers – who are taxed 20 percent on domestic and 75 percent on imported sugar – are suffering. This amounts to an average of 35 percent of the retail price, or Ksh 12 per kilo. On 600,000 tons of domestic consumption, the Sugar Development Fund, ad valorem levy

and VAT amount to Ksh 7 billion per annum. The KSA gets Ksh 2 billion of this money, government Ksh 5 billion. That is too much for the 25 million sugar consumers to pay to protect a small and inefficient part of the sugar industry.

Kenya will have a sugar industry in the long run if efficiency and cost minimization, rather than protection through exorbitant tariffs become its focus. Kenya has signed the WTO agreement that limits the amount of protection governments can give domestic producers. Currently Kenya is giving the maximum (100 percent) protection allowed that will be reduced over the coming years.

**Table 4. Permanent Industrial Crops**

Coffee	14,880,802,318	8.96
Tea	16,593,805,800	9.99
Sisal	748,624,437	
Others	160,000,000	
	32,383,232,555	
<b>Total AGGDP</b>	<b>166,129,245,933</b>	<b>19.49 percent</b>

Source: CBS, ASIP Support Study No 1

## 6. TEA

Tea and coffee dominate permanent industrial crop production. Tea currently appears to be Kenya's success story. Production is at record levels, prices are high and recent investments in expanding the number and capacity of smallholder factories are reducing the problems of congestion that used to limit area expansion, quality and farmer payments. However a growing number of smallholders – and their members of parliament – are grumbling about the roles played by the KTDA. There is disagreement about the management of cess money for the maintenance of roads in tea areas. And Kenya's emerging position as the world's largest exporter of black tea means that expanding domestic production may lower world prices.

The tea industry operates under a legal framework dominated by the

- Tea Act (Cap. 343 of the Laws of Kenya) that establishes the Tea Board of Kenya and vests in it authority to oversee the sector through licensing planting, cultivation, processing and the exportation of tea. The board also is responsible for the promotion of Kenyan tea abroad and funding research. These activities are funded by a levy charged on planted area and sales.
- The Agriculture Act (Cap. 318) with many amendments and orders that gives the KTDA a legal monopoly and exclusive control over the provision of extension services, planting materials, fertilizers, green leaf collection, quality control, processing and marketing of smallholder tea.

The main bone of contention in the industry arises out of the provisions of Cap. 318 on the role of the KTDA. KTDA did an excellent job in raising smallholder production from 3,527 ha. producing 312 tonnes of tea in one factory in 1963, to almost 85,000 ha and 315,000 growers producing over 250,000 tonnes from 49 factories today (KTDA 1998). 7 more factories are planned over the next 2 years. Historically the factory building program involved a great deal of cross-subsidization that KTDA was able to do (as well as to cross subsidize green leaf transport) due to its total control of the bulk of smallholder tea funds for up to 18 months.

KTDA exports tea, receives the monies, pays out the monthly payment of Ksh 18.00<sup>2</sup> (that covers little more than the cost of picking) and waits till after the end of the tea-marketing year to determine average prices, and per unit transport and processing costs in each factory zone. This meant that tea picked and sold in July 1997 at Ksh 110 - 140 per kg. has finally been paid for in full in November 1998 when farmers received approximately Ksh 56-92 per kilo of made tea, Ksh 14-24 per kg green leaf. KTDA sold Ksh 20.6 Billion worth of tea in the year ending July 1998. Farmers received Ksh 16.9 billion, the bulk of which - Ksh 12.7 billion - was paid out as bonus. Looked at another way, KTDA kept  $\frac{3}{4}$  of farmer's money for periods ranging from 4-16 months. This explains much of the smallholders outcry, and the small increase in the monthly per kilo payment from Ksh 4.50 to Ksh 6.00. Suggestions are that the minimum should be Ksh 10.00, and that bonus be paid more often i.e. sooner and in smaller amounts. The current end of year cash boom leads to wastage.

KTDA has a lot of money to play with for an extended period of time. This creates two problems - unhappy cash strapped farmers who want more of their total payments sooner, and allegations of corruption and overcharging on purchases that ultimately are charged to farmers such as leaf collection vehicles, the headquarters building, factory expansion and packaging materials. KTDA does all this in the name of a management agent, and a not insignificant lobby of farmers and legislators want to have a voice, choice and competition in selecting their management agent. This likely would mean negotiating management fees as well as more farmer control of purchasing decisions, and payment procedures - even if KTDA is to remain the managing agent. Legislative changes also would be needed.

Government has played a role in protecting KTDA from farmers' demands for change. Government also has been heavily involved in the running of KTDA with the President announcing the increase in green leaf payments and government appointing the Managing Director. KTDA operations are overseen by a board composed of a majority of farmer representatives, but the ability of farmer representatives to be co-opted by management is a factor in all farmer dominated boards and was apparent in the recent confirmation of the government appointed MD by the KTDA board.

The future of KTDA is as a much smaller, less cash rich, and less powerful institution. It is the nature of this change - the change itself is inevitable - that the small-scale tea farmer's union (KUSTO) and KTDA management are fighting over. Part of the strategy is for each camp to have its own technical committees working on the modalities of privatization. It is not clear that either side will be an impartial judge of the best interests of all industry players.<sup>3</sup>

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<sup>2</sup> 4.50 per kilo of green leaf times 4 kg leaf per kg made tea

<sup>3</sup> This was seen in the Coffee Board dominated industry reform Task Force appointed by the Minister of Agriculture in 1997 to suggest how the industry should be run and reformed. Players who were left out are

As this struggle continues, certain analytical questions need to be raised:

- Can the separate farmers companies organize cost effective importation of fertilizer
- How will the financing of new factories be arranged and who will determine which farmers should deliver to, and pay for, the new facilities.
- Should private investors be allowed to put up factories and buy farmers green leaf
- Should Kenya allow a market to develop in unprocessed green leaf and allow farmers a choice of where to deliver taking into account e.g. higher average quality and prices, lower processing and transport costs, in one factory rather than another.
- Should Kenya begin to limit planting so as not to adversely affect market prices?
- Should Kenya maximize prices or volumes.

Kenya is projected to be the world's largest exporter of black tea by 2005 raising a number of issues. The market is changing. Currently only 3 countries (UK, Pakistan and Egypt) account for 83 percent of exports. Demand in the UK is falling, while in non-traditional markets like the former Soviet Union and the Middle East, it is rising. Meanwhile a number of African countries are investing heavily in tea production. One way of insulating producers from low world prices is to export in value-added form. Sri Lanka has been able to raise value-added exports from zero to 70 percent of total exports in 13 years.

## 7. COFFEE

Coffee production is on a severe downward trend. Production peaked at just less than 130,000 tons in the year ending October 1988, and has fallen to 60,000 tons this past year. The July 1989 suspension of coffee export quotas under the International Coffee Agreement began the slide that continued through 1994 as a result of excess supply on the market. Within Kenya, this was exacerbated by increased input costs due to exchange rate appreciation, and problems within the institutions handling farmers' coffee. Farmers reacted by reducing input use. Coffee Berry Disease, leaf rust, leached soils and inter-cropping reduced production, as did fairly widespread uprooting and neglect of coffee trees particularly – but not only – in the small-holder sector.

High operational costs in the organizations serving farmers helped exacerbate the problems caused by low world prices. In the co-operative sector, poor management and overstaffing of society factories that were pulping well below capacity helped increase the unit costs charged by co-operatives on cherry. The costs of repaying the loans incurred under the World Bank funded factory building, refurbishment and credit, SCIP program also increased co-operative costs and deductions. Problems of excess staff and poor investment decisions also affected the district wide unions. Low capacity utilization, high costs, over-employment and poor

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still complaining and going to court.

investments (e.g. non-performing loans) and also are part of the problem of the major miller KPCU, the Coffee Board and the Coffee Research Foundation. All these relatively inefficient organizations were taking their share of coffee money before it reached the farmer.

The coffee industry needs better information on what it is that various institutions do, what they achieve, what they cost, and whether the same or more important functions can be better or more cheaply performed under different institutional arrangements. Unfortunately government always seems inclined to side with existing organizations that may have served a useful role in the past but have not, or perhaps cannot, change with the times. This problem afflicts the co-operatives – factory societies and unions – that were too slow to reduce costs in the face of declining throughput. This can be blamed in part on the provisions of the co-operative act which, until earlier this year, did not allow management committees to buy even a wheelbarrow without the permission of the Commissioner of Co-operatives. This inflexibility made decisions like mothballing factories, laying off staff – or making them casuals – difficult to make. Co-operative committee members also were political beings who pleased their constituencies most easily by giving out jobs. This is true at all the levels of representative democracy in the coffee industry where farmer elected directors, through large sittings, travel, and personal allowances are made beholden unto management, or the faction of political, rent-seeking, beings running the organization.

An analytical agenda in coffee would begin with the difficult question of how to ensure that farmer representatives do indeed represent farmer's interests. And a new, more inclusive, industry task force of informed but impartial analysts may help to better lay out the issues and options facing this important, but shrinking, industry.

## 8. CREDIT

Kenya's agricultural sector needs credit for production, marketing, long-term investment and for the setting up of employment creating rural enterprises. But the sector is starved for credit with demand outstripping supply by such a wide margin. This situation has persisted for such an extended period that the majority of producers do not even try to get credit anymore. A recent survey found that 67 percent of all farmers – 86 percent of those not in a co-operatives – do not receive any form of cash or in kind credit. Of those receiving, a majority 52 percent got credit from their co-operatives. Marketing organizations like KTDA and MOCO<sup>4</sup> accounted for 14 percent of loans, traders, shopkeepers and input distributors 12 percent and relatives and friends another 11 percent.

The Agricultural Finance Corporation (AFC), the government's main effort at addressing agricultural credit needs gives few loans, in limited areas, to large-scale and wealthier farmers. AFC made loans to only one percent of rural households, and only 3.5 percent of all agriculture related loans. 86 percent of AFC loans were made in the Rift Valley, 13 percent in the Central Highlands. Loans were made to farms averaging 19 acres compared to 4.3 acres in the whole sample, and 73 percent of borrowers had off-farm sources of income (Argwings-Kodhek 1998). AFC is not a deposit taking institution and depends on its limited

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<sup>4</sup> Mumias Outgrowers Company, a successful, farmer owned, service, input supply and advocacy group serving the smallholder sugar cane growers supplying Mumias Sugar Factory.

loan collections to make new loans, as well as to cover its running costs. Much of its capital has been depleted through non-performing loans on its books, and a costly branch building program.

Farmers in export horticulture, tea, coffee, and cereals have been pushing to start their own banks over the objections of Central Bank. This reflects dissatisfaction over the difficulties, costs, and high interest rates involved in getting loans from the traditional, urban oriented commercial banks. High charges and minimum account balances, also mean that traditional banks do not contribute greatly to the mobilization of rural savings. NGO's are responding to the credit gap by embarking on innovative small loan programs using such concepts as mutual guarantees and unsecured, character based lending. Repayment rates are reported to be high. One innovation they adopt is to see credit as rural credit, rather than just agricultural credit. This reflects the lessons of a number of successful Asian examples. It also reflects the Kenyan reality where most rural farming households have a significant portion of their income coming from off-farm sources. Useful policy analytical work can be done in looking at rural credit, searching for successful models, and engaging stakeholders in the design of future programs.

## **9. AGRICULTURAL RESEARCH**

The Kenya Agricultural Research Institute (KARI) dominates agricultural research in Kenya and is the largest research establishment on the continent outside of Nigeria and South Africa with over 500 scientists on its payroll. Research is organized into regional and national programs through a network of over 20 research stations covering 33 themes and 55 commodities. Managing this large bureaucracy so that it can be cost effective and responsive to client needs has been a major struggle. However through the rigorous use of a priority setting process, progress is being made on this front. But KARI has not been strong on measuring or documenting the impact of its work, nor in realigning its staff establishment to reflect its future as a modern research organization, rather than its history as a government department. Both shortcomings reflect the fact that essentially, even though KARI is a parastatal, it is very much a part of the civil service with the attendant problems of inertia, a poor system of rewards, low pay and unclear paths to promotion beyond length of service.

KARI has been relatively successful compared to other parts of the civil service due to its success in sourcing funds from donors. Currently government pays little more than wages, leaving donors – who have their own priorities and areas of interest – to fund the other 75 percent of KARI's expenditure. This begs the question of whether the donors are supporting KARI, or whether the government salary contribution is actually subsidizing donors. It also begs the question of what Kenya wants from its agricultural research system when the governments only contribution is salary, and proposed staff retrenchment is made so difficult.

Historically KARI was the Scientific Research Division of the Ministry of Agriculture. This made for a strong link between adaptive and applied research and agricultural extension. A Memorandum of Understanding between the MOALD and KARI with regard to research-extension linkages exists, but both sides recognize the shortcomings of the current arrangements. Having KARI within the Ministry of Agriculture, rather than the Ministry of

Research and Technical Training would solve some of these problems. However in an environment of shrinking budgets, KARI may be better off making its own case to Treasury through a PS where KARI is a large chunk of the ministry budget, rather than going through Kilimo House where KARI would be relatively small next to the huge extension service. However, extension and agricultural research must be viewed as a system since failure on the part of either, makes it more difficult for the other to have an impact.

Agricultural research in Kenya faces a number of other policy analytic questions. One is how to make the public funds available to agricultural research have the greatest impact. One way is to limit public expenditure to those lines of research with a high public good component and externalities (e.g. environmental protection or communicable diseases in plants and livestock). Lines of research where the outputs of research can be captured in a marketable commodity, and the beneficiaries can be targeted and made to pay, should move towards research on contract, or have beneficiaries contributing to the costs of research. Hybrid seeds, and crop protection that can be embodied in marketable commercial commodity are candidates for this, as are most aspects of commercial plantation, and export crops such as tea and coffee that already fund their own research, and pyrethrum, sugar and barley that contribute and are moving toward full financing by the industry. The wheat and cotton industries also are organizing to collect levies for purposes of funding research.

It is in commodities with open pollinated seeds (OPV's) like maize, sorghums and millets of the more marginal environments that a dominant role for public funding looks set to continue. However arguments for the use of research funds for poorer areas or people on the strength of a poverty alleviation or equity agenda needs to be looked at critically as there are more efficient and direct ways of achieving the same result. It is not clear that given a choice of how funds spent in their name are to be used, the poor and marginalised would choose agricultural research. But as long as such resource allocation decisions are made primarily by agricultural researchers, then the project chosen is sure to be agricultural research. KARI's efforts at involving stakeholders in research program priority setting leads to a constrained set of choices: i.e. "What type of *agricultural research* would you like done?" rather than a global "What would you like done with these funds?" While that may be an issue for government rather than KARI, the entire public sector can benefit from KARI's experience in trying to improve efficiency in the use of public funds. The global move toward decentralization and devolution of decisions about how funds are to be used is aimed at solving this welfare-reducing problem that leads to inefficient resource allocation.

Pluralism in provision of research (as well as extension) is another global trend that Kenya is a part of. This is a way of making more effective use of funds by allowing researchers (or e.g. NGO's and universities in extension) outside of the core institution to compete for some of its budget to undertake specific pieces of work. Within KARI the use of the Agricultural Research Fund (ARF) is helping to bring the universities in particular into agricultural research. 57 percent of proposals, 66 percent of proposals accepted, and 74 percent of funds awarded have gone to the universities (Beynon 1998). Top quality agricultural researchers take upwards of ten years of post-secondary education training to produce. The quality of their training, beginning at the undergraduate level, determines how good they can become. This suggests that some of the funds earmarked for agricultural research should be invested in developing agricultural and science departments in local universities. The agricultural researchers of 2010 already are in the university pipeline but lack some of the basic tools needed to become globally competitive.

There is a rich policy analytical agenda in agricultural research. One of the strongest arguments for investing in agricultural research is that under the World Trading Organization (WTO) rules, investments in agricultural research are not considered in determining whether a particular sector in country is receiving subsidies against which importing countries can impose countervailing duties. Global competition in agriculture will be tipped in favor of those countries with the most effective, cost reducing, and productivity enhancing agricultural research and extension systems.

## **10. EXTENSION AND THE MINISTRY OF AGRICULTURE**

There should be more to the Ministry of Agriculture than the extension service, but too often the two are seen as synonymous. Evidence of this is seen in the allocation of funds within the ministry where the extension service – crops, livestock and veterinary – consume most of the budget, and employ directly the bulk of the work force. This is also evidenced by the fact that the chief technical officer of the ministry always comes from the extension arm.

Extension services around the world are undergoing a reconsideration of their roles and way of working. The traditional model of a top down, government funded and delivered extension service is proving unsatisfactory and financially unsustainable. Kenya is right in the middle of this discussion as the study that encouraged the World Bank to invest in developing the top-down model in 30 African countries was undertaken in Kenya. The study apparently used questionable analytical techniques and data (Gautam and Anderson 1998) to suggest that the rate of return to investment in the Training and Visit (T&V) system of extension ranged from 300-600 percent (Bindlish and Evanson 1993). But a recent World Bank document states,

"T&V's hierarchically organized and strictly programmed method of agricultural extension presumes the availability of a sustained flow of research innovations coupled with the ability of the implementing agency to secure, retain, and motivate good technical staff. ... Where the initial conditions were not suitable – for instance because farming conditions were highly differentiated, the research pipeline was empty, and either disciplined organization or adequate skills, or both, were lacking – T&V proved poorly adapted...(Picciotto and Anderson 1997)

The authors go on to point out that the introduction of T&V led to massive increases in budgetary outlays and staff numbers and that increased payrolls 'had detrimental effects on resource allocations as non-salary requirements eventually have been squeezed by the increased emoluments of an aging extension cadre.' Concerns also are raised about the sustainability of the system without massive external sponsorship and support as the hierarchical system 'lacks flexibility and fails to encourage cost recovery, development of farmer-led programs, or private sector participation.'

This analysis could be a discussion of Kenya alone, rather than the evaluation of 33 T&V extension systems around the world that it is. The Kenyan extension service is severely resource constrained, but is at the same time extremely costly. Salary payments to staff who have NO operating funds amount to \$50 million per year for a service that currently is doing

next to no extension. Funds for transport, vehicle maintenance and fuel, field days, telephone communication, and basic stationary are near non-existent. Extension workers pay and morale is low, yet at times officers spend their own money on e.g. fuel to go to the field or material for a field day. Farmers are powerless to do anything about this but are aware that these government officers posted to their areas draw a salary, but don't visit farms, and often cannot be found in their offices either.

The ministry had gone quite far in restructuring itself in the face of declining funds and its poor perceived performance. Functions that could be passed over to, or shared with the private sector had been identified. A staffing norms study to make ministry staff establishment more closely reflect the needs of a reduced set of 10 core functions has been completed, and the process of examining alternative approaches to agricultural extension had begun. Proposed changes had been accepted by the cabinet 2 years ago but are yet to be seen on the ground. Staff numbers are being reduced through natural attrition and a freeze on new hiring. Meanwhile some redundant sections remain staffed while others, particularly front-line extension, is understaffed.

It is difficult for an outsider to understand what has stalled the reform process in the ministry. Suggestions are that it must be viewed within the context of the government wide Civil Service Reform Program that currently is moving so slowly to reduce the number of civil servants due to lack of funds with which to pay retiring and retrenched staff their terminal benefits. Meanwhile the extension service at the divisional, district and administrative provincial and headquarter levels is choked with excess staff it cannot afford to fund to do useful work. Understanding the rationale and constraints behind this de facto policy, and finding a way around it, is one of the major policy analytical tasks in Kenyan agriculture today.

Beyond staff rationalization, analyses that inform the ministry about potential private sector and civil society contributions to extension are needed. Which commodities (tea, coffee, sugar, tobacco, agro-forestry) might be able to fund their own extension efforts? How can the funds so saved be better targeted toward those areas and commodities that cannot support their own extension? Where might there be private extension or contributions by stakeholders? And where might government have to continue to shoulder the burden alone for public good reasons e.g. activities with large externalities like vaccination for infectious animal diseases as opposed to artificial insemination where the benefits accrue to an individual farmer who should contribute to costs? Many of these questions can be informed through the use of pilot experiments.

Kenya needs to ask why it has an extension service. Currently extension in Kenya is a forced subsidy that very few rural folk – apart from employees of the system – consume, and many are in fact willing and able to pay for. There are more efficient ways than extension of helping the poor. But, as in some of the commodity sectors, it will be difficult to get meaningful and unbiased reform of the extension service as long as members of that service are in charge of the reform process. Self-interest will make for second best proposals and imperfect reforms that may not take all options into account. This was evident in a recent extension task force that asked for large sums of extra money, but made few proposals on cutting staff numbers, increasing the cost-effectiveness of the system, or the contribution of other stakeholders to either the funding or provision of extension.

One way of making extension more cost effective is to empower local stakeholders to control the extension budget, and allow them to buy those services they feel they need from whomever can provide the quantity, quality and cost effectiveness of extension that they desire. Any funds saved can be made available for other activities like building schools or repairing roads. The global trend toward decentralization has this in mind. Kenya's extension service needs to show that it is aware that every shilling spent on extension is not available for other activities. With a budget of approximately Ksh 1,000,000 per division per month, the Kenyan extension service is taking an unjustifiably large portion of available resources.

The Ministry of Agriculture is more than the extension service. However the ministry has not been very visible in a number of important areas where it might play a leading role such as in setting the policy and regulatory framework within which the sector operates. This calls for strengthening of policy analysis capacity within the ministry. To succeed in this, the ministry needs to be a centre of excellence in the collection, generation and analysis of policy relevant data in all the activities under its mandate. This research-based information needs to be used to inform sector policy makers as well as stakeholders. Ongoing discussions on maize, sugar, dairy, coffee and tea marketing have little technical input from the ministry.

**Table 5. Proposed 1997/98 Budget, Ministry of Agriculture Kirinyaga District**

<i>Millions</i>			
<b>Salaries</b>	37	Population	450,000
<b>'Projects'</b>	69	Farm	97,000
		Holdings	
<b>Vehicles</b>	28	Ha. Ag Prod	79,000
<b>Total</b>	134	# of staff	312
<b>Ksh Cost of Extension</b>		<b>Cost Per Member of Staff</b>	
<b>Cost per Holding</b>	1381	Salary	120,000
<b>Cost Per Ha</b>	1835	Vehicles	89,743
		Operations	221,153
<b>Total Cost Per Extension Worker</b>		430,896	

Source: Report of Extension Task Force, MOA 1997. And authors calculations.

Lack of a policy research based ministry also is partly responsible for the difficulty the ministry has in pushing its agenda with Treasury and donors. The ministry provides no comment or guidance on the policy issues of the day such as the setting or removal of tariffs on imports, and never goes into the pro's and cons of such policies. In the stakeholder involved sector that the government is moving toward, the ministry needs to inform and interact more with stakeholders. Some of the questions that the sector would benefit from having the ministry address include:

- Who wins and who loses from the imposition of import tariffs?
- Why do we need these tariffs, at what level, and for how long?
- What will be the import parity and farm-gate prices for various commodities at harvest, or at some time in the future and what kind of marketing conditions, can farmers anticipate?

- What area is under production of various commodities, how are growing conditions, expected yields, and the cost of production?
- What was area and production of different commodities last year?
- How can more effective farmer participation be brought into the running of sector institutions, including agricultural research and extension?
- What has been the impact of various government and donor funded programs, and what lessons does this information provide for future sector planning and resource allocation?

The ministry has begun to ask sector participants to prepare and forward policy suggestions. This is encouraging but needs to go deeper than the presentation of memoranda to the Minister, PS or Director. Stakeholders need ministry involvement at the sub-political level in an iterative and inclusive process of consultation, research and analysis. As industries come together to define their future institutional arrangements, a new look ministry can play the critically important role of adviser and impartial referee. The ministry also has great convening power – no other group or body in the sector, has as great authority, and moral obligation, to bring sector stakeholders together.

## 11. DONORS

Donor funds in Kenyan agriculture have not always been used in the most effective and accountable manner. A recent World Bank evaluation of its support to Kenya's agricultural sector (World Bank OED 1998) points to overall mixed success with regard to outcome, sustainability and institutional development. Poor design and inadequate borrower ownership were seen as the major shortcomings. An important task for policy analysis is to understand why the Kenyan government signs off on projects it feels no ownership of.

The World Bank has traditionally been limited to working through government. USAID has almost totally given up working through government due to political and financial accountability concerns. This leaves much of the USAID agenda, and an increasing portion of the portfolio's of other donors, outside of government and in the hands of the non-profit NGO sector. Some analysis could usefully be done evaluating the proliferation of donor projects with regard to impact and accountability. This would be interesting to compare with the impact of government activities and may provide useful lessons about how the goodwill and funds of donors and lenders can be used to benefit Kenya's agricultural sector stakeholders.

Donors – particularly the World Bank, EU and USAID – have long been involved in policy dialogue with government. Kenyans outside of government normally have not. Formal discussion with government on the policy issues of the day does not take place at the village level, in research fora, or even in parliament where the agriculture budget is passed in a matter of minutes. This allows government to use donors as a convenient whipping boy whenever unpopular policy reforms are undertaken. A large but silent majority of Kenyans benefit from the ongoing structural reforms.

More policy analytical work needs to be done in identifying the winners and losers from policy reforms, and Kenyans outside of government need to weigh in with their views about the policies they would like to see, or would benefit from. Recent experience has shown Members of Parliament to be very receptive to analytical information that traditionally they have not been privy to. An important task for policy researchers is to provide the type of unbiased analytical information they generate to as wide an audience as possible. This is what Tegemeo, with support from USAID, the Ford Foundation, DFID and other donors, will be doing for the next few years.

## 12. CONCLUSION

Ten years of analytical work by Egerton University has generated masses of data on Kenyan agriculture. However the sector is dynamic, and keeps on changing. This has left Tegemeo feeling that there are so many demands for information that we find ourselves hard pressed to respond adequately for all commodities and sub-sectors at all times. This paper lays out our view of some of the main issues Kenya agriculture will have to deal with in the next 3-5 years and sets an agenda for research to inform debate on these emerging topics. Not all commodities and topics are covered as the list would be endless and some determination of the most pressing issues needed to be made. Kenyan agriculture provides plenty of work for Tegemeo as well as other policy research institutes in the country.

The future of Kenyan agriculture will depend on how we address two distinct but related issues:

- efficiency and global competitiveness
- and stakeholder participation.

Kenya has signed the World Trade Organization (WTO) agreement that limits the extent to which domestic producers can be protected from import competition. In a wide range of commodities, including but not limited to maize, wheat, sugar, meat, milk, chicken and other animal products, competition from imports are giving domestic industries tough competition. Kenya's response to this competition will determine whether we live on imported or domestically produced food.

Traditionally Kenya has responded to import competition through the imposition of tariffs, non tariff and regulatory controls, or outright import bans. The scope for using these tools will be limited in the future. Kenya will be better off investing in making her production systems more competitive. The research, extension and credit systems are critical in making this happen. All are in need of drastic reform. Often the reform will center around a reduced role for government, and an increased role for stakeholders in raising and monitoring the use of funds, and in setting policy and research agenda.

Stakeholder participation also is key in making the management of sector institutions more accountable. Farmers' organizations – from village co-operatives, all the way up to industry umbrella organizations e.g. in coffee and tea – have shown that stakeholder participation needs to go beyond having farmers on boards of directors. Opportunities to make money at the expense of an uninformed majority leads farmer representatives to join with management in rent-seeking

activities and corrupt practices. Finding models for effective stakeholder oversight is the major task for policy analysis in Kenya.

The old Co-operative Act dealt with this problem by placing layers of government bureaucracy on boards that meant that co-ops could not buy even a wheel-barrow without the permission of a Nairobi based Commissioner of Cooperatives. This bureaucratic solution created more problems than it solved and has since been scrapped. But it may suggest part of the way forward: government involvement, but not government control.

Kenya has committed itself to liberalized markets and a reduced role for the state. But that reduced role does not mean the state has no role. The main role envisioned for the Ministry of Agriculture once it has been organized around its ten core functions, is sector policy guidance and co-ordination. This suggests engagement with the stakeholder dominated industry groups, as well as encouraging groups of stakeholders to see that they have common cause in coming around an issue whether to exchange views, or to collect funds through self-imposed levies. The ministry also can play the role of an honest broker of information, analysis, and monitoring and evaluation services. It is only the ministry that has the moral authority and goodwill to make Kenyan agriculture adopt efficiency and meaningful stakeholder participation across the board. But doing these tasks effectively will mean that the ministry should be the first to go through a change in culture and orientation. A stakeholder inclusive public expenditure review would be a good first place to start. And donors should not be seen as the primary stakeholder and non government participant in such a process as has too often been the case in the past. Kenyans want to be involved in the redesign of the sectors most important institution.

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